ASSUMPTION UNIVERSITY
Educating Intelligences and Active Minds to Change the World

UNDERGRADUATE BULLETIN

2020 - 2021

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Admissions Center Assumption University
Humans of ABAC
ABAC Admissions
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2021 Edition

Assumption University

"Educating Intelligences and Active Minds to Change the World"

Undergraduate Bulletin 2020 - 2021

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University Calendar
Academic Year 2021 for Undergraduate

Semester 1/2021 (June - October 2021)

Month	Date	Activities
JUNE	7	Classes begin
	11	Last day for late registration and adding classes, last day to withdraw without record and to have 50% of tuition fees refund, and the Most Sacred Heart of Jesus
	15	Retrive and dowload registered student namelists via internet for class attendance checklists
	25	Exam Time / Campus conflict petition deadline
JULY	5	Submission of mid-term Examination papers
	22	Waikru Ceremony
	24	Asarnha Bucha Day (Holiday - no classs)
	25	Buddhist Lent Day (Holiday - no classes)
	26	Substitution for Asarnha Bucha Day (Holiday - no classs)
	28	H.M. King Maha Vajiralongkorn's Birthday (Holiday - no classes)
	29	Mid-term Examination (till August 6, 2021)
AUGUST	7	Classes resume
	12	H.M. Queen Sirikit's Birthday and National Mother's Day (Holiday - no classes)
	15	The Assumption of the Blessed Virgin Mary
SEPTEMBER	6	Submission of Final Examination Papers
	22	Last day to withdraw with 'W'
	27	Retrieve and download registered student namelists via internet for eGrading
	29	Last day of classes before Final Examination
	30	Final Examination (till October 15, 2021)
OCTOBER	12	Commencement Exercises of Class XLVIII
	13	King Bhumibol Memorial Day (Holiday - no classes)
	23	Chulalongkorn Memorial DaY (Holiday - no classes)
	25	Substitution for Chulalongkorn Memorial Day (Holiday)
	29	Semester 1/2021 Grade Release

Semester 2/2021 (November 2021 - March 2022)

Month	Date	Activities
NOVEMBER	1	All Saints
	11	Classes begin
	17	Last day for late registration and adding classes, last day to withdraw without record and to have 50% of tuition fees refunded
	22	Retrieve and download registered stuent namelists via internet for class attendance checklists
DECEMBER	1	Exam Time/Campus conflict petition deadline
	5	Birthday Anniversary of King Bhumibol and National Father's Day (Holiday - no class)
	6	Submission of Birthday Anniversary of King Bhumibol and National Father's Day (Holiday - no class)
	10	Thai Constitituons Day (Holiday - no classes)
	24	Christmas Eve
	25	Christmas Day (Holiday - no classes)
	31	New Year's Eve (Holiday - no classes)
JANUARY	1	Solemnity of Mary, The Holy Mother of God and New Year's Day (Holiday - no classes)
	3	Substitution for New Year's Day (Holiday - no class)
	8	Commencement Exercises of Class XLIX
	13	Mid-term Examination (till January 21, 2022)
	22	Classes Resume
FEBRUARY	7	Submission of Final Examination Papers
	16	Makha Bucha Day (Holiday - no classes)
MARCH	4	Last day to withdraw with 'W'
	9	Retrive and dowload registered student namelists via internet for eGrading
	11	Last day of Classes before Final Examination
	14	Final Examination (till March 28, 2022)
	19	St. Joseph, spouse of the Blessed Virgin Mary
	31	Semester Ends
	-	Semester 2/2021 Grad Release (April 8, 2022)

Summer Session 2021 (April - May 2022)

Month	Date	Activities
APRIL	4	Classes begin
	6	Chakri Memorial Day (Holiday - no classes)
	7	Last day for late registration and adding classes, last day to withdraw without record and to have 50% of tuition fees refunded
	8	Semester 2/2021 Grade Release
	11	Retrive and dowload registered student namelists via internet for class attendance checklists
	12	Exam Time/Campus conflict petition deadline
	13	Songkran Festival (till April 15, 2022) , (Holiday - no classes)
	-	Submission of Mid-term Examination Papers
	25	Mid-term Examination (till April 26, 2022)
	28	St. Louis Marie De Montfort Feast Day
MAY	2	Submission of Final Examination Papers
	4	Coronation Day (Holiday - no classes)
	12	Last day to withdraw with 'W'
	17	Retrive and dowload registered student namelists via internet for eGrading and Last day of Classes before Final Examination
	15	Visakha Bucha Day (Holiday - no classes)
	16	Subtitution for Visakha Bucha Day (Holiday - no classes)
	18	Final Examination (till May 20, 2022)
	31	Summer Session 2021 and Academic Year 2021 ends
	-	Summer Session 2021 Grade Release (June 3, 2022)

Remark - Class schedule will be arranged 3 times per week.

ASSUMPTION UNIVERSITY

Message from the President

Assumption University has been providing education to the youth of the Thai and other nations since 1969. The University employs English as the official medium of instruction and has formal links and cooperation agreements with a large network of international institutions of higher learning for scholastic exchange and research programs.

The University is administered by the Montfort Brothers of St. Gabriel, a worldwide Catholic Religious Order devoted to education and philanthropic activities. The Congregation operates 15 educational institutions in Thailand.

The University has a student body of about 19,870 including a fairly large complement of foreign students drawn from 75 countries of the world. It also has a high caliber faculty, a truly international community of scholars and professionals representing diverse academic disciplines, different fields of business and many government organs and these arrangements help considerably in bringing students into close touch with pragmatic aspects of life.

The University is fully accredited and supervised by the Office of the Commission on Higher Education, the Ministry of Education and its graduates enjoy the privileges accorded to State University graduates. Its academic standards are accepted by the Civil Service Commission of Thailand. Assumption University is recognized in the U.S.A. and other countries and transfer of credits from the University is accepted by many foreign universities. AU Graduates can pursue advanced degrees anywhere in the world.

The administrators fully appreciate that it is the function of a university to contribute actively to the sustainable development. It is the most important factor in economic and social growth, determining the success and failure of businesses. Thus we consistently pursue two main goals, namely, first to preserve, refine and advance knowledge through imaginative scholarship and second, to transmit that knowledge to our students through effective teaching and dissemination.

Rev. Bro. Bancha Saenghiran, f.s.g. Ph. D.
President

GENERAL INFORMATION

HISTORY AND BACKGROUND

Assumption University was initially originated from Assumption Commercial College in 1969 as an autonomous higher education institution under the name of Assumption School of Business. In 1972, with the approval of the Ministry of Education, it was officially established as **"Assumption Business Administration College"** or ABAC. In May 1975, it was accredited by the Ministry of University Affairs. In 1990, it was granted new status as **"Assumption University"** by the Ministry of University Affairs.

The University is a non-profit institution administered by the Brothers of St. Gabriel, a worldwide Catholic religious order, founded in France in 1705 by St. Louis Marie De Montfort, devoted to education and philanthropic activities. The congregation has been operating many educational institutions in Thailand since 1901.

The University is an international community of scholars, enlivened by Christian inspiration, engaged in the pursuit of truth and knowledge, serving the human society, especially through the creative use of interdisciplinary approaches and cybertechnology.

BACKGROUND OF ASSUMPTION UNIVERSITY

St.Louis Marie D'Montfort

A Pilgrim at The Tomb of St. Louis Marie De Montfort "You know that I am very indebted to this Saint and to his Treatise on True Devotion to the Blessed Virgin. Today because my pastoral visit has for the most part as its theme the sacrament of baptism, I would like to highlight the fact that, in the mind of St. Louis, the whole spiritual life flows directly from the sacrament of holy baptism as is shown by an important passage of the Act of Consecration to Jesus by the hands of Mary, written in his own precise wording".

These are the words spoken by the Pope in the parish church of Saint-Laurent-sur-Sèvre, during his visit on 19th September 1996 to the tombs of Saint Louis Marie de Montfort and Blessed Marie Louise Trichet. Several times before this, the Pope had recalled that his reading of the True Devotion had been a decisive turning-point in his life, and that Montfort's spirituality had brought him to understand that genuine Marian devotion, far from distracting us from Christ, is on the contrary rooted in the mystery of Christ and can only towards him.

Three congregations trace their foundation to Saint Louis Marie de Montfort namely:

- The Daughters of Wisdom, live out the loving search of Wisdom for wounded humanity through a variety of ministries, especially among those whom the world rejects and those alienated from the Church;
- The Company of Mary, popularly known today as the Montfort Missionaries, devoting themselves to priestly ministry and preaching
- The Brothers of the Christian Instruction of St. Gabriel, popularly known today as Montfort Brothers of St. Gabriel, formerly known as the Community of the Holy Spirit, dedicating themselves to Christian education and working among the underprivileged.

PHILOSOPHY

In loyalty to its Christian mission, Assumption University stands for

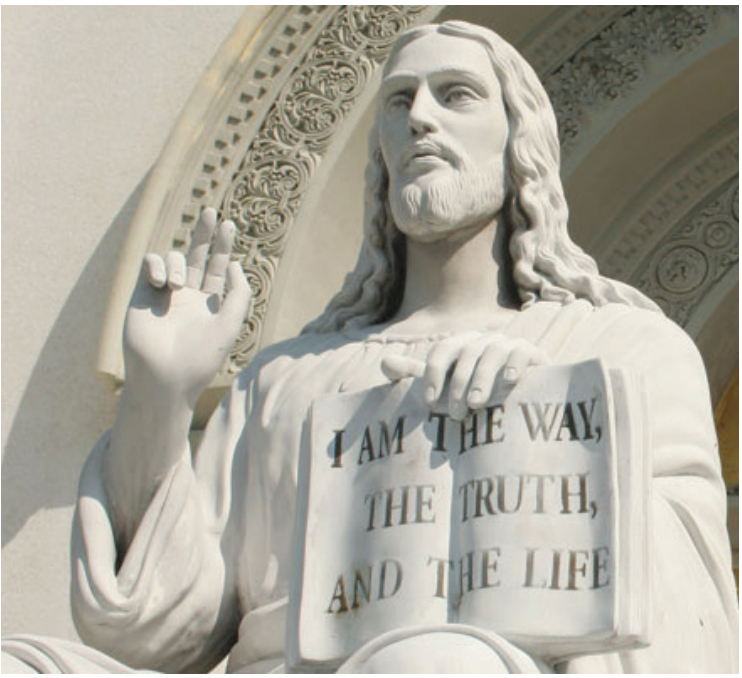
- The inculcation of respect for the three institutions of the Nation: Religion, Country, the King and a democratic way of life.
- The belief that a man justifies himself and his existence by the nobility of his work: **LABOR OMNIA VINCIT**
- The commitment to be a light that leads men towards the true source of all knowledge and life: LUX VERITAS

OBJECTIVES AND POLICIES

Assumption University exists for the main purpose of serving the nation by providing scientific and humanistic knowledge, particularly in the business education and management science through research and interdisciplinary approaches.

To this end it aims at forming intellectually competent graduates who :

- Are morally sound, committed to acting justly, and open to further growth.
- Appreciate freedom of expression, imbibe right attitudes and ideologies through a carefully integrated curriculum of Ethics, Science, Languages and Business Management.
- Achieve academic excellence through hard work, critical thinking, and effective decision-making.



SYMBOLS

Sedes Sapientiae : The Seat of Wisdom

It is a tradition handed down for centuries that Christians venerate the Mother of Christ as "the Seat of Wisdom". (Sedes Sapientiae)

According to Christian belief, Christ is the wisdom seated on the Throne. This implies, on the one hand, that the Mother of Christ is the Dwelling Place of the Supreme Wisdom of all science.

On the other hand, the university is the Alma Mater, or our Mother who is also the "Dwelling Place of Knowledge". In this context, "Assumption" which, besides its religious meaning in glorification of the Mother of Christ, has yet another meaning in Thai, namely" the Abode of Abiding Knowledge" Rightly, "Assumption University" is the Seat of Wisdom.

Ashoka Tree

The Assumption University has adopted the Ashoka Tree as its symbol. The Ashoka Tree has as its scientific name "Polyalthea longifolia Benth & Hook. f. var. pandurata" of a Anonanceae Family, a native plant of India and Sri Lanka.

The Rationale behind the choice of the Ashoka Tree The reasons why the University has taken it as its symbol are the following:

1. The Ashoka Tree is an ever-green tree. This fact signifies freshness, coolness, and constancy, unwavering with the turning of seasons andthe changes of time. Thus, it means that the University is determined to fulfill its mission, giving emphasis to academic excellence together with quality and virtues.
2. The Ashoka Tree has a most beautiful form, majestically tall, like a stupa.
3. The Ashoka Tree is a tree with a beneficial name, because it derives from an Indian word "Ashok", after the name of King Ashok, the Great, the most well known king during Buddha's time, full of wisdom both in the secular and religious realms.
4. Lastly, it is the tree first brought from India into Thailand in 1957 by the St.Gabriel Foundation of Thailand, patrons of this university (by Bro. John Mary). This first tree was planted in the compound of St. Gabriel's College, and the Forestry Department of Thailand named it "St. Gabriel Ashoka" on 15th December 1969. Botanic Features of the Ashoka Tree

The Ashoka Tree is an ever green tree, of narrow-top can form and majestically tall. The bark is grey; its color becomes darker near the extreme top of the trunk, covered with leaves from the bottom to the top, so thick that the trunk's characteristics can hardly be clearly visible. Its leaves are lanceolate, about 0.5-0.7 inches wide, and 4-9 inches long. The widest part of the leaf is near the base; its rim is smooth, but twisted into a tide-like form. Its flower is white greenish shade, without odor, about 1.5-1.75 inches wide. Its fruit is ellipsoid, about 0.5 inches wide and 0.75 inches long, with smooth shiny skin; its color turns yellow, red, then finally black, when it is ripe. Normally, the ripening of the fruit OCCURS between July and August every year.

ACCREDITATION

The University is fully accredited by Commissions on Higher Education. Its graduates enjoy the privileges accorded to State University graduates. Its academic standards are accepted by the Civil Service Commission of Thailand.

Assumption University is recognized in the USA and other countries and transfer of credits from the University is accepted abroad. Graduates from the University can pursue advanced Degrees anywhere in the world. Assumption University is listed in the Handbook of Universities and other Institutions of the INTERNATIONAL ASSOCIATION OF UNIVERSITY in Paris, France.

The University is recognized by:

- The Association of Christian Universities and Colleges in Asia (ACUCA)
- The Association of Southeast Asian Institution of Higher Learning (ASAIHL)
- The International Federation of Catholic Universities (IFCU)

VISION

Assumption University of Thailand envisions itself as:

- An international community of scholars,
- Enlivened by Christian inspiration,
- Engaged in the pursuit of Truth and Knowledge,
- Serving human society, especially through the creative use of interdisciplinary approaches and cybertechnology.

Vision 2000 for The Assumption University Graduates

Assumption University of Thailand envisions its graduates as:

- Healthy and open-minded persons, characterized by personal integrity, an independent mind, and creative thinking,
- Professionally competent, willing to exercise responsible leadership for economic progress in a just society,
- Able to communicate effectively with people from other nations and to participate in globalization.

Coat of Arms

The coat of arms of the Brothers of St. Gabriel, which is AU's logo, is shown and engraved on many places but the biggest and noticeable one is on the wall at a stairway in the Hall of Fame.

It depicts four signs with meaningful content: the ship in the sea symbolizing the sea of life with difficulties that we have to struggle through; the DS Cross which represents Divinity and Science; A.M. and the white lilies to remind students to love their institution as their Alma Mater (Dear Mother) and be as pure in their thoughts, words and mind as the white lilies; and the star and the boat which symbolizes spiritual hope. The four symbols are framed by a shield under which is AU's motto "LABOR OMNIA VINCIT", which means: We can overcome all difficulties through working hard.

Brothers of st.Gabriel

The name "the Brothers of St.Gabriel" reminds us of those Brothers who sacrificed their lives, and their mother's land, in order to help educate and develop our Thai children to grow in the right path. "LABOR OMNIA VINCIT" is the motto of our university. "We can overcome all difficulties through working hard," or, as the Latin proverb says : "Work conquers all things,"

"Life-Boat" Symbolized By "The Ship in The Sea"

"The ship in the Sea" symbolizes that we have to keep on struggling and facing different difficulties in the sea of life, just like the ship or the boat that fights stormy wind, steamy sun and rainy sea in order NOT to capsize in the middle of the sea. This should always remind us that "Life is a Struggle" or " To Live is to Struggle" against the problems and difficulties and not to give up.

ASSUMPTION UNIVERSITY OF THAILAND
BROTHERS OF ST. GABRIEL
LABOR OMNIA VINCIT
SINCE 1969
มหาวิทยาลัยอัสสัมชัญ

1.

2.

3.

4.

1. Life-Boat"
2. "DS" (read "D and S")
3. A.M. and The White Lilies
4. The Star and The Man In a Boat

"DS" (read "D and S")

Cross In The Middle With The Cross

"D" or Divinity represents "Religion". We all need religion in life and mind. The Cross is the symbol of "love" and sacrifice "just as Jesus sacrificed his life for our love and he redeemed our sins as he said: "There is no other love greater than sacrificing our life for others."

"S" or "Science" means "Knowledge," which is the root of man's ability to reason. Everyone should always aim at gaining more knowledge. the more we learn about mundane knowledge, the more we should also learn about "Dharma" or religious, ethical virtues.

Moreover, D|S also comes from the French phrase, "Dieu Seul," which means "ALL WE DO IS FOR THE GRACE OF GOD ONLY." It is to remind us of St. Louis Marie de Montfort, the founding Father of the Brothers of St. Gabriel's motto. With this powerful motto, we have the will to work without yielding to difficulties, at studies as well as at work. We all uphold it up to this day.

A.M. and The White Lilies

"A.M." is abbreviated from a Latin word, "ALMA MATER" meaning literally" Dear Mother," in Latin and indicating "MOTHER COLLEGE" which symbolizes that our institution is like our "Alma Mater", our own birth place and as a part of our own families. We should love our institution as much as we should love our own parents.
Moreover, "A.M" is also abbreviated from "AVE MARIA" (in Latin), the name of Jesus' Mother. This means that we should love our own Mother with our heart and soul. And the beautiful snow-white lilies are symbols to remind us that we should be clean and sincere with all our thoughts, words and minds, wherever we are.

The Star and The Man In a Boat

"The Star and the Boat" symbolizes "Spiritual Hope", meaning that religion is "the light of Dharma or Absolute Truth" and all the knowledge or sciences we have learned from the institution is "the Light of the Intelligence". Altogether they keep conduct and intelligence on track so we are not lost or capsized in the middle of the sea of life. "The man in the boat "reflects us, ourselves, rowing or guiding our own "boat of life."

"The Shield"
That Frames The "Four Symbols"

The "Shield" that frames the "Four Symbols" is the "COAT OF ARMS" which stands for "HONOUR," or "PRIDE and DIGNITY". It also represents the HONOUR, DIGNITY, PRIDE AND PRAISE that our institution has received from the King who reigns over the Kingdom.

The Olive Branches

The wreath of the "Olive Branches" stands for "Victory" or "Success."(In ancient times, in Greek History, the athletic winner received a wreath of olive branches from the king) Or, this represents "a wreath of high honour" to remind us that we should do good deeds to uphold the honour and fame of our beloved institution or "ALMA MATER" forever.

ASSUMPTION UNIVERSITY

EDUCATING INTELLIGENCES AND ACTIVE MINDS TO CHANGE THE WORLD

UNIQUENESS AND IDENTITY

AN INTERNATIONAL CATHOLIC UNIVERSITY INCULCATING 3Es: ETHICS, ENGLISH, ENTREPRENEURIAL SPIRIT

UNIQUENESS

An International
Catholic University

CATHOLIC UNIVERSITY

Catholic values
Catholic symbols
Catholic leader
Liturgical services

INTERNATIONAL UNIVERSITY

International programs
International scholars
International students
International recognition
Learning environment

IDENTITY

ETHICS

Integrity
Social consciousness & responsibility
Discipline

ENGLISH PROFICIENCY

ENTREPRENEURIAL SPIRIT

Leadership
Management knowledge
Labor omnia vincit

ASSUMPTION UNIVERSITY

EDUCATING INTELLIGENCES AND ACTIVE MINDS TO CHANGE THE WORLD

CORE VALUES

C = CATHOLIC SPIRIT
A = ACCOUNTABILITY
R = RIGHTEOUSNESS
E = EXCELLENCE

Assumption University's

UNIQUENESS

(An International Catholic University)

IICU

English Proficiency
AU STUDENTS'
IDENTITY
3Es
Entrepreneurial Spirit
Leadership
Management Knowledge
Labor omnia vincit
Ethics
Integrity
Discipline
Social Consciousness

FACILITIES AND SERVICES

CAMPUSES

Assumption University maintains two campuses: the original campus located at Hua Mak in the city, and the new campus at Suvarnabhumi, some thirty minutes from the South of the city campus and twenty minutes from Suvarnabhumi Airport on the way to the Eastern Seaboard. The original campus is a compact, vertical campus comprised of 17 buildings with the tallest having a total of 16 floors. A small lake surrounded by lush gardens and seating is a focal point of beauty and tranquility. Food, convenience, and service shops to support student needs surround the campus. This will become the home of the postgraduate faculties.

The Suvarnabhumi Campus, constructed as a "University in a Park", comprises 200 acres of a beautifully landscaped assembly of mixed architecture surrounded by lush tropical gardens and trees. Designed to host the university's undergraduate degree programs, it offers everything: a meeting/exhibition center, hotel, non-coeducational dormitories, a magnificent chapel a museum, eleven academic halls, and much more. The centerpiece of the campus is the Cathedral of Learning, a 39-story tower, which houses student support services, the library, reception halls, seminar rooms and offices. ransportation between the two campuses is convenient and inexpensive. Shuttles run throughout the day between various points in Bangkok and the Suvarnabhumi Campus.

FOOD SERVICE AND CAFETERIAS

Catering facilities are available to faculty, staff and students throughout both campuses. Contractoroperated facilities are in operation daily from 7.00 a.m. to 8.00 p.m. (Hours may change during semester breaks).

AU MALL

Located in Assumption University, Suvarnabhumi Campus. There are two buildings as the followings:
1. Two storey commercial Building
2. Three storey cafeteria

AU PLAZA

Located on the ground floor of Cathedral of Lea ning (CL Building) at Assumption University, Suvarnabhumi Campus.

BOOKSTORES

Bookstores on each campus provide a wide range of magazines, periodicals, educational equipment, textbooks and professional books usually not available at regular commercial bookstores. In addition, they offer a wide range of Thai style gifts for friends and visitors.

HUA MAK CAMPUS

St. Philip & Bernard Hall (P Bldg.), Ground Floor
Contact : (66)-2300-4543-62 ext. 1218
Service Hours : Mon–Sat (8.00 a.m. – 4.30 p.m.)

SUVARNABHUMI CAMPUS

Cathedral of Learning (CL Bldg.), Ground Floor
Contact : (66)-2723-2003
Service Hours : Mon - Fri (8.00 a.m. – 4.30 p.m.)

www.aubookstore.au.edu

CAMPUS MINISTRY, CHAPEL AND RELIGIOUS CENTER

The Campus Ministry is designed for the Catholic community and makes use of a spacious and beautiful Chapel where as the Religious Center is a multi-religion house of prayer, meditation, congregation, preaching, and for soul-searching pursuit of the true source of all knowledge and life. Space is provided for each community applying to establish a house of meditation and prayer.

CHAPEL OF THE ANNUNCIATION, HUAMAK CAMPUS
Assumption Hall (A Bldg.)
• Sunday Mass : 08.30 a.m. (Thai) : 10.00 a.m. (English)
• Daily Mass : Monday to Friday at 5.00 p.m. (English)
Saturday at 5.00 p.m. Anticipated Mass (English)
• Holy Mass on First Saturday of the Month : 9.30 a.m. (English)
Contact: (66)-2300-4543-62 ext. 1302

SAINT LOUIS MARIE DE MONTFORT CHAPEL, SUVARNABHUMI CAMPUS
(Behide the John Paul Conference XXIII)
• Sunday Mass : 5.00 p.m. (English)
Contact: (66)-2300-4543-62 ext. 1302

HEALTH SERVICES

Assumption University provides health services on both campuses. Students are responsible for making arrangements for their own health care except in case of emergency. Registered nurses are on duty Monday through Friday from 8.00 a.m. to 4.30 p.m. and are available for emergencies, first aid, and medical counseling.

Students, faculty and staff members with medical problems are encouraged to keep their files active at the Health Center regarding the nature of their problems so that appropriate action can be taken in the event of an emergency.

HUA MAK CAMPUS

- Infi mary Room : (M Bldg. 2nd floor)
  Contact : (66)-2300-4543-62 ext. 3504
  Service Hours : Mon – Fri (8.00 a.m. - 4.30 p.m.)

SUVARNABHUMI CAMPUS

- Infi mary Room : (Queen of Sheba, 2nd Floor)
  Residence Halls
  Contact : (66)-2723-6296
  Service Hours : Mon – Fri (8.00 a.m. - 4.30 p.m.)

IT SERVICES

The Network, which spans across the campus, is secure and reliable. The fast Ethernet Links and fiber optic cables allow students to cross geographical links in seconds. Voice and data communication between Hua Mak and Suvarnabhumi Campuses is available all day. The redundant gateways to the internet provide fault tolerance and reliability in case of Network Failures.

Students are not limited to using the Network just from the campus. Students living off campus can dial up to the access server and make equal use of the Network. There are about 720 telephone lines that can be used for dial up connectivity at the speed reaching 56 kbps. The number of telephone lines will soon be increased to 1200.

THE RESIDENCE HALLS

The Three Dormitories: King Solomon, Queen of Sheba & King David

The three 13-story dormitories form a U-shape embracing the basketball grounds and the middle pyramid.

The grounds, with rows of seats all round it, is called the King's court. Named after characters in the Old Testament, the salubrious dorms have all modern facilities and an underground car park. The safety measures to protect against fi e include smoke detectors, sprinklers, fi e escapes and emergency lighting. They are located in a windy area with plenty of sun and fresh air. They are on the western side of the campus so in the evening, one sees sunset rays suffuse the colorful flags on the Bouleva d des Nations, which connects the residence halls to the front of the Cathedral of Learning.

King Solomon Hall

In the Old Testament, King Solomon inherited the kingdom from his father, King David. He built a temple dedicated to the God of the Israelites, which transformed Jerusalem into an important center during his time. But King Solomon here is a dormitory for male students. It has 505 rooms with an interior and facilities akin to a standard hotel, designed for quiet rest and study. Each room has a cable TV set, a small refrigerator, a direct line telephone and a pair of connections for computer Internet access. It faces the Queen of Sheba Dormitory.

Queen of Sheba Hall

The Queen of Sheba went to Jerusalem after she heard of Solomon's fame, through the name of the Lord. Their legendary love not only had a deep influence on Jerusalem, but on nume ous cultures. The Queen of Sheba dormitory is akin to that of King Solomon in the number of rooms, its exterior and interior, but it is for female students. There is a nursing room and study room on the second floo . Around both dormitories are outdoor sports grounds. Together, the twin halls stand as a testimony of love and hold young men and women bound for a bright future.

King David Hall

Long before Jesus Christ was born, King David ruled Israel. He was a valiant soldier, a musician and the man who defeated Goliath. King David is a hotel for visitors with 266 rooms in the same style as the other two dormitories. The back terrace of every room overlooks a wide green field. It is quiet at daytime and in the night. Only at Kind David are a mini-mart, a laundry shop and an ATM. An ABAC Dummy Perpetual Fund and a Student Affairs Fund to give financial support for youth activities and needy students in rural areas created the mini-mart or "U-Mate" convenient store. The total surplus generated by the story will be contributed to the Fund.

Contact Information:
Suvarnabhumi Campus, Service Hours: Mon-Sat (08.00 a.m. – 05.00 p.m.)
Location : 2nd Floor, King Davis,
Tel : (66) 2723-2223 Ext. 5297,
Fax : (66) 2723-2222 Ext. 6523

AU MUSEUM

The 1st - 3rd floors of the bell-cum-clock tower house a museum. One of the university's valuables kept there is a golden crown used in the Crowning Ceremony of the mother of Christ at the Seat of Wisdom every 15 August, which is Assumption Day. The clock ticks every fifteen minutes and every hour the bell rings a song. It is so designed to ring more than 200 songs. The base of the tower is an enormous flight of steps edolent of the Victor Emmanuel Monument in Rome

THE CENTER FOR SPORTS AND PHYSICAL FITNESS (CSPF)

CSPE is responsible for encouraging all members of the AU community to access our sport facilities and use the equipments for physical development. Sports Facilities at Suvarnbhumi campus include swimming pools, gymnasium and outdoor; and fitness gym at Hua Mak campus. We have qualified management team who provide professional services to students with various sport lessons, trainings, and coaching for athletes. CSPF also organizes and participates in several activities annually such as Thailand University Games, intramural and intervarsity competitions, sport team development and university athlete program.

SERVICE/ACTIVITY

- Sport Facilities & Equipment Service
- Sport Activities & Exercises for Health
- Sport Facilities Management
- Sport Events Advising
- Sport Team Development

Location: Gymnasium
Contact Number: (66)-2723-2222 ext. 7977, 7979
http://www.sportsfocus.au.edu/

ADMISSIONS AND TUITION FEES UNDERGRADUATE PROGRAM

WHO CAN APPLY

1. Applicants with any of the following qualifications are eligible to apply :
   - 1.1) High School Transcript and Graduation Diploma
   - 1.2) I.G.C.S.E./G.C.S.E./G.C.E. "O" level graduation diploma then at least 5 subjects and GCE 'A' Level or GCE 'AS' Level at least 3 subjects, 8 subjects in total with grade no less than "C" Cannot be repeated in the same level.
   - 1.3) GED Transcript and Diploma then at least 4 subjects with scores no less than 145, total scores no less than 580.
   - 1.4) IB certificate at least 5 subjects with grades no less than 4.
   - 1.5) Certificate of Education and statement of results, which are issued by the Australian Qualifications Framework for the applicants who have graduated from Australia.
   - 1.6) Other equivalent certificates or diploma, as authorized by the Ministry of Education.

Remark : If your diploma and transcript in a language other than English must be translated to English and certified by their own government's Ministry of Education, Foreign Ministry, or Embassy or issued in English by their graduated school confirming that graduates of these programs are eligible to apply to regular full-time programs worldwide.

2. Applicants must be free from infectious diseases or other handicaps that can hinder their study.
3. Applicants must be able to bear all expenses related to their study.
4. Applicants must have good manners and testify to the university that they will be attentive, make fullest use of their capability in their study, and strictly conform to the university's rules and regulations.

If found lacking in any of the conditions listed above, the applicant will have his or her admission declined, or his or her student's status nullified immediately

ADMISSION FOR NON-THAI STUDENTS

Acceptance and Visas

Accepted non-Thai applicants will be provided further information once their applications are received and format acceptance letters will be sent to be used mainly to obtain Non- Immigrant Visas from the Royal Thai Embassy or Consulate nearest to their home. The university arranges extend visa for full- Time students ("Full time" means they are taking 12 credits or more per semester.)

Tourist visa is not acceptable. Entering Thailand without the proper visa necessitates exit and reentry.

HOW TO APPLY

Assumption University offers three methods of application to prospective students:

1. Walk-In application:
On arrival at Assumption University (any campuses) students must
- Purchase application form at the AU Book Store (THB 500).
- Submit copies of Thai National ID. Card and House Registration for Thai applicants /or copy of Passport for foreign applicants.
- Fill out the Application form, specify the faculty/ major, sign their names and attach one 3x4 cm. photo.
- Submit the application form and required documents to the Admission Center.

2. Online application :
- Access to **www.admissions.au.edu**
- Select **Apply Now** and fill in the form.
- Wait for reply message in your given email from the admission staff.
- Follow the instruction from the admission staff.

3. Email application:
To apply via email, the applicant must scan all required admission documents (see Documents Required on page 27) and send to email **au_admission@au.edu**

After document evaluation, the applicant will be informed via email the status of his/her application. If the documents emailed are incomplete or are not in order with the regulations as specified by with the Ministry of Education, the applicant will be asked to send supplemental documents.

International applicants whose documents are approved must pay an operation fee payable to Assumption University. This fee includes service fee, issuing documents, airport pick up fee (This is not refundable). Applicants who have completed their high school or equivalent in Thailand are not required to pay operation fee.

Upon the receipt of the draft along with other required documents, the university will issue the applicant an Acceptance Letter, which will facilitate the issuance of Non-Immigrant Thai visa with a stay permit of 90 days. Applicants must produce the Acceptance Letter to the Royal Thai Consulate in their home country to obtain a student visa and comply with the expected date of arrival stipulated in the Acceptance Letter.

For more information
Tel. (+66) 2 719 1919
(+66) 2 723 2323
Email. abac@au.edu

Documents Required

(FRESHMEN)
The document required for submission prior to being admitted

For student from Thai School
1. High school graduates completing M.6 (Transcript and Diploma)
2. One copy of Identification Card and House Registration.
3. One 3x4 cm. photo.
4. A copy of a name/surname change certificate if applicable.

For student from International School
1. One copy of High School Certificate or Diploma or any other equivalent qualification as authorized by the respective country's Ministry of Education or other assigned government agency, which must be translated to English, if issued in any other language and be confirmed by their own government's appropriate Ministry or Embassy or issued in English by the school that issued the graduation record, diploma, or transcript.
2. One copy of High School Transcripts (Translated to English and get certified by their own Embassy or issued in English by their high school or equivalent graduated school.
3. Copy of passport for foreign applicants and one copy of Identification Card and House Registration for Thai students.
4. One photo (3 X 4 cm.)
5. A copy of a name/surname change certificate, if applicable, issued by appropriate authority in English.

For Transfer Students
1. Should have at least a GPA of 2.00 out of 4.00 scale.
2. Diplomas of any sort do not qualify.
3. The institution must have a standard 4-year degree program.
4. The course was completed at an institution accredited by the Civil Service Commission;
5. The course content is equivalent to that specified i the University's curriculum;
6. The course must have been taken within 5 years from the time of application;

Only a course with an earned grade of 'C" or higher in a general education course or an earned grade of "B" or higher in a professional core course will be considered as transfer credit depending on the dean of faculty final approval;

A maximum of 70 credits can be transferred. If you qualify, please submit your official transcript, course description according to the transcript, your name, contact number, contact email, desired faculty to transfer. The transfer fee will be charged based on actual credit rate (@ 1 credit).

Remark: Process at least 3 weeks after completed documents and Admission officer will confirm with you via email or mobile phone.
The Dean's judgment is final and all documents to the university will not be returned to the student.

Placement Tests and Interviews

All Applicants must take placement tests in English and /or Mathematics on the application date

1. Applicants must have graduated, or to receive graduate status from their high school, successfully completed Grade 12 or other qualifications stated above.
2. Take English proficiency-level test on the applicatio date.
3. Optional Test Scores
   - TOEFL score of 60 (IBT) / 500 (PBT) or above with a validity of 2 years.
   - IELTS score of 5.0 and above in overall bands with a validity of 2 years.
   - SAT 1 (Mathematics) score of 500 or above with validity of 2 years.
   - SAT 1 (Reading and Writing) score of 600 or above with a validity of 2 years.

Remark : The University will consider the applications with a TOEFL score of 60 (IBT) and above or an IELTS of 5.0 or above to be exempted from the English Placement Test and English Intensive Course(s).
SAT 1 (Mathematics) score of 500 or above are exempted from the Mathematics Placement Test and Mathematics Intensive course or Pre-Calculus. SAT 1 (Reading and Writing) score of 600 or above are exempted from English Placement Test and Intensive English Course.
Kindly write the score in the application form you have earned for admission and attach copies of the official score (original required at the time of registration).

Martin de Tours School of Management and Economics

Majoring in Business Economics
- 50% or above for Mathematics Placement Test. or
- Obtained SAT 1 (Mathematics) score of 500 or above.
- Take English Proficiency-level test.

Bernadette de Lourdes School of Nursing Science

Requirements for passing the placement tests of Assumption University:
- Passing the placement tests of Assumption University
- Minimum age is 17
- Weight is at least 40 kg. Height is not less than 150 cm.
- Obtain M.6 Certificate (grade 12) or equivalent in science or arts major or obtain bachelor's degree on any other field
- Pass the examination and interview process of the Bernadette de Lourdes School of nursing Science
- Be physically and mentally healthy (has no severe illness, contagious diseases, or deformity which will be the obstacle to the study)
- Have clear record of criminal charge and bad conduct or problem behavior which will affect the reputation of nursing profession, intent to study with full potential and strictly follow rules and regulations of the University

Vincent Mary School of Engineering

- Complete high school education of Grade 12 or M.6
- Take Mathematics and Physics test.
  (Applicants who have SAT 1 (Mathematics) score of 500 or above are exempted from the Mathematics Placement Test and Mathematics Intensive Course or Pre-Calculus.)
- Take English Proficiency-level test

Note: For Aeronautics Engineering
- *Male applicants must have the height of no less than 165 cm while female applicants with the height of no less than 160 cm.*
- *Applicants must undergo the physical and psychological tests (Class 1 Medical Assessment) conducted by Bangkok Hospital or Bhumibol Hospital.*

Students can contact Faculty of Engineering to set up appointment with hospital to have the required tests conducted

Albert Laurence School of Communication Arts

Majoring in Advertising, Digital Media Communication, Live Event Creation and Management, and Public Relations.
- Pass aptitude test and interview conducted by the faculty.
- Take English Proficiency-level test

Majoring in Visual Communication Design, and Computer Generated Imagery.
- Pass the specialized communication arts-related drawing and design test with the minimum score of no less than 150 (out of the total 300).
- Transfer students from other Universities to submit their relevant portfolios or previous academic records preferably during application period for our review in completion of application procedures. Results or faculty's decision of applicants' portfolios review and their entrance tests results will be final. Any of students' objection or claims egarding this matter shall not be entertained.
- All applicants who pass the final interview session must take intensive drawing course about 10 days before the semester begins.
- Take English Proficiency-level test

Louis Nobiron School of Music

- Applicants need to do the theory exam day of the performing audition. (by type of instrument selected)
- Take English Proficiency-level test

Montfort del Rosario School of Architecture and Design

- All applicants must take aptitude test.
- Take English Proficiency-level test

Vincent Mary School of Science and Technology

- High school graduates completing M.6 or Grade 12 or earning other equivalent certificates certifie by the Ministry of Education.
- Take English Proficiency-level test

Theodore Maria School of Art

- High school graduates completing M.6 or Grade 12 or earning other equivalent certificates certifie by the Ministry of Education.
- Take English Proficiency-level test

Theophane Venard School of Biotechnology

- Complete high school education of Grade 12 or M.6 with Science Major only.
- Take English Proficiency-level test

Thomas Aquinas School of Law

- Pass aptitude test and interview conducted by the faculty.
- Take English Proficiency-level test

APPROXIMATE FEES FOR UNDERGRADUATE PROGRAMS ASSUMPTION UNIVERSITY

Program	Enrollment and Intensive Courses Fees	SEMESTER / YEAR												Total (Baht)
		1st Year			2nd Year			3rd Year			4th Year		5th Year		
		1st Semester	2nd Semester	Summer 1	1st Semester	2nd Semester	Summer 2	1st Semester	2nd Semester	Summer 3	1st Semester	2nd Semester	1st Semester	2nd Semester	
B.B.A. (Design and Digital Innovation) New Program	-	200,000	150,000	-	200,000	150,000	-	100,000	80,000	-	-	-	-	-	**880,000**
B.B.A. (Business Administration)	11,500 - 29,750	62,750	64,750	-	61,200	62,350	-	58,750	58,750	-	58,750	51,550	-	-	**490,350**
B.Acc. (Accountancy)	11,500 - 29,750	62,750	64,750	-	61,200	62,350	-	58,750	58,750	-	58,750	51,550	-	-	**490,350**
B.Econ. (Business Economics)	11,500 - 22,950	59,150	62,050	-	61,150	64,450	-	60,550	58,450	-	51,550	51,550	-	-	**483,400**
B.A. (Business English)	11,500 - 29,750	51,950	59,950	-	65,650	59,350	-	56,650	58,750	-	58,750	58,750	-	-	**481,300**
B.A. (Business French)	11,500 - 36,550	59,050	66,250	-	62,650	66,850	-	58,750	61,450	-	58,750	51,550	-	-	**496,800**
B.A. (Business Chinese)	11,500 - 36,550	65,150	68,700	-	70,750	69,250	-	65,950	58,750	-	58,750	60,250	-	-	**529,000**
B.A. (Business Japanese)	11,500 - 36,550	70,150	68,650	-	69,250	69,250	-	72,050	65,950	-	65,950	29,350	-	-	**522,100**
B.A. (Music Entrepreneurship)	11,500 - 34,850	79,250	82,050	-	82,050	83,350	-	59,650	54,550	9,400	77,650	70,150	-	-	**609,600**
B.N.S. (Nursing Science)	11,500 - 22,950	65,250	69,350	10,100	75,250	73,950	22,000	76,950	78,550	27,100	67,350	56,950	-	-	**634,300**
B.S. (Computer Science)	11,500 - 22,950	60,350	72,550	-	71,650	70,150	-	67,750	55,150	-	60,550	50,050	-	-	**519,700**
B.S. (Information Technology)	11,500 - 22,950	60,350	72,550	-	72,850	70,150	-	67,750	55,450	-	60,550	50,350	-	-	**521,500**
B.Eng. (Electrical Engineer)	11,500 - 32,550	70,750	78,350	-	76,950	74,850	-	62,250	56,650	-	56,200	58,750	-	-	**546,250**
B.Eng. (Computer Engineer)	11,500 - 33,150	75,850	74,050	-	69,750	63,350	-	61,750	64,250	-	57,700	63,750	-	-	**541,950**
B.Eng. (Mechatronics Engineer)	11,500 - 33,150	79,350	76,950	-	83,350	76,950	-	71,550	49,450	-	58,400	58,750	-	-	**565,650**
B.Eng. (Aeronautic Engineering: Commercial Pilot)	36,500 - 57,550	85,350	82,950	-	73,650	74,450	7,600	223,250	1,223,150	312,800	949,450	238,450	-	-	**3,307,600**
B.Eng. (Aeronautic Engineering: Aircraft Maintenance Engineer)	11,500 - 33,150	85,350	82,950	-	121,450	137,250	7,600	297,450	289,250	-	244,450	194,350	-	-	**1,471,600**
B.Com.Arts (Advertising)	12,500 - 23,950	70,150	57,550	-	59,850	66,150	-	60,750	53,550	-	56,350	41,950	-	-	**478,800**
B.Com.Arts (Digital Media Communication)	12,500 - 23,650	67,150	66,450	-	59,850	71,150	-	74,350	66,050	9,400	64,050	63,550	-	-	**554,500**
B.Com.Arts (Live Event Creation and Management)	12,500 - 23,950	67,050	63,950	-	63,450	70,150	-	68,750	58,550	-	65,050	53,350	-	-	**522,800**
B.Com.Arts (Public Relations)	12,500 - 23,950	67,150	65,450	-	60,000	66,150	-	54,550	53,550	9,700	54,550	48,850	-	-	**492,450**
B.F.A. (Computer Generated Imagery)	12,500 - 37,750	73,250	72,850	-	81,850	75,050	-	93,950	84,850	4,800	62,950	55,350	-	-	**617,400**
B.F.A. (Visual Communication Design)	12,500 - 37,750	74,250	72,150	-	70,050	69,150	-	64,750	60,650	9,400	49,850	42,450	-	-	**525,200**
LL.B. (Laws)	11,500 - 22,950	61,250	66,850	-	64,750	61,750	-	68,350	63,550	-	53,950	49,150	-	-	**501,100**
B.Sc. (Food Technology)	11,500 - 22,950	80,900	74,250	-	63,150	67,150	-	56,550	59,650	5,950	53,950	50,550	-	-	**523,600**
B.Sc. (Agro-Industry)	11,500 - 22,950	78,550	70,150	-	67,150	68,850	-	62,750	60,450	-	58,000	46,200	-	-	**523,600**
B.Arch (Architecture)	11,500 - 29,750	81,850	70,650	-	76,850	82,250	-	89,750	74,750	-	71,250	70,900	64,150	56,750	**744,850**
B.Arch (Interior Architecture)	11,500 - 29,750	81,850	70,650	-	76,450	81,950	-	74,050	78,050	-	67,350	64,300	65,150	56,750	**728,050**
B.F.A. (Interior Design)	11,500 - 29,750	74,650	83,250	-	86,750	77,650	-	71,950	79,850	-	61,550	30,650	-	-	**577,800**
B.F.A. (Product Design)	11,500 - 36,550	73,350	74,850	-	77,650	74,250	-	74,750	74,750	-	83,050	61,850	-	-	**606,000**

Remarks :
1.Non Thai students must add 13,150 Baht to Enrollment and Intensive Course Fees to make up the difference between Matriculation amounts.
2. Non Thai students are required to pay an annual Health Insurance fee of 3,000 Baht every academic year.
3. Fees are subject to change without prior notice.

Update : May 2021

ACADEMIC INFORMATION

ACADEMIC SYSTEM

Assumption University has adopted the semester system. An academic year is divided into two semesters and a summer session. A semester lasts for approximately sixteen weeks.

- First Semester : begins in June and ends in October.
- Second Semester : begins in November and ends in March.
- Summer Session : begins in April and ends in May (optional).

One credit hour requires a minimum of 15 hours of class attendance. A subject of 3 credit hours will require at least 45 hours in class. To qualify for the final examination in any subject, each student must have at least 80% of class attendance. In some exceptional cases, at the discretion of the Lecturer and/or the Dean of the Faculty concerned, this requirement may be waived.

NORMAL COURSE LOAD

A student's course load may vary from semester to semester. The minimum for all full-time students is four courses (12 credit hours) per semester. The maximum course load is six courses (18 credit hours) per semester. To enroll in more than six courses, written permission must be obtained from:

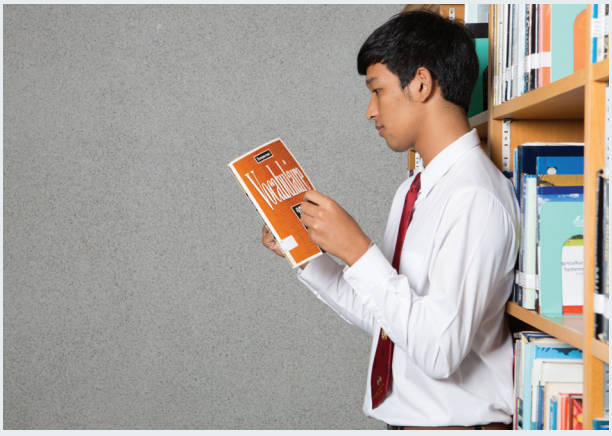
- The chairperson of the department concerned (for a graduating student, or junior and senior students with a cumulative G.P.A. of at least 3.25).
- In all other cases, the Dean of the Faculty corned must be consulted.

ATTENDANCE

Students are required to attend all classes regularly. To qualify to take a final examination for any subject, a minimum of 80% class attendance is mandatory. There are no authorized cuts from classes. Irregular attendance may result in exclusion from classes. Any student who find that he/she can no longer attend a class must officially withdraw in writing through the Office of the Registrar. Failure to withdraw officially may result in a grade of "F" for the course. In case of unavoidable absence, such as subpoena requirements, illness or death of a member of the family, all work missed must be satisfactorily made up and it is the responsibility of the student to arrange for this.

WITHDRAWAL

Students may withdraw (drop) officially from a course, or all courses during the first two weeks without any penalty. Thereafter, until the final day of withdrawals as indicated in the University calendar, students will receive "W" grades. An official withdrawal must be carried out in person at the Office of the Registrar by the student himself/herself (not by someone else on his/her behalf). Failure to withdraw officially will result in a "WF" grade.



GRADING SYSTEM

Letter grades are used to show the academic standing of all students with the following meanings and values.

GRADE	MEANING	VALUE
A	Excellent - Exceptional Achievement	4.00
A-	Almost Excellent - Extensive Achievement	3.75
B+	Very Good	3.25
B	Good - Substantial Achievement	3.00
B-	Fairly Good - Acceptable Achievement	2.75
C+	Fair	2.25
C	Satisfactory	2.00
C-	Minimal Satisfactory	1.75
D	Poor - Minimal Achievement	1.00
F	Failure - Inadequate Achievement	0.00
R	Course repeated	-
S	Satisfactory	-
U	Unsatisfactory	-
W	Withdrawal with Permission	-
WF	Withdrawal with F Withdrawal from course after time limit	0
AUD	Audit and non-credit	-
I	Incomplete, used in case a student fails to complete his/her assignment within the time limit or is absent from the examination with approval from the University due to exceptional reasons.	-
WP	Work in progress	
NR	No Report	
TR	Credits Transfer	

Student grades are computed at the end of each semester, and may include:

- Quizzes
- Term papers
- Book reports
- Assignments
- Recitation
- Class participation
- Attendance
- Midterm and final examination

These requirements may vary with each course.

ACADEMIC ACTION

Academic action can be both favorable and disciplinary. When a student is performing well, all action on him/her in the academic area is said to be favorable to the student. For example, when a student obtains a high GPA he/she is put on the academic List of Honors; when he/she consistently achieves very high marks, he/she is given higher honors. However, if his/her achievement is below standard, disciplinary action may be taken against him/her.

PROBATION

Students who obtain a cumulative GPA of less than 2.00 (1.99-1.50) but above the limits set for dismissal from the University will be put on probation, except during the first semester of the freshman year.

DISMISSAL

Undergraduate students will be dismissed from the University under the following conditions:

- obtaining a cumulative GPA of less than 1.50 at the end of any semester except the first semester of the freshman year;
- obtaining a cumulative GPA of less than 1.75 for two consecutive semesters except the first semester of the freshman year;
- obtaining a cumulative GPA of less than 2.00 for four consecutive semesters except for the first semester of the freshman year. However, in certain cases, the President, in consideration of a student' s potential to improve his/her academic performance and eventually graduate, may grant special permission for the student to carry on his/her studies at the University on probation condition.

HONORS SYSTEM

The University, wishing to provide recognition to exceptional students, has established an Honors System. Undergraduate students are given awards for achievement measurable in grades beginning with semester grades and ending with cumulative grades until graduation.

GRADUATION WITH HONORS

Undergraduate students maintaining a high scholastic average are eligible for graduation with the following Honors:

Summa Cum Laude	Cumulative	GPA	3.80-4.00
Magna Cum Laude	Cumulative	GPA	3.50-3.79
Cum Laude	Cumulative	GPA	3.25-3.49

REQUIREMENTS FOR GRADUATION WITH HONORS

- Have fulfilled all the requirements for graduation within 4 years (5 years for Architecture).
- Have not been placed on probation in any condition.
- Have not received a grade lower than "C" for any course.
- Transfer students must have taken all the third and fourth year courses (or 72 credits) at Assumption University.
- Students who have graduated with a cumulative GPA of 3.25 or higher, regardless of a grade lower than "C" or "U" for non credit courses, or those who completed all requirements within 5 years of study for all 4-year undergraduate programs; and within 6 years for the Architecture program, are entitled to obtaining an Award of Academic Excellence.

SPECIAL HONORS AND AWARDS

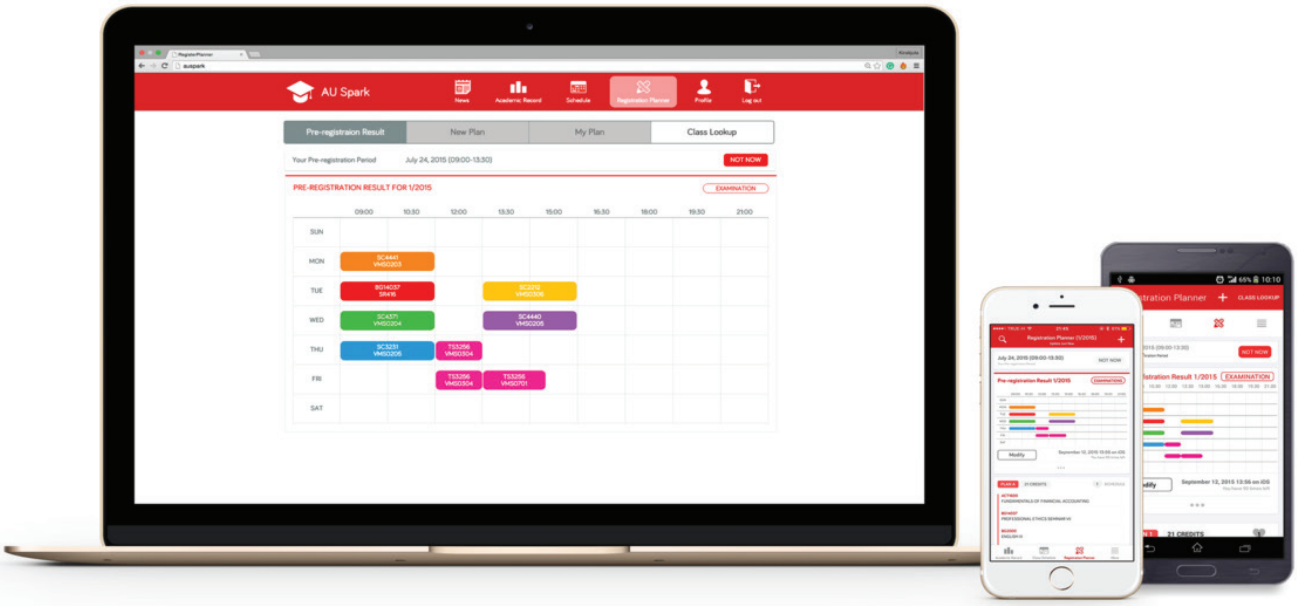
Students are given distinctions for their performance for a semester or an academic year as listed below:

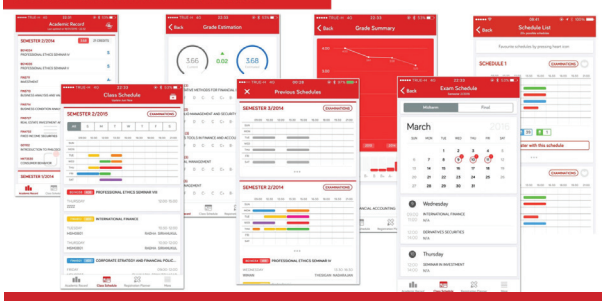
- A Special Certificate of Honors from the University Council for those who obtain a 4.00 GPA for any academic year;
- A Special Certificate of Honors from the President of the University to all students who fall within the GPA range of 3.50-3.99 for any academic year;
- Students who obtain a GPA of 3.25 or above at the end of each semester will have their names published in the Academic List of Honors.

Condition:

- 15 credits per semester is required except for final semester.
- Grades must be "C" or higher.

Class (Semester 2/2017)
SEMESTER 2/2017
Lenovo





AU SPARK

www.auspark.au.edu

Registration & Payment System for Student

AU SPARK is provided for Assumption University's students. It allows students to access the academic information, class schedule and exam schedule. AU SPARK also provides both registration & payment feature.

STUDENT AFFAIRS

Being committed to the educational process of student character formation, AU Student Affairs exists for the well-being of students' lives and out of classroom learning. Wide ranges of services and interventions aiming at students' growth and satisfaction are provided on the basis of individual differences and preferences.

More information, please find E-Student Information in http://www.sa.au.edu

FINANCIAL ASSISTANCE

The University provides several types of financial aid programs to cover the difficulties and needs of students. Financial Assistance Division provides the loan for students who are qualified, eligible and approved by the university and others. The unit assists students who are in need of financial aids which include The Student Loan Fund (กยศ) for education and to facilitate and ensure that students will obtain the needed Student Loan Fund and other service. Financial Assistance Division

Financial Assistance Division
Location: 14th floor of CL building

CAREER DEVELOPMENT AND COUNSELING

Undergraduate students seek career guidance, learning skills assistance and mental help desk at the Center for Career Development and Counseling. We have trained and experienced counselors to support your needs all year round.
Student can make an appointment through the QR code.
There are several activities and events such as career week, career training and exposure, internship, job placement, English for All program and freshmen induction.

Center for Career Development & Counseling
Location: 13th floor of CL building

STUDENT ACTIVITY AND CLUBS

Students can explore their strengths and potentialities through our Student Leadership Development Program (SLDP). Center for Student Leadership & Experiential Learning provides opportunities for students to gain out of classroom learning experiences that will prepare them for human interactions, and enable them to develop time management skills, leadership skills, critical thinking and civil consciousness. Students are guided to learn how to achieve their goals in a practical way and they can obtain a letter of recommendation for job application upon request. The Assumption University Student Organization (AUSO) is a student body consisting of more than 50 student clubs and international student communities.

Center for Student Leadership & Experiential Learning
Location: King David Residence Hall.

SPORTS FOR HEALTH AND COMPETITIONS

Assumption University promotes a rational mind in a healthy body as the Latin phrase says "mens sana in corpore sano." AU community enjoys the sports facilities and services under the supervision of Center for Sports and Physical Fitness. The unit is situated in front of a 25-meter swimming pool in Suvarnabhumi Campus. Sports for health and sports for competition are our main services. Our staff for the Sports Team Development assist AU athletes to achieve their goal in a practical way, with quality facilities, sport science and scholarship athletes support. The Center also hosts an annual swimming championship accredited by the Thailand Amateur Swimming Association.

Center for Sports and Physical Fitness
Location: Gymnasium

STUDENT WELFARE & STUDENT RIGHTS

For residential life, Center for Student Personality and Campus Life cooperates with the university dormitory and the private dormitories to create supportive campus environment that students can live well with mutual understanding. The unit ensures the safety environment for students by managing taxi services as well as coordinating with local police and provincial authority as necessary. For student services, the center provides health insurances, lost & found, letter of recommendation, R.O.T.C. monitoring and processing military related documents for Thai male students.

Center for Student Personality and Campus Life
Location: SM 106

THAI ART AND CULTURES

Learning Thai language, cuisine, arts and crafts is a unique opportunity for students to explore while studying at Assumption University of Thailand. The campus is famous for the blend of western and Thai architectures reflecting the international community. Students enjoy the celebration of Thai festivals, Buddhist ceremony, Catholic feasts and observe the international days of our international community.

Office of Thai Art and Culture
Location: 14th floor of CL building

CENTER/DIVISION	SERVICE	ACTIVITY LOCATION & CONTACT NUMBER	WEBSITE
Financial Assistance Division (FD)	• Financial Assistance • Government Loan Service	14th fl., CL Bld. Tel. (66)-2723-2277 (66)-2723-2148 E-mail: fd@au.edu	www.sa.au.edu
Center for Career Development and Counseling (CCDC)	• Job Placement • Career Training and Exposure • Counseling, Advising and Testing on Career and Learning • Student Mental Health and Psychological Counseling • Freshmen Induction Program • Employer and Alumni Relations • Parents Relations	13th Fl., CL Bld. Tel. (66)-2723-2131-2 E-mail: sa.ccdc@au.edu	www.sa.au.edu www.facebook.com/abaccdc
Center for Student Leadership and Experiental Learning (CSLEL)	• Advising, Monitoring and Learning assessment for Student Organization and Student Activity Units • Student Leader Development Programs • Promoting Student Experiential Learning and University Engagement • Student Activity Information • Student Activity Facilities and Service	King David Bld. Tel. (66)-2723-2222 ext.7292,7293	www.sa.au.edu www.activity4you.au.edu/
Center for Sports and Physical Fitness (CSPF)	• Sport Team Management • Sport Activities and Physical Exercises for Health • Sport Events Management • Sport Facilities Management	Gymnasium Bld. Tel. (66)-2723-2222 ext.7977	www.sa.au.edu
Center for Student Personality and Campus Life (CSPCL)	• Student Rights and Disciplines • Student Safety and Welfare • Residential Life • R.O.T.C. and Military Services	Room 106, SM Bld. Tel. (66)-2723-2235, (66)-2723-2230, (66)-2723-2142	www.sa.au.edu
Office of Thai Art and Culture	• Thai Arts & Cultures Engagement of Stakeholders & AU Community • Promoting Thai Arts & Culture into Curriculum and Extra Curricular Activities • Disseminating Thai values to AU Community	14 fl., CL Bld. Tel. (66)-2723-2240, (66)-2723-2241	www.sa.au.edu

STUDENT UNIFORM

I. Student Uniform is mandatory for official and formal occasions as follows:

1. In the examination rooms.
2. In Business & Professional Ethics Seminar (BG 1403)
3. Formal occasions e.g. Wai Kru day, Orientation day , Last Orientation and Commencement day.
4. In all classrooms assigned by the faculties.

Student Uniform for male students:

1. Plain white, short or long sleeve shirt. Sleeves may not be turned up. Shirt must be tucked into trousers. A university necktie must be worn property.
2. Black trousers (slacks).
3. Black or dark brown belt with university buckle.
4. Plain black leather shoes.

Student Uniform for female students:

1. Plain white , short sleeve blouse. Blouse should fit properly. University buttons are attached and the university pin is worn on the left side of the blouse . Blouse must be tucked into skirt.
2. Black straight skirt at knee length.
3. Black or dark brown belt with university buckle.
4. Plain black leather closed shoes.

II. POLITE DRESS Polite Dress is allowed on the following occasions:

1. In the regular classrooms
2. Whenever entering the campus vicinity , except university dormitories and sports complex at Suvarnabhumi Campus.

Polite Dress for male students:

1. White or light colored short of long sleeve shirt. Shirt must be tucked into trousers neatly.
2. Plain black, grey, blue or brown slacks
3. Dark colored or white closed shoes or sport shoes(polite color).

Polite Dress for female students:

1. White or light colored short of long sleeve blouse. Blouse must be tucked into skirt neatly.
2. Black or blue knee length skirt, polite style.
3. Dark colored closed shoes, sling back court shoes, or sport shoes (polite color).

III. CASUAL DRESS

Casual dress is allowed during summer session or university holiday. However when it is scheduled as midterm, fina exam or test; student is required to wear uniform.

Casual dress for male students:

1. Shirt, Polo shirt, Collar shirt or T-shirt (not singlet)
2. Long pants not ragged jeans
3. Closed shoes, strap shoes or sport shoes

Casual for female students:

1. Blouse exclude singlet, single strap, strapless, sleeveless or over fitting blous
2. Long pants or skirt (not too short)
3. Closed shoes, strap shoes or sport shoes

Student Uniform for female students:

1. Plain white, short sleeve blouse. Blouse should fit p operly. University buttons are attached and the university pin is worn on the left side of the blouse. Blouse must be tucked into skirt.
2. Black straight skirt at knee length.
3. Black or dark brown belt with university buckle
4. Black closed shoes

Student Uniform for male students:

1. Plain white, short or long sleeve shirt. Sleeves may not be turned up. Shirt must be tucked into trousers. A university necktie must be won properly.
2. Black trousers (Slack)
3. Black or dark brown belt with university buckle
4. Black leather shoes.

Remark : Students who are required to wear certain attire considered as a part of religious cultured or cultured dress may seek approval from the Office of Student Affairs.

OFFICE OF INTERNATIONAL AFFAIRS

Assumption University envisions its graduates as healthy and open-minded persons, characterized by personal integrity, an independent mind, and creative thinking; professionally competent, willing to exercise responsible leadership for economic progress in a just society; able to communicate effectively with people from other nations and to participate in globalization.

With the foregoing vision, a day-to-day experience at the University is veritably the United Nations in action. Lecturers and students from diverse backgrounds interact with each other responsibly, and attain appreciable levels of mutual respect. More than that, the productivity of the learning enterprise is praiseworthy. Whether or not it is a student from Thailand, or China or France or Nigeria, students are put into a common learning experience, to discover new avenues of knowledge and to learn to grow, learn to become, learn to be, learn to live together through working on the noble pursuit of humanistic and interdisciplinary knowledge while at the same time, evolving capacities in diversity training which brings them into competitive environments in higher education or professions.

In the environment of vibrant international learning, the Office of Inte national Affairs takes on the role of not merely directing, but nurturing, coaching, mentoring and co-working with lecturers, staff and students, moving all to the common goal of growing together and discovering new values in each other and in the world-wide partnerships we are able to achieve for the purpose of advancing knowledge.

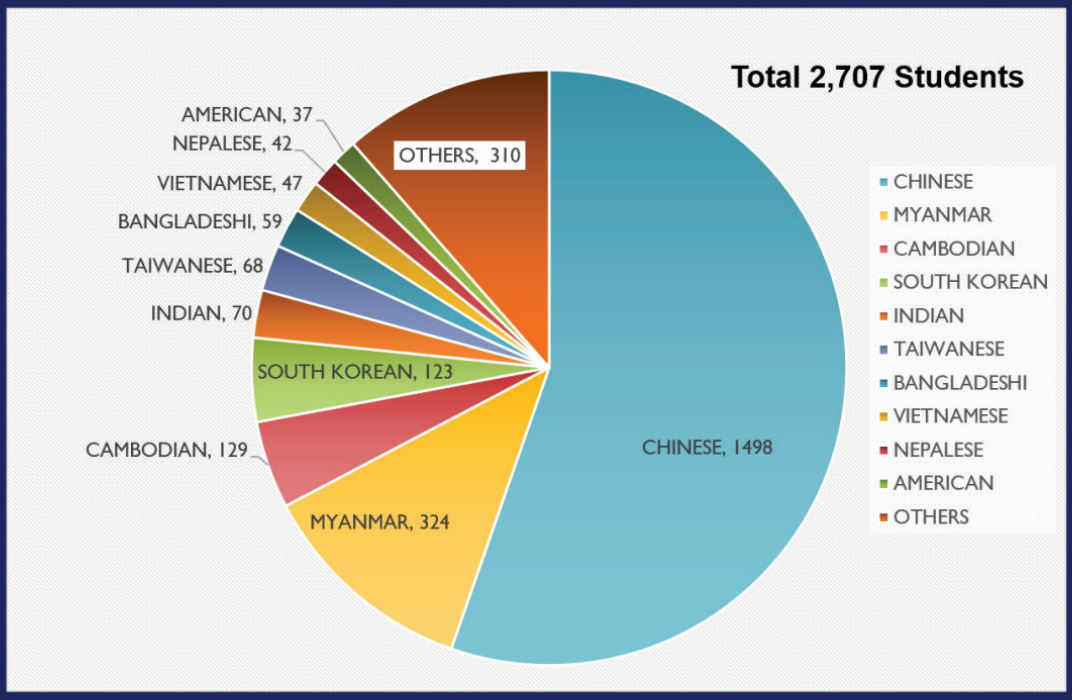
The residue impacts of all efforts result in cultural adjustment and adaptation. Lecturers and students evolve a unique culture of sharing and growing to create a better world.

The Office of Inte national Affairs reports to the Office of the P esident and is responsible for establishing international education Exchanges and Study Abroad opportunities at undergraduate and postgraduate levels.

The Office p ovides guidance and counseling for students who wish to spend a semester abroad, to transfer as an undergraduate or to continue postgraduate studies at other international institutions. It is also charged to collaborate with the Office of Student A fairs, the International Students Center, the Office of Thai Art and Cultu e and with each faculty to enhance the care-taking of the international students.

Our department regularly receives international dignitaries and international guests. We coordinate visits by international guests and assist with the various university publications when needed.

Top 10 Nationalities Representation among International Students



Reference : OUR, 2/2019 - 2020

Nationalities of International Students

- AFGHAN
- AMERICAN
- ANGOLAN
- AUSTRALIAN
- AUSTRIAN
- AZERBAIJANI
- BAHAMIAN
- BANGLADESHI
- BELGIAN
- BHUTANESE
- BRITISH
- BURKINABE
- CAMBODIAN
- CANADIAN
- CHINESE
- CONGOLAISE
- DANISH
- DUTCH
- EGYPTIAN
- FILIPINO
- FINNISH
- FRENCH
- GERMAN
- GUINEAN
- HONG KONGIAN
- INDIAN
- INDONESIAN
- IRANIAN
- ISRAELI
- ITALIAN
- JAPANESE
- KAZAKHSTANI
- KOREAN (DPR)
- LAOTIAN
- MALAWIAN
- MALAYSIAN
- MALDIVIAN
- MONGOLIAN
- MOROCCAN
- MOZAMBICAN
- MYANMAR
- NAURUAN
- NEPALESE
- NIGERIAN
- PAKISTANI
- PALESTINIAN
- RUSSIAN
- SENEGALESE
- SINGAPOREAN
- SOMALI
- SOUTH AFRICAN
- SOUTH KOREAN
- SPANISH
- SUDANESE
- SWEDISH
- SWISS
- TAIWANESE
- TIMORESE
- TURKISH
- TURKMENISTAN
- UKRAINIAN
- VIETNAMESE
- ZIMBABWEAN

Study Abroad Guidelines

- For US universities we have a Study-in the USA Handbook (www.StudyUSA.com)
- For Canadian Universities we have the Study-in-Canada handbook (www.StudyInCanada.com)
- For British Universities we have the Study-in-Britain Handbook (www.educationuk.org)
- For Australia , there is the Study-in-Australia handbook (www.studyinaustralia.gov.au)
- For New Zealand , we have the Study-in-New Zealand handbook (www.EducationNZ.org.nz)

After you have chosen several colleges and universities where you would like to study, you can begin applying for admission . Each college and university sets its own admission standards and decides which applicants meet those standards. You must apply separately to each college or university.

Even if you have selected one school where you are sure you want to study, you should still apply to other schools. Remember that you are competing with international students from all over the world for a limited number of spaces in each entering class. It is possible that "your choice" school may not accept you. Generally it is wise to apply to several schools.

Check College and University's admission testing requirements (TOEFL, GRE, GMAT, IELTS, etc.) Make sure to have scores sent directly to the colleges and universities to which you want to apply. It usually takes six or eight weeks after the date for scores to reach the college and university.

Read the college applications and backtrack the deadlines to allow yourself enough time to complete them. Submit your completed applications as early as possible. Keep a copy of everything you send to the admissions office. If your application is lost, this will hel you resubmit it. You have to wait for 4 or 6 weeks for their reply.

Cost: The cost of study includes more than just tuition, housing, food, books, and supplies. Be sure to add travel to school from your home country, and your personal expenses. The school's web site, catalog or brochure indicates the cost of studying there. Please be aware that costs increase every year.

Accreditation: Accreditation is the certification tha a school or program meets a prescribed academic standard.

It is very important to know that a college or university is accredited. If you attend a college or university that is not accredited, you will not be able to transfer your credits to an accredited college or university. Your home country may not recognize your degrees, and you may not be able to get a job you want.

You can find out whether a college or university i accredited by checking at (www.chea.org) for US colleges and universities.

If you are lucky, you will be accepted by one or more institutions. They will send a letter of acceptance. Accept one of the offers of admission, and confi m your acceptance according to their instructions.

STUDENT VISA : There are four basic requirements students must fulfil to be eligible for a student visa
- Students must prove they have been accepted by a school or a degree course.
- Students must have sufficient English skills to complet their studies.
- Students must show evidence that they have enough money to pay for their school fees and living expenses.
- Students must show that they will return to their home countries once they complete their studies.

For more details you can contact the nearest consulate or embassy.

Once you have accepted a school's offer of admission, the first thing you should do is apply for a studen visa. You should generally apply to the Embassy or Consulate at your home or permanent residence. Each country has their own visa procedures. Just follow the procedures and you should have no problems.

When you get your visa you have to make travel arrangements. PLAN TO ARRIVE AT YOUR SCHOOL IN TIME FOR New Student Orientation and Registration. Follow the arrival instructions sent from the school.

Guidelines & Checklist for the Transfer Process :

(1) Determine which university you'd like to transfer to *
(2) Contact the overseas university Admission office respective Faculty that you'd like to transfer to and find out how to apply as a transfer studen
(3) It may also be useful to check with the following centers for certain countries:
   a. USA: The Cultural/ Education section of Bangkok US Embassy or AUA library
   b. UK: The British Council, Siam Center, Bangkok
   c. Australia: AEI, the Australian Embassy
   d. For other countries you can call / visit the Cultural and Education offices at the embassies to fi out about universities
(4) Please note that the Office of Inte national Affairs at Assumption University does not intervene in or facilitate transfers, we can only provide guidelines, as in this document, as a service.
(5) Please be aware that because of Assumption University's comprehensive English Curriculum (except Faculty of Law), it enjoys a strong reputation and instant recognition by overseas universities particularly those in native English speaking countries.
(6) Transfer of credits/courses/grades is totally left up to accepting institution.
   a. In vies of this, please ensure that your CGPA is competitive enough and that you have completed at least 60 credits at Assumption University.
   b. Please make available to the accepting institution, the Assumption University Undergraduate bulletin. (The Graduate School of AU may also have their bulletins available and these may be submitted in the case of graduate school transfers).The Bulletin contains information on the degree programs, study plans and course description in English. There are also other relevant pieces of information which the bulletins contain which would help in decision making by the accepting universities.
   c. As much as possible, please also provide course outlines for all the courses you have taken. This will clarify a lot of information that the accepting institution might want before taking any decision on transfer acceptance.
   d. Reference letters (at least two, sometimes three) from lecturers who have taught you are extremely useful to the accepting institutions, to gauge your academic background.
(7) Please ensure that you do have the special requirements by the accepting institution. Test results of TOFEL, IELTS, SAT (1 and 2) and/ or other scores may be required. Please check if these c\scores are needed and fulfill the equirement as necessary.
(8) Student transfer visas are normally arranged by accepting institutions. Please ensure that this is also done in your case.
(9) This document is only a guideline and is in no way an official guarantee that students will be accepted based on what this Guideline document outlines.
(10) The Office of Inte national Affairs is happy to receive any sort of feedback on students transfer matters, so that we can make the information available to other students wishing to transfer.

** Please note that universities which have signed agreements with Assumption University will recognize our programs and may welcome transfer students.*

AU students wishing to transfer to "AU Partner Universities" will have to go through all requirements stipulated by the universities, as in all cases.

Contact:
"L" Building Ground Floor
Hua Mak Campus
Tel. 66-2300-4553 ext. 3728-9, 66-2719-0482
www.oia.au.edu

AU STUDY ABROAD CENTER

We anticipated our AU Study Abroad Center has been designed for AU students, to provide a wealth of information about further their study abroad, to assist you to find world-leading universities offered to earn types of study abroad programs, to process enrollment at a partner university in the Australia, UK, USA and Switzerland. We are here to help you to open the door to your future career path.

Studying abroad is a life-changing experience for students. On your journey to you goal you can learn exciting things outside the classroom and learn to say 'hello' in a foreign language, make friends, eat exotic foods/dishes, it is direct path to personal growth and developing your international mindset, While learning in a foreign country can also teach you to be more responsible and move you out from your comfort zone, 'because the finer things in life is just beyond the comfort zone!"

Contact AU Study Abroad Center
Office of the University Registra
Room SR101, St. Rafael's Hall, Suvarnabhumi Campus
Tel. 66-2723-2714
E-mail : studyabroad@au.edu
Line ID : @abac

STUDY ABROAD PROGRAMS

TYPES OF STUDY ABROAD PROGRAMS
You may heard all kind of exciting stories of studying abroad from your friends but may not know all the details so we are here to give a easy clear guideline to your exciting years abroad. You can apply for any of the degree based on your academic background and education level:

DOUBLE DEGREE:
When you study in a double degree programme you study 2 years in AU and 2 years in a foreign partner University. Upon graduation you receive 2 certificates from you home and host country.

JOINT DEGREE:
When you study in a Joint degree you study the core courses with AU and take the specialized courses at the partner university and receive one Degree from the foreign University which can reduce your total expense and help you stay near your home before getting your foreign degree.

EXCHANGE PROGRAMME:
In Exchange Programme you will study 1 semester for 4 months in a foreign Country learning about their culture and all new exciting things and return to your home University to complete your degree.

SUMMER COURSES:
You may go for an intensive training and vocational learning courses during your summer Break to learn and experience new culture with one of our partner University.

HOST UNIVERSITIES
Joint Program/Double Degree

1. UK
- Middlesex University, London
- University of Essex, Essex
- Bournemouth University, Bournemouth
- Manchester Metropolitan, Manchester
- University of Northampton, Northampton
- University of West of England, Bristol
- University of Birmingham, Birmingham

2. Australia
- RMIT University, Melbourne
- Queensland University of Technology, Queensland
- University of Wollongong, New South Wales
- Griffith University, Queenslan
- Southern Cross University, Queensland
- James Cook University, North Queensland

3. Switzerland
- Cesar Ritz Colleges Switzerland

EXCHANGE PROGRAM
1. Australia
- University of Wollongong

2. USA
- New Jersey City University, New York

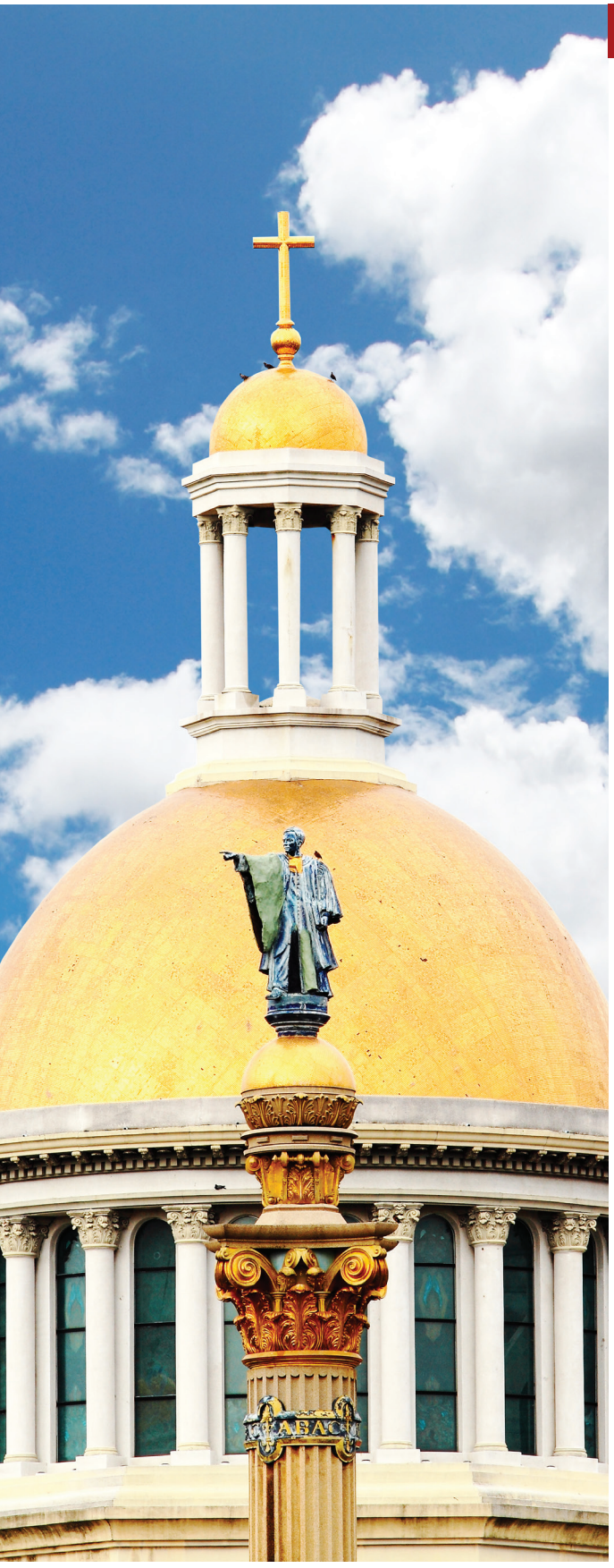
CATHEDRAL

IT HAS ALWAYS BEEN MY DREAM TO BU
IN AND AROUND IT AN ATMOSPHERE THAT I
MIND, INTELLECTUALLY STIMULATING AND
IN OTHER WORDS, AN ATMOSPHERE COND
COMPLETE MAN/WOMAN, A NEW MAN/WOMA
WITH A NEW HUMANISM.

TO THIS END, THE IDEA OF THE "UNIV
CONCEPT OF THE CAMPUS WHEREIN THOU
NATURE BACK TO YOUNG MEN AND WOMEN
TO SIT IN THE GREAT SILENCE OF THE
CONTEMPLATING HOW, IN PEACEFUL SPLE
RADIATING WARMTH THAT GIVES LIFE TO

IN THIS ENVIRONMENT, THE INQUI
THEIR PLAY AND THEIR FULFILLMENT.
KNOWLEDGE AND WISDOM.

MARTIN DE TOURS SCHOOL OF **MANAGEMENT AND ECONOMICS**



BACHELOR OF ACCOUNTANCY

GRADUATION REQUIREMENTS

Assumption University confers the degree of Bachelor of Accountancy upon students who meet all of the following requirements:

- Have completed the total number of credits of the curriculum
- Have obtained a cumulative grade point average of at least 2.00
- Have participated in 16 sessions of the Professional Ethics Seminar
- Have obtained library and financial clearance f om the University
- Have demonstrated good behavior and discipline
- Have to meet the minimum English Proficiency requirement specified in one of the following criteri
- Have obtained a satisfactory pass in MSME assessment tests, eg. basic business knowledge and entrepreneurial skills.

Test Instruments	Required Passing Score
AU English Proficienc Assessment or	70%*
TOEFL (iBT) or	90
TOEFL (P) or	575
IELTS	6.5

**70% = Level B2 of Common European Framework of Reference for Language (CEFR)*

OBJECTIVES OF CURRICULUM

To produce graduates who have the characteristics, knowledge and skills as follows:

1) Morally sound, committed to acting justly and open to further growth.
2) Have knowledge of accounting principles, possess analytical tools and practical knowledge and skills to make sound accounting decisions.
3) Flexible, competent and well-rounded in confronting and solving accounting, financing, and related business problems.
4) Able to apply accounting principles in the practice of their profession.
5) Able to work as a team and motivate others to work.
6) Have positive attitude towards the accounting professions, interpersonal, calculation, analytical, communication and presentation skills, and IT skills.

CURRICULUM STRUCTURE

Total number of credits	142 Credits
A. General Education Courses	**40 Credits**
Language Courses	15 Credits
Social Science Courses	13 Credits
Humanities Courses	6 Credits
Science and Mathematics Courses	6 Credits
B. Specialized Courses	**93 Credits**
Core Courses	39 Credits
Major Required Courses	45 Credits
Concentration Courses	9 Credits
C. Free Elective Courses	**9 Credits**

COURSES

A. General Education Courses

Language Courses		**15 Credits**
BG 1001	English I	3 (2-3-6)
BG 1002	English II	3 (2-3-6)
BG 2000	English III	3 (2-3-6)
BG 2001	English IV	3 (2-3-6)
GE 1403	Communication in Thai	3 (3-0-6)
or		
GE 1405	Thai Language and Culture (For international students)	
or		
GE 1408	Thai Usage (for students who graduated from International Schools)	

Social Science Courses		**13 Credits**
BBA 1001	Business Exploration	3 (3-0-6)
BBA 1002	Microeconomics	3 (3-0-6)
BBA 2002	Economic and Financial Environment	3 (3-0-6)
GE 1204	Physical Education	1 (1-0-2)
GE 2202	Ethics	3 (3-0-6)

Humanities Courses		**6 Credits**
BBA 2001	Human Behavior	3 (3-0-6)
GE 2102	Human Heritage and Globalization	3 (3-0-6)

Science and Mathematics Courses		**6 Credits**
GE 1302	Ecology and Sustainability	3 (3-0-6)
MA 1200	Mathematics for Business	3 (3-0-6)

B. Specialized Courses

Business Core Courses		**39 Credits**
BBA 1103	Fundamentals of Financial Accounting	3 (3-0-6)
BBA 2101	Fundamentals of Managerial Accounting	3 (3-0-6)
BBA 1101	Seminar in Business I	1 (1-0-2)
BBA 2106	Seminar in Business II	1 (1-0-2)
BBA 1102	Data and Information Literacy	3 (2-2-5)
BBA 1104	Fundamentals of Marketing	3 (3-0-6)
BBA 2102	Organization and Management	3 (3-0-6)
BBA 2103	Corporate Finance	3 (3-0-6)
BBA 2104	Global Strategy and Communication	3 (3-0-6)
BBA 2105	Operations and Supply Chain Management	3 (3-0-6)
BBA 3101	Business Research	3 (3-0-6)
BBA 4101	Entrepreneurship	3 (3-0-6)
LAW 1201	Business Laws for Entrepreneurs	3 (3-0-6)
SA 1001	Business Statistics I	2 (2-0-4)
SA 2001	Business Statistics II	2 (2-0-4)

Major Required Courses		**45 Credits**
BAC 3602	Intermediate Accounting I	3 (3-0-6)
BAC 3603	Intermediate Accounting II	3 (3-0-6)
BAC 3608	Financial Report and Financial Statement Analysis	3 (3-0-6)
BAC 3614	Taxation I	3 (3-0-6)
BAC 3615	Taxation II	3 (3-0-6)
BAC 3632	Cost Accounting	3 (3-0-6)
BAC 3643	Auditing	3 (3-0-6)
BAC 3644	Internal Control and Internal Audit	3 (3-0-6)
BAC 4607	Advanced Accounting I	3 (3-0-6)
BAC 4608	Advanced Accounting II	3 (3-0-6)
BAC 4611	Seminar in Accounting	3 (3-0-6)
BAC 4616	Business and Accounting Profession Ethics	3 (3-0-6)
BAC 4646	Accounting Information Systems	3 (3-0-6)
BAC 4647	Accounting Software Packages	3 (3-0-6)
BAC 4648	IT Auditing	3 (3-0-6)

Concentration Courses
Students must choose one of the two following plans as their concentration courses

Plan A: Major Concentration Courses	9 Credits
or	
Plan B: Business Concentration Courses	9 Credits

PLAN A – Major Concentration Courses **9 Credits**

Students must choose one of the five following tracks as their major concentration courses and choose 3 out of 4 courses

Track A:	Auditing	9 Credits
or		
Track B:	Financial Accounting	9 Credits
or		
Track C:	Management Accounting and Control	9 Credits
or		
Track D:	Accounting Information Management Systems	9 Credits
or		
Track E:	Others	9 Credits

Track A: Auditing

BAC 4641	Problems in Auditing	3 (3-0-6)
BAC 4643	Seminar in Auditing	3 (3-0-6)
BAC 4645	Forensic Accounting and Fraud Auditing	3 (3-0-6)
BAC 4669	Accounting Internship	3 (135 hrs)

Track B: Financial Accounting

BAC 4605	International Accounting	3 (3-0-6)
BAC 4609	Accounting Theory	3 (3-0-6)
BAC 4612	Accounting for Specific Enterprise	3 (3-0-6)
BAC 4669	Accounting Internship	3 (135 hrs)

Track C: Management Accounting and Control

BAC 3633	Cost Management	3 (3-0-6)
BAC 3629	Profit Planning and Cont ol	3 (3-0-6)
BAC 4634	Seminar in Management Accounting	3 (3-0-6)
BAC 4669	Accounting Internship	3 (135 hrs)

Track D: Accounting Information Management System

BAC 4652	Accounting Information System Analysis and Design for ERP Program	3 (3-0-6)
BAC 4653	Accounting Information System Development and Implementation	3 (3-0-6)
BAC 4654	Data Analytics and Automation in Accounting Information System	3 (3-0-6)
BAC 4655	Seminar in Accounting Information System	3 (3-0-6)

Track E: Others

Students pursuing Track E must select three major elective courses.

BAC 3633	Cost Management	3 (3-0-6)
BAC 3626	Hotel Accounting	3 (3-0-6)
BAC 3629	Profit Planning and Cont ol	3 (3-0-6)
BAC 4605	International Accounting	3 (3-0-6)
BAC 4609	Accounting Theory	3 (3-0-6)
BAC 4634	Seminar in Management Accounting	3 (3-0-6)
BAC 4641	Problems in Auditing	3 (3-0-6)
BAC 4643	Seminar in Auditing	3 (3-0-6)
BAC 4645	Forensic Accounting and Fraud Auditing	3 (3-0-6)
BAC 4612	Accounting for Specific Enterprises	3 (3-0-6)
BAC 4614	Tax Planning	3 (3-0-6)
BAC 4615	Seminar in Taxation	3 (3-0-6)
BAC 4652	Accounting Information System Analysis and Design for ERP Program	3 (3-0-6)
BAC 4653	Accounting Information System Development and Implementation	3 (3-0-6)
BAC 4654	Data Analytics and Automation in Accounting Information System	3 (3-0-6) 3 (3-0-6)
BAC 4655	Seminar in Accounting Information System	
BAC 4669	Accounting Internship	3 (135 hrs)

PLAN B – Business Concentration Courses 9 Credits

Students pursuing PLAN B must select a concentration in other business areas, and must choose 3 out of 4 courses

Digital Business Management

BDM 3201	Digital Business	3 (2-2-5)
BDM 3202	Digital Commerce	3 (2-2-5)
BDM 3203	Cybersecurity	3 (2-2-5)
BDM 3204	Enterprise Resource Planning	3 (2-2-5)

Finance

BFN 3211	Investment Strategy and Applied Valuation	3 (3-0-6)
BFN 3221	Business and Economic Analysis for Decision Making	3 (3-0-6)
BFN 3222	Financial Modeling and Analysis Tools	3 (3-0-6)
BFN 3223	Advanced Financial Management	3 (3-0-6)

Hospitality and Tourism Management

BHT 3201	Introduction to Hospitality and Tourism Management	3 (3-0-6)
BHT 3202	Consumer Behavior in Hospitality and Tourism Industry	3 (3-0-6)
BHT 3203	Food and Beverage Management	3 (3-0-6)
BHT 3204	Personality and Communication in Hospitality and Tourism	3 (3-0-6)

Marketing

BMK 3201	Consumer Behavior	3 (3-0-6)
BMK 3202	Digital Marketing	3 (3-0-6)
BMK 3203	Brand Driven Innovation	3 (3-0-6)
BMK 3204	Competitive Analysis and Strategy	3 (3-0-6)

Insurance

BIR 3211	Risk Management and Insurance	3 (3-0-6)
BIR 3221	Property Insurance	3 (3-0-6)
BIR 3222	Casualty Insurance	3 (3-0-6)
BIR 3223	Life Assurance	3 (3-0-6)

Supply Chain Management

BSC 3201	Logistic and Supply Chain Management	3 (3-0-6)
BSC 3202	Supply Chain Innovation and Technology	3 (3-0-6)
BSC 3203	Lean Manufacturing and Agile Supply Chain	3 (3-0-6)
BSC 3204	International Transportation and Distribution Management	3 (3-0-6)

C. Free Elective Courses 9 Credits

Students can take three free elective courses of 9 credits from any faculty in Assumption University upon completion of the prerequisites (if any). However, they are certain courses that the Martin De Tours School of Management and Economics does not allow the students to enroll as follows:

ACT 1601	Fundamentals of Financial Accounting
ACT 1602	Fundamentals of Financial Accounting
BAC 1103	Fundamentals of Financial Accounting
BAC 1601	Fundamentals of Financial Accounting
BAC 1602	Fundamentals of Financial Accounting I
BAC 1603	Fundamentals of Financial Accounting II
BAC 1621	Accounting for Economists
BBA 1103	Introduction to Microeconomics and Personal finance
BEC 2200	Introduction to Economics
BEC 1101	Microeconomics I
BEC 1201	Macroeconomics I
BEN 3001	Entrepreneur and Innovation
BG 1301	Fundamentals of Statistics
BG 1400	Business Law I
BG 1401	Business Law II
ECO 2202	Macroeconomics
ECO 2531	Principles of Microeconomics
ECO 2541	Principles of Macroeconomics
GE 1101	Thai Civilization
GE 1103	Thai Historical Perspectives
GE 1203	Society, Politics and Economics
GE 1207	Fundamental Psychology
GE 1403	Communication in Thai (for Thai students only)
GE 1404	Thai Culture and Tradition
GE 1405	Thai Language and Culture (for International students)
GE 1408	Thai usage (for students who graduated from international schools)
GS 1108	Applied Mathematics
MA 1000	Business Mathematics and Statistics
SA 1201	Statistics I
SA 2200	Statistics II

In addition to the above courses, students are not allowed to enroll in courses from previous curriculum of the Martin de Tours School of Management and Economics unless they have obtained a written permission from the School. These courses are designated with the following letter codes: ACT, BIS, ECO, FIN, HTM, IBM, IDM, IML, INS, MGT, MIS, MKT, and REM.

STUDY PLAN

First and Second Year (Freshmen and Sophomore)
During the freshmen year, all students in Martin de Tours School of Management pursue the same study plan consisting of general education courses and business core courses, which provide them with the basic knowledge on all the disciplines in business. The study plan also prepares the students with adequate knowledge to select a concentration that suits his/her ability, background, and preferences.

Third and Fourth Year (Junior and Senior)
During the junior and senior years, accounting students must follow the Accounting program of studies:
1. Fifteen Major Required Courses
2. Three Concentration Courses
   Plan A: Major Concentration Courses
   or
   Plan B: Business Concentration Courses
3. Three Free Elective Courses

FIRST YEAR
First Semester

Code	Subjects	Credits
BG 1001	English I	3 (2-3-6)
MA 1200	Mathematics for Business	3 (3-0-6)
BBA 1001	Business Exploration	3 (3-0-6)
BBA 1101	Seminar in Business I	1 (1-0-2)
BBA 1102	Data and Information Literacy	3 (2-2-5)
LAW 1201	Business Laws for Entrepreneurs	3 (3-0-6)
GE 1302	Ecology and Sustainability	3 (3-0-6)
	Total	**19 (17-5-37)**

Second Semester

BBA 1103	Fundamentals of Financial Accounting	3 (3-0-6)
BG 1002	English II	3 (2-3-6)
BBA 1002	Microeconomics	3 (3-0-6)
SA 1001	Business Statistics I	2 (2-0-4)
GE 1403	Communication in Thai	3 (3-0-6)
BBA 1104	Fundamentals of Marketing	3 (3-0-6)
GE 1204	Physical Education	1 (1-0-2)
	Total	**18 (17-3-36)**

SECOND YEAR
First Semester

BBA 2101	Fundamentals of Managerial Accounting	3 (3-0-6)
BG 2000	English III	3 (2-3-6)
BBA 2002	Economic and Financial Environment	3 (3-0-6)
BBA 2001	Human Behavior	3 (3-0-6)
SA 2001	Business Statistics II	2 (2-0-4)
BBA 2102	Organization and Management	3 (3-0-6)
	Total	**17 (16-3-34)**

Second Semester

BG 2001	English IV	3 (2-3-6)
BAC 3602	Intermediate Accounting I	3 (3-0-6)
BAC 3632	Cost Accounting	3 (3-0-6)
BBA 2103	Corporate Finance	3 (3-0-6)
GE 2202	Ethics	3 (3-0-6)
BBA 2106	Seminar in Business II	1 (1-0-2)
GE 2102	Human Heritage and Globalization	3 (3-0-6)
	Total	**19 (17-3-38)**

THIRD YEAR
First Semester

BBA 2105	Operations and Supply Chain Management	3 (3-0-6)
BBA 2104	Global Strategy and Communication	3 (3-0-6)
BBA 3101	Business Research	3 (3-0-6)
BAC 3603	Intermediate Accounting II	3 (3-0-6)
BAC 3608	Financial Report and Financial Statement Analysis	3 (3-0-6)
BAC 3614	Taxation I	3 (3-0-6)
	Total	**18 (18-0-36)**

Second Semester

BAC 3615	Taxation II	3 (3-0-6)
BAC 3643	Auditing	3 (3-0-6)
BAC 3644	Internal Control and Internal Audit	3 (3-0-6)
BAC 4607	Advanced Accounting I	3 (3-0-6)
BAC 4608	Advanced Accounting II	3 (3-0-6)
	One Free Elective	3 (3-0-6)
	Total	**18 (18-0-36)**

FOURTH YEAR
First Semester

BAC 4616	Business and Accounting Profession Ethics	3 (3-0-6)
BAC 4646	Accounting Information Systems	3 (3-0-6)
BBA 4101	Entrepreneurship	3 (3-0-6)
	One Plan A / Plan B Course	3 (3-0-6)
	One Plan A / Plan B Course	3 (3-0-6)
	One Free Elective	3 (3-0-6)
	Total	**18 (18-0-36)**

Second Semester

BAC 4611	Seminar in Accounting	3 (3-0-6)
BAC 4647	Accounting Software Packages	3 (3-0-6)
BAC 4648	IT Auditing	3 (3-0-6)
	One Plan A / Plan B Course	3 (3-0-6)
	One Free Elective Course	3 (3-0-6)
	Total	**15 (15-0-36)**

BACHELOR OF BUSINESS ADMINISTRATION

GRADUATION REQUIREMENTS

Assumption University confers the degree of Bachelor of Business Administration upon students who meet all of the following requirements:

- Have completed the total number of credits of the curriculum
- Have obtained a cumulative grade point average of at least 2.00
- Have participated in 16 sessions of the Professional Ethics Seminar
- Have obtained library and financial clearance f om the University
- Have demonstrated good behavior and discipline
- Have to meet the minimum English Proficiency requirement specified in one of the following criteri
- Have obtained a satisfactory pass in MSME assessment tests, eg. basic business knowledge and entrepreneurial skills.

Test Instruments	Required Passing Score
AU English Proficienc Assessment or	70%*
TOEFL (iBT) or	90
TOEFL (P) or	575
IELTS	6.5

**70% = Level B2 of Common European Framework of Reference for Language (CEFR)*

CURRICULUM STRUCTURE

Total number of credits	142 Credits
A. General Education Courses	**40 Credits**
Language Courses	15 Credits
Social Science Courses	13 Credits
Humanities Courses	6 Credits
Science and Mathematics Courses	6 Credits
B. Specialized Courses	**90 Credits**
Business Core Courses	39 Credits
Major Required Courses	30 Credits
- Digital Business Management	
- Entrepreneur and Innovation Management	
- Finance	
- Hospitality and Tourism Management	
- Insurance	
- International Business Management	
- Marketing	
- Real Estate	
- Supply Chain Management	
Business Elective Courses	21 Credits
C. Free Elective Courses	**12 Credits**

OBJECTIVES OF CURRICULUM

To produce graduates who have the characteristics, knowledge and skills as follow

Characteristics:

(1) Morally sound, committed to acting justly and open to further growth.
(2) Able to work as a team as well as have leadership qualities.
(3) Possess interpersonal skills and positive attitude

Knowledge:

(4) Knowledgeable of the principles and theories in the functional areas and able to apply with respect to the Business Administration.

Skills:

(5) Possess analytical and creative thinking skills and practical knowledge to acquire proficiency in business from an interdisciplinary and multi-cultural perspective.
(6) Able to apply analytical tools and conceptual frameworks logical and critical thinking skills to solve complex business problems and open end challenges.
(7) Have skills of ideation attitude, communication and presentation skills, IT skills and entrepreneurial skills.
(8) Flexible, competent and well-rounded in confronting and solving business problems.

COURSES

A. General Education Courses

Language Courses		**15 Credits**
BG 1001	English I	3 (2-3-6)
BG 1002	English II	3 (2-3-6)
BG 2000	English III	3 (2-3-6)
BG 2001	English IV	3 (2-3-6)
GE 1403	Communication in Thai	3 (3-0-6)
or		
GE 1405	Thai Language and Culture (For international students)	
or		
GE 1408	Thai Usage (for students who graduated from International Schools)	

Social Science Courses		**13 Credits**
BBA 1001	Business Exploration	3 (3-0-6)
BBA 1002	Microeconomics	3 (3-0-6)
BBA 2002	Economic and Financial Environment	3 (3-0-6)
GE 1204	Physical Education	1 (1-0-2)
GE 2202	Ethics	3 (3-0-6)

Humanities Courses		**6 Credits**
BBA 2001	Human Behavior	3 (3-0-6)
GE 2102	Human Heritage and Globalization	3 (3-0-6)

Science and Mathematics Courses		**6 Credits**
GE 1302	Ecology and Sustainability	3 (3-0-6)
MA 1200	Mathematics for Business	3 (3-0-6)

Other Courses (for non business, accounting and economics students)		**3 Credits**
MA 1000	Business Mathematics and Statistics	3 (3-0-6)
BEN 3001	Entrepreneur and Innovation	3 (3-0-6)

B. Specialized Courses

Business Core Courses		**39 Credits**
BBA 1101	Seminar in Business I	1 (1-0-2)
BBA 1102	Data and Information Literacy	3 (2-2-5)
BBA 1103	Fundamentals of Financial Accounting	3 (3-0-6)
BBA 1104	Fundamentals of Marketing	3 (3-0-6)
BBA 2101	Fundamentals of Managerial Accounting	3 (3-0-6)
BBA 2102	Organization and Management	3 (3-0-6)
BBA 2103	Corporate Finance	3 (3-0-6)
BBA 2104	Global Strategy and Communication	3 (3-0-6)
BBA 2105	Operations and Supply Chain Management	3 (3-0-6)
BBA 2106	Seminar in Business II	1 (1-0-2)
BBA 3101	Business Research	3 (3-0-6)
BBA 4101	Entrepreneurship	3 (3-0-6)
LAW 1201	Business Laws for Entrepreneurs	3 (3-0-6)
SA 1001	Business Statistics I	2 (2-0-4)
SA 2001	Business Statistics II	2 (2-0-4)

Major Required Courses		**30 Credits**
Digital Business Management		
BDM 3201	Digital Business	3 (2-2-5)
BDM 3202	Digital Commerce	3 (2-2-5)
BDM 3203	Cybersecurity	3 (2-2-5)
BDM 3204	Enterprise Resource Planning	3 (2-2-5)
BDM 3205	Information Systems Strategy, Management, and Acquisition	3 (2-2-5)
BDM 3301	Data Analytics Fundamentals	3 (2-2-5)
BDM 3302	Data Management	3 (2-2-5)
BDM 3303	Data Mining	3 (2-2-5)
BDM 3304	Systems Analysis and Design	3 (2-2-5)
BDM 3305	Big Data Analytics	3 (2-2-5)
Entrepreneur and Innovation Management		
BEN 3201	Innovation and Design Thinking	3 (3-0-6)
BEN 3202	Entrepreneurial Commercialization	3 (3-0-6)
BEN 3303	Entrepreneurial Leadership	3 (3-0-6)
BEN 3304	Project Management	3 (3-0-6)
BEN 3305	Human Capital Management and Development	3 (3-0-6)
BEN 4212	Growth Mindset and Sustaining Organization	3 (3-0-6)
BEN 4213	Digital Entrepreneurship	3 (3-0-6)
BEN 4214	Entrepreneurial Strategic Management	3 (3-0-6)
BEN 4315	Family Business Management	3 (3-0-6)
BEN 4316	Social Entrepreneurship	3 (3-0-6)

Finance

BFN 3211	Investment Strategy and Applied Valuation	3 (3-0-6)
BFN 3212	Financial Reporting and Analysis	3 (3-0-6)
BFN 3221	Business and Economic Analysis for Decision Making	3 (3-0-6)
BFN 3222	Financial Modeling and Analysis Tools	3 (3-0-6)
BFN 3223	Advanced Financial Management	3 (3-0-6)
BFN 4311	Derivatives and Risk Management	3 (3-0-6)
BFN 4312	Quantitative Analysis and Analytics of Finance	3 (3-0-6)
BFN 4313	International Financial Management	3 (3-0-6)
BFN 4321	Special Topics in Finance Certification	3 (3-0-6)
BFN 4322	Value Based Management and Financial Decisions	3 (3-0-6)

Hospitality and Tourism Management

BHT 3201	Introduction to Hospitality and Tourism Management	3 (3-0-6)
BHT 3202	Consumer Behavior in Hospitality and Tourism	3 (3-0-6)
BHT 3203	Food and Beverage Management	3 (3-0-6)
BHT 3204	Personality and Communication in Hospitality and Tourism	3 (3-0-6)
BHT 3205	Marketing in Hospitality and Tourism	3 (3-0-6)
BHT 3301	Human Resource Management in Hospitality and Tourism	3 (3-0-6)
BHT 4301	Information Technology in Hospitality and Tourism	3 (3-0-6)
BHT 4302	Operation and Leadership in Hospitality and Tourism	3 (3-0-6)
BHT 4303	Strategic Management in Hospitality and Tourism	3 (3-0-6)
BHT 4304	Internship in Hospitality and Tourism	3 (400 hours)

International Business Management

BFN 4313	International Financial Management	3 (3-0-6)
BIB 3201	Cross Cultural Human Resource Management	3 (3-0-6)
BIB 3202	Export-Import Policy and Strategy	3 (3-0-6)
BIB 3203	Global Business in Practice	3 (3-0-6)
BIB 3204	International Management	3 (3-0-6)
BIB 4209	International Strategic Management	3 (3-0-6)
BIB 4305	Designing and Managing Global Operations	3 (3-0-6)
BIB 4306	Global Business Feasibility Analysis	3 (3-0-6)
BIB 4307	International Business Research	3 (3-0-6)
BIB 4308	Seminar in International Business Management	3 (3-0-6)

Insurance

BIR 3211	Risk Management and Insurance	3 (3-0-6)
BIR 3212	Insurance Law	3 (3-0-6)
BIR 3221	Property Insurance	3 (3-0-6)
BIR 3222	Casualty Insurance	3 (3-0-6)
BIR 3223	Life Assurance	3 (3-0-6)
BIR 4311	Employee Benefit	3 (3-0-6)
BIR 4312	Reinsurance	3 (3-0-6)
BIR 4313	Essentials of Risk Management	3 (3-0-6)
BIR 4321	Digital Marketing in Insurance	3 (3-0-6)
BIR 4322	Seminar in Insurance	3 (3-0-6)

Marketing

BMK 3201	Consumer Behavior	3 (3-0-6)
BMK 3202	Digital Marketing	3 (3-0-6)
BMK 3203	Brand Driven Innovation	3 (3-0-6)
BMK 3204	Competitive Analysis and Strategy	3 (3-0-6)
BMK 3305	Integrated Marketing Communications	3 (3-0-6)
BMK 3306	Marketing Channels and Logistics	3 (3-0-6)
BMK 4201	Marketing Management	3 (3-0-6)
BMK 4302	Contemporary Issues in Marketing	3 (3-0-6)
BMK 4303	Marketing Research	3 (3-0-6)
BMK 4304	Marketing Metrics and Decisions	3 (3-0-6)

Real Estate

BRE 3201	Real Estate Business	3 (3-0-6)
BRE 3202	Real Estate Law	3 (3-0-6)
BRE 3203	Real Estate Economics	3 (3-0-6)
BRE 3204	Building Design and Construction Techniques	3 (3-0-6)
BRE 3205	Real Estate Development	3 (3-0-6)
BRE 3301	Real Estate Finance	3 (3-0-6)
BRE 3302	Real Estate Appraisal	3 (3-0-6)
BRE 3303	Commercial Property Management	3 (3-0-6)
BRE 4301	Real Estate Investment Analysis	3 (3-0-6)
BRE 4302	Real Estate Project Management	3 (3-0-6)

Supply Chain Management

BSC 3201	Logistics and Supply Chain Management	3 (3-0-6)
BSC 3202	Supply Chain Innovation and Technology	3 (3-0-6)
BSC 3203	Lean Manufacturing and Agile Supply Chain	3 (3-0-6)
BSC 3204	International Transportation and Distribution Management	3 (3-0-6)
BSC 3205	Warehousing and Material Handling	3 (3-0-6)
BSC 3301	Business Analytics	3 (3-0-6)
BSC 4302	Procurement and Supply Management	3 (3-0-6)
BSC 4303	Supply Chain Risk Management	3 (3-0-6)
BSC 4304	Strategic Supply Chain Management	3 (3-0-6)
BSC 4305	Seminar in Supply Chain	3 (3-0-6)

Business Elective Courses **21 Credits**

Choose 7 courses from the list below

BAC 3602	Intermediate Accounting I	3 (3-0-6)
BAC 3603	Intermediate Accounting II	3 (3-0-6)
BAC 3608	Financial Report and Financial Statement Analysis	3 (3-0-6)
BAC 3614	Taxation I	3 (3-0-6)
BAC 3615	Taxation II	3 (3-0-6)
BAC 3632	Cost Accounting	3 (3-0-6)
BAC 3643	Auditing	3 (3-0-6)
BAC 3644	Internal Control and Audit	3 (3-0-6)
BAC 4607	Advanced Accounting I	3 (3-0-6)
BAC 4608	Advanced Accounting II	3 (3-0-6)
BAC 4611	Seminar in Accounting	3 (3-0-6)
BAC 4646	Accounting Information Systems	3 (3-0-6)
BAC 4647	Accounting Software Packages	3 (3-0-6)
BBA 3410-3419	Law for Business	3 (3-0-6)
BBA 3420-3429	Health and Wellness for Business	3 (3-0-6)
BBA 3430-3439	Biotechnology for Business	3 (3-0-6)
BBA 3440-3449	Digital Technology for Business	3 (3-0-6)
BBA 3450-3459	Engineering Technology for Business	3 (3-0-6)
BBA 3460-3469	Design for Business	3 (3-0-6)
BBA 3470-3479	Creative Arts for Business	3 (3-0-6)
BBA 3480-3489	Language and Culture for Business	3 (3-0-6)
BDM 3201	Digital Business	3 (2-2-5)
BDM 3202	Digital Commerce	3 (2-2-5)
BDM 3203	Cybersecurity	3 (2-2-5)
BDM 3204	Enterprise Resource Planning	3 (2-2-5)
BDM 3205	Information Systems Strategy, Management, and Acquisition	3 (2-2-5)
BDM 3301	Data Analytics Fundamentals	3 (2-2-5)
BDM 3302	Data Management	3 (2-2-5)
BDM 3303	Data Mining	3 (2-2-5)
BDM 3304	Systems Analysis and Design	3 (2-2-5)
BDM 3305	Big Data Analytics	3 (2-2-5)
BDM 3401	Artificial Intelligence (AI	3 (2-2-5)
BDM 3402	Blockchain and Financial Technology	3 (2-2-5)
BDM 3403	Robotic Process Automation	3 (2-2-5)
BDM 3404	Data Structures and Algorithms	3 (2-2-5)
BDM 3405	Database Systems	3 (2-2-5)
BDM 3406	Mobile Application Development	3 (2-2-5)
BDM 3407	Web Application Development	3 (2-2-5)
BDM 3408	Blockchain Development	3 (2-2-5)
BDM 3409	Game Design and Development	3 (2-2-5)
BDM 3410	Low-code Development	3 (2-2-5)
BDM 3411	Software Engineering	3 (2-2-5)
BDM 3412	UI/UX Design	3 (2-2-5)
BDM 3413	eSports	3 (2-2-5)
BDM 3414	Customer Experience Management	3 (2-2-5)
BDM 3415	Business Intelligence	3 (2-2-5)
BDM 3416	Data Engineering	3 (2-2-5)
BDM 3417	Data Storytelling	3 (2-2-5)
BDM 3418	Digital Marketing Analytics	3 (2-2-5)
BDM 3419	Text Mining	3 (2-2-5)
BDM 3420	Cloud Computing	3 (2-2-5)
BDM 3421	Internet of Things	3 (2-2-5)
BDM 3422	IT Infrastructure	3 (2-2-5)
BDM 3423	Penetration Testing	3 (2-2-5)
BDM 3481	Digital Business Internship I	3 (0-30-0)
BDM 3482	Digital Business Internship II	3 (0-30-0)
BDM 3498	Business Analytics in Real Estate	3 (2-2-5)
BDM 3499	Business Analytics and Global Strategies	3 (2-2-5)

BDM 4400-4409	Selected topics in Digital Business Management	3 (2-2-5)
BEC 1302	Basic Probability Theory and Statistics	3 (3-0-6)
BEC 1401	Thinking as an Economist	3 (3-0-6)
BEC 2102	Economic Decision Making for Management	3 (3-0-6)
BEC 2303	Fundamentals of Econometrics	3 (3-0-6)
BEC 2304	Business and Economic Forecasting	3 (3-0-6)
BEC 3101	Firms, Competition and Market Structure	3 (3-0-6)
BEN 3201	Innovation and Design Thinking	3 (3-0-6)
BEN 3202	Entrepreneurial Commercialization	3 (3-0-6)
BEN 3303	Entrepreneurial Leadership	3 (3-0-6)
BEN 3304	Project Management	3 (3-0-6)
BEN 3305	Human Capital Management and Development	3 (3-0-6)
BEN 3406	Legal Aspects and Intellectual Property of Entrepreneurship	3 (3-0-6)
BEN 3407	Entrepreneurial Finance and Accounting	3 (3-0-6)
BEN 3408	Conflict and Change Management	3 (3-0-6)
BEN 3409	Organization Transition	3 (3-0-6)
BEN 3410	Entrepreneurship Practicum I	3 (3-0-6)
BEN 3411	Entrepreneurship Practicum II	3 (3-0-6)
BEN 4212	Growth Mindset and Sustaining Organization	3 (3-0-6)
BEN 4213	Digital Entrepreneurship	3 (3-0-6)
BEN 4214	Entrepreneurial Strategic Management	3 (3-0-6)
BEN 4315	Family Business Management	3 (3-0-6)
BEN 4316	Social Entrepreneurship	3 (3-0-6)
BEN 4417	Research in Entrepreneurship	3 (3-0-6)
BEN 4418	Current Issues in Entrepreneurship and Innovation	3 (3-0-6)
BEN 4419	Operational Excellence, Collaboration and Partnership Management	3 (3-0-6) 3 (3-0-6)
BEN 4420	Creative Industries Entrepreneurship	3 (3-0-6)
BEN 4421	Venture Opportunity I	3 (3-0-6)
BEN 4422	Venture Opportunity II	3 (3-0-6)
BFN 3211	Investment Strategy and Applied Valuation	3 (3-0-6)
BFN 3212	Financial Reporting and Analysis	3 (3-0-6)
BFN 3221	Business and Economic Analysis for Decision Making	3 (3-0-6)
BFN 3222	Financial Modeling and Analysis Tools	3 (3-0-6)
BFN 3223	Advanced Financial Management	3 (3-0-6)
BFN 3411	Private Banking and Wealth Management	3 (3-0-6)
BFN 3421	Financial Feasibility Planning	3 (3-0-6)
BFN 3431	Behavioral Finance	3 (3-0-6)
BFN 4411	Fixed Income Securities	3 (3-0-6)
BFN 4412	Real Estate Investment and Entrepreneurs	3 (3-0-6)
BFN 4421	Portfolio Management and Analysis	3 (3-0-6)
BFN 4422	Individual Research in Finance	3 (3-0-6)
BFN 4431	Startup Finance and FinTech	3 (3-0-6)
BFN 4432	Investment Banking	3 (3-0-6)
BFN 4433	Internship in Finance	3 (300 hrs)
BHT 3201	Introduction to Hospitality and Tourism Management	3 (3-0-6)
BHT 3202	Consumer Behavior in Hospitality and Tourism	3 (3-0-6)
BHT 3203	Food and Beverage Management	3 (3-0-6)
BHT 3204	Personality and Communication in Hospitality and Tourism	3 (3-0-6)
BHT 3205	Marketing in Hospitality and Tourism	3 (3-0-6)
BHT 3301	Human Resource Management in Hospitality and Tourism	3 (3-0-6)
BHT 3401	Event Management	3 (3-0-6)
BHT 3402	Rooms Division Management	3 (3-0-6)
BHT 3403	Service Management	3 (3-0-6)
BHT 3404	Food and Beverage Service	3 (3-0-6)
BHT 3405	Kitchen Operation	3 (3-0-6)
BHT 3406	Catering, Bakery and Pastry	3 (3-0-6)
BHT 3407	Introduction to Airline Business Management	3 (3-0-6)
BHT 3408	Ground Operation Management	3 (3-0-6)
BHT 3409	In-flight Service Managemen	3 (3-0-6)
BHT 3410	Perfecting Personality for Career and Life	3 (3-0-6)
BHT 3411	Sustainable Tourism Management	3 (3-0-6)
BHT 3412	Health and Wellness Tourism	3 (3-0-6)
BHT 3413	Cruise Ship Tourism	3 (3-0-6)
BHT 3414	Tour Guiding and Operation in Practice	3 (3-0-6)
BHT 3415	Tourist Destination Management	3 (3-0-6)
BHT 3416	Introduction to MICE Business Management	3 (3-0-6)
BHT 4301	Information Technology in Hospitality and Tourism	3 (3-0-6)
BHT 4302	Operation and Leadership in Hospitality and Tourism	3 (3-0-6)
BHT 4303	Strategic Management in Hospitality and Tourism	3 (3-0-6)
BHT 4304	Internship in Hospitality and Tourism	3 (400 hrs)
BIB 3201	Cross Cultural Human Resource Management	3 (3-0-6)
BIB 3202	Export-Import Policy and Strategy	3 (3-0-6)

BIB 3203	Global Business in Practice	3 (3-0-6)
BIB 3204	International Management	3 (3-0-6)
BIB 3401	Global Market Behavior	3 (3-0-6)
BIB 3402	Global Business Communication	3 (3-0-6)
BIB 3403	Global Pricing Strategy	3(3-0-6)
BIB 3404	Cross Cultural Communication, Conflict and Negotiatio	3 (3-0-6)
BIB 3405	International Relations	3 (3-0-6)
BIB 4209	International Strategic Management	3 (3-0-6)
BIB 4305	Designing and Managing Global Operations	3 (3-0-6)
BIB 4306	Global Business Feasibility Analysis	3 (3-0-6)
BIB 4307	International Business Research	3 (3-0-6)
BIB 4308	Seminar in International Business Management	3 (3-0-6)
BIB 4406	Global Supply Chain Management	3 (3-0-6)
BIB 4407	Global Product and Brand Strategy	3 (3-0-6)
BIB 4408	Global Context of Business	3 (3-0-6)
BIB 4409	Special Topics in International Business	3 (3-0-6)
BIB 4410	Individual Research	3 (3-0-6)
BIB 4411	International Business Management Internship	3 (300 hrs)
BIR 3211	Risk Management and Insurance	3 (3-0-6)
BIR 3212	Insurance Law	3 (3-0-6)
BIR 3221	Property Insurance	3 (3-0-6)
BIR 3222	Casualty Insurance	3 (3-0-6)
BIR 3223	Life Assurance	3 (3-0-6)
BIR 3401	Engineering Insurance	3 (3-0-6)
BIR 3402	Marine and Aviation Insurance	3 (3-0-6)
BIR 3403	Survey and Claim Management in Non-Life Insurance	3 (3-0-6)
BIR 3404	Finance and Accounting in Non-Life Insurance	3 (3-0-6)
BIR 3405	Life Assurance Underwriting	3 (3-0-6)
BIR 3406	Life Assurance Mathematics	3 (3-0-6)
BIR 3407	Claim Administration in Life Assurance	3 (3-0-6)
BIR 3408	Life Assurance Agency Administration	3 (3-0-6)
BIR 4311	Employee Benefit	3 (3-0-6)
BIR 4312	Reinsurance	3 (3-0-6)
BIR 4313	Essential of Risk Management	3 (3-0-6)
BIR 4321	Digital Marketing in Insurance	3 (3-0-6)
BIR 4322	Seminar in Insurance	3 (3-0-6)
BIR 4401	Financial Concepts For Life Assurance	3 (3-0-6)
BIR 4402	Life Assurance and Financial Planning	3 (3-0-6)
BIR 4403	Business Analytics and Insurance Management	3 (3-0-6)
BIR 4404	Information Management in Insurance	3 (3-0-6)
BIR 4405	Risk Control and Risk Financing	3 (3-0-6)
BIR 4406	Independent Study in Insurance	3 (3-0-6)
BIR 4407	Internship in Insurance	3 (240 hrs)
BMK 3201	Consumer Behavior	3 (3-0-6)
BMK 3202	Digital Marketing	3 (3-0-6)
BMK 3203	Brand Driven Innovation	3 (3-0-6)
BMK 3204	Competitive Analysis and Strategy	3 (3-0-6)
BMK 3305	Integrated Marketing Communications	3 (3-0-6)
BMK 3306	Marketing Channels and Logistics	3 (3-0-6)
BMK 3407	Sales and Customer Relationship Strategies	3 (3-0-6)
BMK 3408	Sales Promotion and Display Strategies	3 (3-0-6)
BMK 3409	Creative Strategy in IMC Campaign	3 (3-0-6)
BMK 3410	Digital Consumer Insights	3 (3-0-6)
BMK 3411	Content Marketing	3 (3-0-6)
BMK 3412	Experiential Marketing	3 (3-0-6)
BMK 3413	Lifestyle Marketing	3 (3-0-6)
BMK 4201	Marketing Management	3 (3-0-6)
BMK 4302	Contemporary Issues in Marketing	3 (3-0-6)
BMK 4303	Marketing Research	3 (3-0-6)
BMK 4304	Marketing Metrics and Decisions	3 (3-0-6)
BMK 4401	Sustainability Marketing	3 (3-0-6)
BMK 4402	Service Marketing	3 (3-0-6)
BMK 4403	Digital Media Strategies	3 (3-0-6)
BMK 4404	Digital Marketing in Practice	3 (3-0-6)
BMK 4405	Marketing Internship	3 (300 hrs)
BRE 3201	Real Estate Business	3 (3-0-6)

BRE 3202	Real Estate Law	3 (3-0-6)
BRE 3203	Real Estate Economics	3 (3-0-6)
BRE 3204	Building Design and Construction Techniques	3 (3-0-6)
BRE 3205	Real Estate Development	3 (3-0-6)
BRE 3301	Real Estate Finance	3 (3-0-6)
BRE 3302	Real Estate Appraisal	3 (3-0-6)
BRE 3303	Commercial Property Management	3 (3-0-6)
BRE 3411	Real Estate Marketing	3 (3-0-6)
BRE 3412	Sustainability in Real Estate	3 (3-0-6)
BRE 3413	Real Estate Investment Alternatives	3 (3-0-6)
BRE 3421	Contemporary Issues in Real Estate Appraisal	3 (3-0-6)
BRE 3422	Implications of Real Estate Finance and Appraisal	3 (3-0-6)
BRE 4301	Real Estate Investment Analysis	3 (3-0-6)
BRE 4302	Real Estate Project Management	3 (3-0-6)
BRE 4411	Advanced Real Estate Investment Analysis	3 (3-0-6)
BRE 4412	Contemporary Issues in Real Estate business	3 (3-0-6)
BRE 4421	Advanced Real Estate Appraisal	3 (3-0-6)
BRE 4422	Valuation for Special Purposes	3 (3-0-6)
BRE 4431	Contemporary Issues in Commercial Property Management	3 (3-0-6)
BRE 4441	Independent Study in Real Estate	3 (300 hrs)
BRE 4451	Internship in Real Estate Business	3 (300 hrs)
BRE 4452	Internship in Real Estate Appraisal	3 (3-0-6)
BSC 3201	Logistics and Supply Chain Management	3 (3-0-6)
BSC 3202	Supply Chain Innovation and Technology	3 (3-0-6)
BSC 3203	Lean Manufacturing and Agile Supply Chain	3 (3-0-6)
BSC 3204	International Transportation and Distribution Management	3 (3-0-6)
BSC 3205	Warehousing and Material Handling	3 (3-0-6)
BSC 3301	Business Analytics	3 (3-0-6)
BSC 3401	Industrial Engineering Management	3 (3-0-6)
BSC 3402	Quantitative Analysis	3 (3-0-6)
BSC 4302	Procurement and Supply Management	3 (3-0-6)
BSC 4303	Supply Chain Risk Management	3 (3-0-6)
BSC 4304	Strategic Supply Chain Management	3 (3-0-6)
BSC 4305	Seminar in Supply Chain	3 (3-0-6)
BSC 4403	Internship in Supply Chain	3 (3-0-6)
BSC 4404	Information Technology in Supply Chain	3 (3-0-6)

For students majoring in International Business Management, Hospitality and Tourism Management and Supply Chain Management only

CN 0400	Chinese for Beginners I	3 (3-0-6)
CN 1400	Introduction to Chinese	3 (3-0-6)
	CN 1401 Chinese I	3 (3-0-6)
CN 2401	Chinese II	3 (3-0-6)
CN 2402	Chinese III	3 (3-0-6)
EN 2230	Listening and Speaking	3 (3-0-6)
EN 3214	Fundamental Writing Development	3 (3-0-6)
EN 3213	Business Communication in English	3 (3-0-6)
EN 4232	Business Conversation	3 (3-0-6)
EN 4233	Public Speaking in English	3 (3-0-6)
FR 1510	French I	4 (3-2-6)
FR 1511	French II	4 (3-2-6)
FR 2512	French III	4 (3-2-6)
FR 3537 or	Communicative Skills in French	3 (3-0-6)
FR 3539	French for workplace communication	3 (3-0-6)
JA 0723	Reading and Writing Japanese Scripts	3 (3-0-6)
JA 1700	Introduction to Japanese	3 (3-0-6)
JA 1701	Japanese I	3 (3-0-6)
JA 2701	Japanese II	3 (3-0-6)
JA 2702	Japanese III	3 (3-0-6)

C. Free Elective Courses **12 Credits**

Students can take free elective courses of 12 credits from any faculty in Assumption University upon completion of the prerequisites (if any). However, they are certain courses that the Martin De Tours School of Management and Economics does not allow the students to enroll as follows:

ACT 1601	Fundamentals of Financial Accounting
ACT 1602	Fundamentals of Financial Accounting
BAC 1103	Fundamentals of Financial Accounting
BAC 1601	Fundamentals of Financial Accounting
BAC 1602	Fundamentals of Financial Accounting I
BAC 1603	Fundamentals of Financial Accounting II
BAC 1621	Accounting for Economists
BBA 1103	Introduction to Microeconomics and Personal Finance
BEC 2200	Introduction to Economics
BEC 1101	Microeconomics I
BEC 1201	Macroeconomics I
BEN 3001	Entrepreneur and Innovation
BG 1301	Fundamentals of Statistics
BG 1400	Business Law I
BG 1401	Business Law II
ECO 2202	Macroeconomics
ECO 2531	Principles of Microeconomics
ECO 2541	Principles of Macroeconomics
GE 1101	Thai Civilization
GE 1103	Thai Historical Perspectives
GE 1203	Society, Politics and Economics
GE 1207	Fundamental Psychology
GE 1403	Communication in Thai (for Thai students only)
GE 1404	Thai Culture and Tradition
GE 1405	Thai Language and Culture (for International students)
GE 1408	Thai usage (for students who graduated from international schools)
GS 1108	Applied Mathematics
MA 1000	Business Mathematics and Statistics
SA 1201	Statistics I
SA 2200	Statistics II

In addition to the above courses, students are not allowed to enroll in courses from previous curriculum of the Martin de Tours School of Management and Economics unless they have obtained a written permission from the School. These courses are designated with the following letter codes: ACT, BIS, ECO, FIN, HTM, IBM, IDM, IML, INS, MGT, MIS, MKT, and REM.

STUDY PLAN

FIRST YEAR

First Semester

Code	Subjects	Credits
BG 1001	English I	3 (2-3-6)
MA 1200	Mathematics for Business	3 (3-0-6)
BBA 1001	Business Exploration	3 (3-0-6)
BBA 1101	Seminar in Business I	1 (1-0-2)
BBA 1102	Data and Information Literacy	3 (3-0-6)
LAW 1201	Business Laws for Entrepreneurs	3 (3-0-6)
GE 1302	Ecology and Sustainability	3 (3-0-6)
	Total	**19 (18-3-38)**

Second Semester

BBA 1103	Fundamentals of Financial Accounting	3 (3-0-6)
BG 1002	English II	3 (2-3-6)
BBA 1002	Microeconomics	3 (3-0-6)
SA 1001	Business Statistics I	2 (2-0-4)
GE 1403	Communication in Thai	3 (3-0-6)
BBA 1104	Fundamentals of Marketing	3 (3-0-6)
GE 1204	Physical Education	1 (1-0-2)
	Total	**18 (17-3-36)**

SECOND YEAR

First Semester

BBA 2101	Fundamentals of Managerial Accounting	3 (3-0-6)
BG 2000	English III	3 (2-3-6)
BBA 2002	Economic and Financial Environment	3 (3-0-6)
BBA 2001	Human Behavior	3 (3-0-6)
SA 2001	Business Statistics II	2 (2-0-4)
BBA 2102	Organization and Management	3 (3-0-6)
	Total	**17 (16-3-34)**

Second Semester

BG 2001	English IV	3 (2-3-6)
BBA 2103	Corporate Finance	3 (3-0-6)
GE 2202	Ethics	3 (3-0-6)
BBA 2104	Global Strategy and Communication	3 (3-0-6)
BBA 2105	Operations and Supply Chain Management	3 (3-0-6)
BBA 2106	Seminar in Business II	1 (1-0-2)
GE 2102	Human Heritage and Globalization	3 (3-0-6)
	Total	**19 (18-3-38)**

THIRD YEAR

First Semester

BBA 3101	Business Research	3 (3-0-6)
	Four Specialized Courses	12 (12-0-24)
	One Free Elective Course	3 (3-0-6)
	Total	**18 (18-0-36)**

Second Semester

	Five Specialized Courses	15 (15-0-30)
	One Free Elective Course	3 (3-0-6)
	Total	**18 (18-0-36)**

FOURTH YEAR

First Semester

	Five Specialized Courses	15 (15-0-30)
	One Free Elective Course	3 (3-0-6)
	Total	**18 (18-0-36)**

Second Semester

BBA 4101	Entrepreneurship	3 (3-0-6)
	Three Specialized Courses	9 (9-0-18)
	One Free Elective Course	3 (3-0-6)
	Total	**15 (15-0-36)**

BACHELOR OF ECONOMICS

PROGRAM IN BUSINESS ECONOMICS

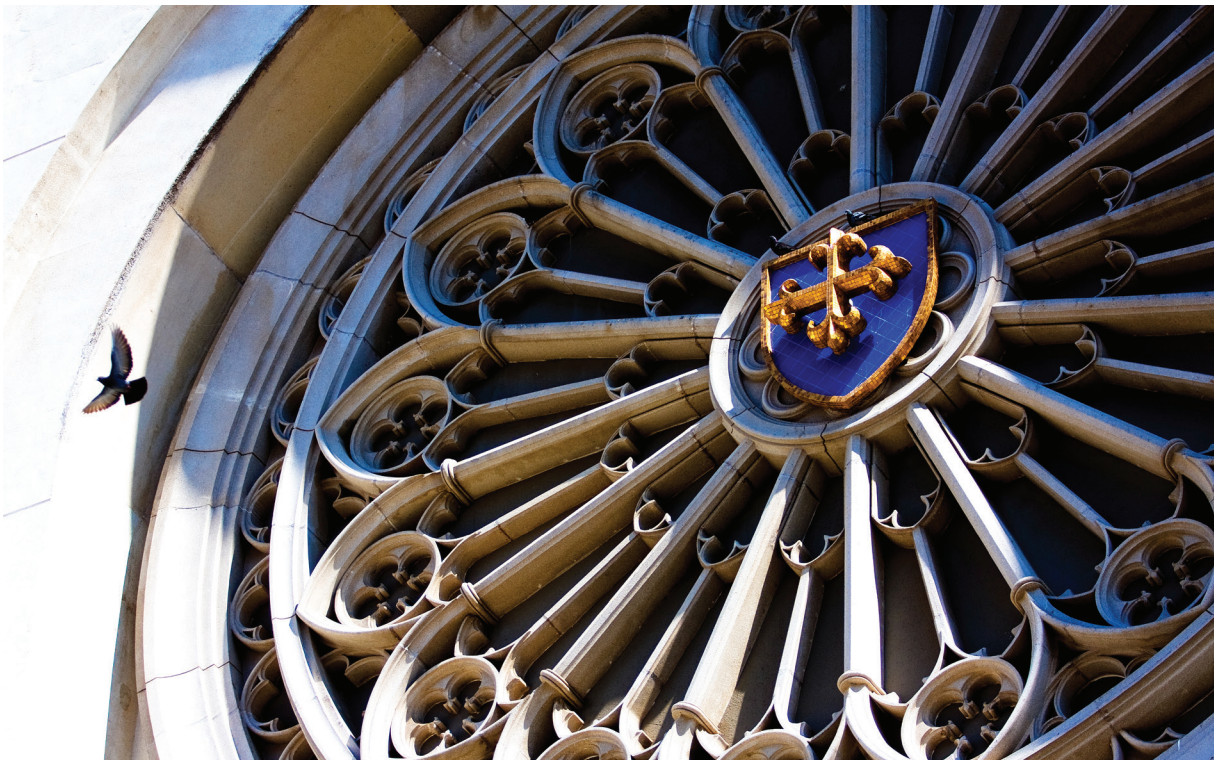
GRADUATION REQUIREMENTS

Assumption University confers the degree of Bachelor of Economics in Business Economics upon students who meet all of the following requirements specified in the Graduate Program Standard Criteria B.E. 2558 and Assumption University Bylaw B.E. 2548 as follows:

1. Complete the total number of credits of the curriculum
2. Obtain a cumulative grade point average of at least 2.00
3. Participate in 16 sessions of the Business and Professional Ethics Seminar
4. Have obtained library and financial clearance wit the University
5. Have demonstrated good behavior and discipline
6. Have obtained a satisfactory pass in MSME assessment tests, eg. Basic economics and business knowledge entrepreneurs skills.
7. Have to meet the minimum English Proficienc requirement specified in one of the following criteri

Test Instruments	Required Passing Score
AU English Proficienc Assessment or	70%*
TOEFL (iBT) or	90
TOEFL (P) or	575
IELTS	6.5

**70% = Level B2 of Common European Framework of Reference for Language (CEFR)*



CURRICULUM STRUCTURE

Total number of credits	141 Credits
A. General Education Courses	**33 Credits**
Language Courses	15 Credits
Social Science Courses	6 Credits
Humanities Courses	6 Credits
Science and Mathematics Courses	6 Credits
B. Specialized Courses	**102 Credits**
Business Core Courses	32 Credits
Major Required Courses	40 Credits
Major Elective Courses	15 Credits
Business Elective Courses	15 Credits
C. Free Elective Courses	**6 Credits**

OBJECTIVES OF CURRICULUM

To produce graduates who have the characteristics, knowledge and skills as follows:
(1) Committed to acting justly and behaving on highly ethical and moral grounds.
(2) Be honest and open to ideas, embrace future learning and growth.
(3) Have essential concepts, frameworks, core body of knowledge, and necessary technical skills to work in economic profession.
(4) Able to understand and apply economic reasoning to every aspect of the management and the organization.
(5) Able to interpret economic information, make economic analysis and forecasting useful for business decision making.
(6) Flexible, competent and well-rounded in confronting and solving economic problems.
(7) Able to work as a team and motivate others to work.
(8) Able to communicate effectively and have good IT skills.

COURSES

A. General Education Courses

Language Courses		**15 Credits**
BG 1001	English I	3 (2-3-6)
BG 1002	English II	3 (2-3-6)
BG 2000	English III	3 (2-3-6)
BG 2001	English IV	3 (2-3-6)
GE 1403	Communication in Thai	3 (3-0-6)
or		
GE 1405	Thai Language and Culture (For international students)	
or		
GE 1408	Thai Usage (for students who graduated from International Schools)	

Social Science Courses		**6 Credits**
GE 2202	Ethics	3 (3-0-6)
BBA 1001	Business Exploration	3 (3-0-6)

Humanities Courses		**6 Credits**
GE 2102	Human Heritage and Globalization	3 (3-0-6)
BBA 2001	Human Behavior	3 (3-0-6)

Science and Mathematics Courses		**6 Credits**
BEC 1301	Foundations of Mathematics and Logic	3 (3-0-6)
GE 1302	Ecology and Sustainability	3 (3-0-6)

B. Specialized Courses

Business Core Courses		**32 Credits**
BAC 1621	Accounting for Economists	3 (3-0-6)
BBA 1101	Seminar in Business I	1 (1-0-2)
BBA 1104	Fundamentals of Marketing	3 (3-0-6)
BBA 2102	Organization and Management	3 (3-0-6)
BBA 2103	Corporate Finance	3 (3-0-6)
BBA 2106	Seminar in Business II	1 (1-0-2)
BEC 1101	Microeconomics I	3 (3-0-6)
BEC 1201	Macroeconomics I	3 (3-0-6)
BEC 1401	Thinking as an Economist	3 (3-0-6)
BEC 2401	Information Literacy Skills	3 (3-0-6)
BEC 3301	Computer Tools for Economic Analysis	3 (2-2-5)
BEC 3401	Professional Communication in Economics	3 (3-0-6)

Major Required Courses **40 Credits**

BEC 1302	Basic Probability Theory and Statistics	3 (3-0-6)
BEC 2101	Microeconomics II	3 (3-0-6)
BEC 2102	Economic Decision Making for Management	3 (3-0-6)
BEC 2301	Calculus I	3 (3-0-6)
BEC 2302	Calculus II	3 (3-0-6)
BEC 2303	Fundamentals of Econometrics	3 (3-0-6)
BEC 2304	Business and Economic Forecasting	3 (3-0-6)
BEC 3101	Firms, Competition and Market Structure	3 (3-0-6)
BEC 3102	Competitive Strategy	3 (3-0-6)
BEC 3201	Macroeconomics II	3 (3-0-6)
BEC 3302	Quantitative Methods in Economics	3 (3-0-6)
BEC 3303	Data Analysis in Business and Economics	3 (3-0-6)
BEC 3402	Ethics and Economics	1 (1-0-2)
BEC 4401	Senior Project	3 (3-0-6)

Major Elective Courses **15 Credits**

BEC 3403	Monetary Economics	3 (3-0-6)
BEC 3404	Labor Economics	3 (3-0-6)
BEC 3405	Economic Valuation of Projects	3 (3-0-6)
BEC 3406	Public Economics	3 (3-0-6)
BEC 3407	Economic Development in Historical Context	3 (3-0-6)
BEC 3408	Economics of Sustainability	3 (3-0-6)
BEC 3409	International Finance	3 (3-0-6)
BEC 3410	Asset Pricing	3 (3-0-6)
BEC 3411	International Trade	3 (3-0-6)
BEC 4001	Internship	3 (300 hrs.)
BEC 4101	Microeconomics III	3 (3-0-6)
BEC 4102	Microeconomics IV	3 (3-0-6)
BEC 4201	Macroeconomics III	3 (3-0-6)
BEC 4202	Macroeconomics IV	3 (3-0-6)
BEC 4301	Advanced Econometrics I	3 (3-0-6)
BEC 4302	Advanced Econometrics II	3 (3-0-6)
BEC 4303	Applied Economics I	3 (3-0-6)
BEC 4304	Applied Economics II	3 (3-0-6)
BEC 4402	Special Topics in Economics	3 (3-0-6)
BEC 4403	Honor Thesis	3 (3-0-6)

Business Elective Courses **15 Credits**

Student must choose Five of the following courses as their Business Elective:

BAC 3602	Intermediate Accounting I	3 (3-0-6)
BAC 3603	Intermediate Accounting II	3 (3-0-6)
BAC 3608	Financial Report and Financial Statement Analysis	3 (3-0-6)
BAC 3614	Taxation I	3 (3-0-6)
BAC 3615	Taxation II	3 (3-0-6)
BAC 3632	Cost Accounting	3 (3-0-6)
BAC 3643	Auditing	3 (3-0-6)
BAC 3644	Internal Control and Audit	3 (3-0-6)
BAC 4607	Advanced Accounting I	3 (3-0-6)
BAC 4608	Advanced Accounting II	3 (3-0-6)
BAC 4611	Seminar in Accounting	3 (3-0-6)
BAC 4646	Accounting Information Systems	3 (3-0-6)
BAC 4647	Accounting Software Packages	3 (3-0-6)
BBA 3410-3419	Law for Business	3 (3-0-6)
BBA 3420-3429	Health and Wellness for Business	3 (3-0-6)
BBA 3430-3439	Biotechnology for Business	3 (3-0-6)
BBA 3440-3449	Digital Technology for Business	3 (3-0-6)
BBA 3450-3459	Engineering Technology for Business	3 (3-0-6)
BBA 3460-3469	Design for Business	3 (3-0-6)
BBA 3470-3479	Creative Arts for Business	3 (3-0-6)
BBA 3480-3489	Language and Culture for Business	3 (3-0-6)
BDM 3201	Digital Business	3 (2-2-5)
BDM 3202	Digital Commerce	3 (2-2-5)
BDM 3203	Cybersecurity	3 (2-2-5)
BDM 3204	Enterprise Resource Planning	3 (2-2-5)
BDM 3205	Information Systems Strategy, Management, and Acquisition	3 (2-2-5)
BDM 3301	Data Analytics Fundamentals	3 (2-2-5)
BDM 3302	Data Management	3 (2-2-5)
BDM 3303	Data Mining	3 (2-2-5)
BDM 3304	Systems Analysis and Design	3 (2-2-5)
BDM 3305	Big Data Analytics	3 (2-2-5)
BDM 3401	Artificial Intelligence (AI)	3 (2-2-5)
BDM 3402	Blockchain and Financial Technology	3 (2-2-5)
BDM 3403	Robotic Process Automation	3 (2-2-5)
BDM 3404	Data Structures and Algorithms	3 (2-2-5)
BDM 3405	Database Systems	3 (2-2-5)
BDM 3406	Mobile Application Development	3 (2-2-5)
BDM 3407	Web Application Development	3 (2-2-5)
BDM 3408	Blockchain Development	3 (2-2-5)
BDM 3409	Game Design and Development	3 (2-2-5)
BDM 3410	Low-code Development	3 (2-2-5)
BDM 3411	Software Engineering	3 (2-2-5)
BDM 3412	UI/UX Design	3 (2-2-5)
BDM 3413	eSports	3 (2-2-5)
BDM 3414	Customer Experience Management	3 (2-2-5)
BDM 3415	Business Intelligence	3 (2-2-5)
BDM 3416	Data Engineering	3 (2-2-5)
BDM 3417	Data Storytelling	3 (2-2-5)
BDM 3418	Digital Marketing Analytics	3 (2-2-5)
BDM 3419	Text Mining	3 (2-2-5)
BDM 3420	Cloud Computing	3 (2-2-5)

BDM 3421	Internet of Things	3 (2-2-5)
BDM 3422	IT Infrastructure	3 (2-2-5)
BDM 3423	Penetration Testing	3 (2-2-5)
BDM 3481	Digital Business Internship I	3 (0-30-0)
BDM 3482	Digital Business Internship II	3 (0-30-0)
BDM 3498	Business Analytics in Real Estate	3 (2-2-5)
BDM 3499	Business Analytics and Global Strategies	3 (2-2-5)
BDM 4400-4409	Selected topics in Digital Business Management	3 (2-2-5)
BEN 3001	Entrepreneur and Innovation	3 (3-0-6)
BEN 3201	Innovation and Design Thinking	3 (3-0-6)
BEN 3202	Entrepreneurial Commercialization	3 (3-0-6)
BEN 3303	Entrepreneurial Leadership	3 (3-0-6)
BEN 3304	Project Management	3 (3-0-6)
BEN 3305	Human Capital Management and Development	3 (3-0-6)
BEN 3406	Legal Aspects and Intellectual Property of Entrepreneurship	3 (3-0-6)
BEN 3407	Entrepreneurial Finance and Accounting	3 (3-0-6)
BEN 3408	Conflict and Change Management	3 (3-0-6)
BEN 3409	Organization Transition	3 (3-0-6)
BEN 3410	Entrepreneurship Practicum I	3 (3-0-6)
BEN 3411	Entrepreneurship Practicum II	3 (3-0-6)
BEN 4212	Growth Mindset and Sustaining Organization	3 (3-0-6)
BEN 4213	Digital Entrepreneurship	3 (3-0-6)
BEN 4214	Entrepreneurial Strategic Management	3 (3-0-6)
BEN 4315	Family Business Management	3 (3-0-6)
BEN 4316	Social Entrepreneurship	3 (3-0-6)
BEN 4417	Research in Entrepreneurship	3 (3-0-6)
BEN 4418	Current Issues in Entrepreneurship and Innovation	3 (3-0-6)
BEN 4419	Operational Excellence, Collaboration and Partnership Management	3 (3-0-6)
BEN 4420	Creative Industries Entrepreneurship	3 (3-0-6)
BEN 4421	Venture Opportunity I	3 (3-0-6)
BEN 4422	Venture Opportunity II	3 (3-0-6)
BFN 3211	Investment Strategy and Applied Valuation	3 (3-0-6)
BFN 3212	Financial Reporting and Analysis	3 (3-0-6)
BFN 3221	Business and Economic Analysis for Decision Making	3 (3-0-6)
BFN 3222	Financial Modeling and Analysis Tools	3 (3-0-6)
BFN 3223	Advanced Financial Management	3 (3-0-6)
BFN 3411	Private Banking and Wealth Management	3 (3-0-6)
BFN 3421	Financial Feasibility Planning	3 (3-0-6)
BFN 3431	Behavioral Finance	3 (3-0-6)
BFN 4311	Derivatives and Risk Management	3 (3-0-6)
BFN 4312	Quantitative Analysis and A nalytics of Finance	3 (3-0-6)
BFN 4313	International Financial Management	3 (3-0-6)
BFN 4321	Special Topics in Finance Certification	3 (3-0-6)
BFN 4322	Value Based Management and Financial Decisions	3 (3-0-6)
BFN 4411	Fixed Income Securities	3 (3-0-6)
BFN 4412	Real Estate Investment and Entrepreneurs	3 (3-0-6)
BFN 4421	Portfolio Management and Analysis	3 (3-0-6)
BFN 4422	Individual Research in Finance	3 (3-0-6)
BFN 4431	Startup Finance and FinTech	3 (3-0-6)
BFN 4432	Investment Banking	3 (3-0-6)
BFN 4433	Internship in Finance	3 (300 hrs.)
BHT 3201	Introduction to Hospitality and Tourism Management	3 (3-0-6)
BHT 3202	Consumer Behavior in Hospitality and Tourism	3 (3-0-6)
BHT 3203	Food and Beverage Management	3 (3-0-6)
BHT 3204	Personality and Communication in Hospitality and Tourism	3 (3-0-6)
BHT 3205	Marketing in Hospitality and Tourism	3 (3-0-6)
BHT 3301	Human Resource Management in Hospitality and Tourism	3 (3-0-6)
BHT 3401	Event Management	3 (3-0-6)
BHT 3402	Rooms Division Management	3 (3-0-6)
BHT 3403	Service Management	3 (3-0-6)
BHT 3404	Food and Beverage Service	3 (3-0-6)
BHT 3405	Kitchen Operation	3 (3-0-6)
BHT 3406	Catering, Bakery and Pastry	3 (3-0-6)
BHT 3407	Introduction to Airline Business Management	3 (3-0-6)
BHT 3408	Ground Operation Management	3 (3-0-6)
BHT 3409	In-flight Service Management	3 (3-0-6)
BHT 3410	Perfecting Personality for Career and Life	3 (3-0-6)
BHT 3411	Sustainable Tourism Management	3 (3-0-6)
BHT 3412	Health and Wellness Tourism	3 (3-0-6)
BHT 3413	Cruise Ship Tourism	3 (3-0-6)
BHT 3414	Tour Guiding and Operation in Practice	3 (3-0-6)
BHT 3415	Tourist Destination Management	3 (3-0-6)
BHT 3416	Introduction to MICE Business Management	3 (3-0-6)
BHT 4301	Information Technology in Hospitality and Tourism	3 (3-0-6)
BHT 4302	Operation and leadership in Hospitality and Tourism	3 (3-0-6)

BHT 4303	Strategic Management in Hospitality and Tourism	3 (3-0-6)
BHT 4304	Internship in Hospitality and Tourism Industry	3 (400 hrs.)
BIB 3201	Cross Cultural Human Resource Management	3 (3-0-6)
BIB 3202	Export-Import Policy and Strategy	3 (3-0-6)
BIB 3203	Global Business in Practice	3 (3-0-6)
BIB 3204	International Management	3 (3-0-6)
BIB 3401	Global Market Behavior	3 (3-0-6)
BIB 3402	Global Business Communication	3 (3-0-6)
BIB 3403	Global Pricing Strategy	3 (3-0-6)
BIB 3404	Cross Cultural Communication, Conflict and Negotiation	3 (3-0-6)
BIB 3405	International Relations	3 (3-0-6)
BIB 4209	International Strategic Management	3 (3-0-6)
BIB 4305	Designing and Managing Global Operations	3 (3-0-6)
BIB 4306	Global Business Feasibility Analysis	3 (3-0-6)
BIB 4307	International Business Research	3 (3-0-6)
BIB 4308	Seminar in International Business Management	3 (3-0-6)
BIB 4406	Global Supply Chain Management	3 (3-0-6)
BIB 4407	Global Product and Brand Strategy	3 (3-0-6)
BIB 4408	Global Context of Business	3 (3-0-6)
BIB 4409	Special Topics in International Business	3 (3-0-6)
BIB 4410	Individual Research	3 (3-0-6)
BIB 4411	International Business Management Internship	3 (300 hrs.)
BIR 3211	Risk Management and Insurance	3(3-0-6)
BIR 3212	Insurance Law	3 (3-0-6)
BIR 3221	Property Insurance	3 (3-0-6)
BIR 3222	Casualty Insurance	3 (3-0-6)
BIR 3223	Life Assurance	3 (3-0-6)
BIR 3401	Engineering insurance	3 (3-0-6)
BIR 3402	Marine and Aviation insurance	3 (3-0-6)
BIR 3403	Survey and Claim Management in Non-Life Insurance	3 (300 hrs.)
BIR 3404	Finance and Accounting in Non-Life Insurance	3 (3-0-6)
BIR 3405	Life Assurance Underwriting	3 (3-0-6)
BIR 3406	Life Assurance Mathematics	3 (3-0-6)
BIR 3407	Claim Administration in Life Assurance	3 (3-0-6)
BIR 3408	Life Assurance Agency Administration	3 (3-0-6)
BIR 4311	Employee Benefits	3 (3-0-6)
BIR 4312	Reinsurance	3 (3-0-6)
BIR 4313	Essential of Risk Management	3 (3-0-6)
BIR 4321	Digital Marketing in Insurance	3 (3-0-6)
BIR 4322	Seminar in Insurance	3 (3-0-6)
BIR 4401	Financial concepts for life assurance	3 (3-0-6)
BIR 4402	Life Assurance and Financial Planning	3 (3-0-6)
BIR 4403	Business Analytics and Insurance Management	3 (3-0-6)

BIR 4404	Information Management in Insurance	3 (3-0-6)
BIR 4405	Risk Control and Risk Financing	3 (3-0-6)
BIR 4406	Independent Study in Insurance	3 (3-0-6)
BIR 4407	Internship in Insurance	3 (240 hrs.)
BMK 3201	Consumer Behavior	3 (3-0-6)
BMK 3202	Digital Marketing	3 (3-0-6)
BMK 3203	Brand Driven Innovation	3 (3-0-6)
BMK 3204	Competitive Analysis and Strategy	3 (3-0-6)
BMK 3305	Integrated Marketing Communications	3 (3-0-6)
BMK 3306	Marketing Channels and Logistics	3 (3-0-6)
BMK 3407	Sales and Customer Relationship Strategies	3 (3-0-6)
BMK 3408	Sales Promotion and Display Strategies	3 (3-0-6)
BMK 3409	Creative Strategy in IMC Campaign	3 (3-0-6)
BMK 3410	Digital Consumer Insights	3 (3-0-6)
BMK 3411	Content Marketing	3 (3-0-6)
BMK 3412	Experiential Marketing	3 (3-0-6)
BMK 3413	Lifestyle Marketing	3 (3-0-6)
BMK 4201	Marketing Management	3 (3-0-6)
BMK 4302	Contemporary Issues in Marketing	3 (3-0-6)
BMK 4303	Marketing Research	3 (3-0-6)
BMK 4304	Marketing Metrics and Decisions	3 (3-0-6)
BMK 4401	Sustainability Marketing	3 (3-0-6)
BMK 4402	Service Marketing	3 (3-0-6)
BMK 4403	Digital Media Strategies	3 (3-0-6)
BMK 4404	Digital Marketing in Practice	3 (3-0-6)
BMK 4405	Marketing Internship	3 (300 hrs.)
BRE 3201	Real Estate Business	3 (3-0-6)
BRE 3202	Real Estate Law	3 (3-0-6)
BRE 3203	Real Estate Economics	3 (3-0-6)
BRE 3204	Building Design and Construction Techniques	3 (3-0-6)
BRE 3205	Real Estate Development	3 (3-0-6)
BRE 3301	Real Estate Finance	3 (3-0-6)
BRE 3302	Real Estate Appraisal	3 (3-0-6)
BRE 3303	Commercial Property Management	3 (3-0-6)
BRE 3411	Real Estate Marketing	3 (3-0-6)
BRE 3412	Sustainability in Real Estate	3 (3-0-6)
BRE 3413	Real Estate Investment Alternatives	3 (3-0-6)
BRE 3421	Contemporary Issues in Real Estate Appraisal	3 (3-0-6)
BRE 3422	Implications of Real Estate Finance and Appraisal	3 (3-0-6)
BRE 4301	Real Estate Investment Analysis	3 (3-0-6)
BRE 4302	Real Estate Project Management	3 (3-0-6)
BRE 4411	Advanced Real Estate Investment Analysis	3 (3-0-6)
BRE 4412	Contemporary Issues in Real Estate business	3 (3-0-6)
BRE 4421	Advanced Real Estate Appraisal	3 (3-0-6)
BRE 4422	Valuation for Special Purposes	3 (3-0-6)
BRE 4431	Contemporary Issues in Commercial Property Management	3 (3-0-6)
BRE 4441	Independent Study in Real Estate	3 (3-0-6)
BRE 4451	Internship in Real Estate Business	3 (300 hrs.)
BRE 4452	Internship in Real Estate Appraisal	3 (300 hrs.)
BSC 3201	Logistics and Supply Chain Management	3 (3-0-6)
BSC 3202	Supply Chain Innovation and Technology	3 (3-0-6)
BSC 3203	Lean Manufacturing and Agile Supply Chain	3 (3-0-6)
BSC 3204	International Transportation and Distribution Management	3 (3-0-6)
BSC 3205	Warehousing and Material Handling	3 (3-0-6)
BSC 3301	Business Analytics	3 (3-0-6)
BSC 3401	Industrial Engineering Management	3 (3-0-6)
BSC 3402	Quantitative Analysis	3 (3-0-6)
BSC 4302	Procurement and Supply Management	3 (3-0-6)
BSC 4303	Supply Chain Risk Management	3 (3-0-6)
BSC 4304	Strategic Supply Chain Management	3 (3-0-6)
BSC 4305	Seminar in Supply Chain	3 (3-0-6)
BSC 4403	Internship in Supply Chain	3 (300 hrs.)
BSC 4404	Information Technology in Supply Chain	3 (3-0-6)

C. Free Elective Courses **6 Credits**

Students can take free elective courses of 6 credits from any faculty in Assumption University upon completion of the prerequisites (if any). However, there are certain courses that are not allowed students to enroll as free elective courses follows:

ACT 1601	Fundamentals of Financial Accounting
ACT 1602	Fundamentals of Financial Accounting
BAC 1103	Fundamentals of Financial Accounting
BAC 1601	Fundamentals of Financial Accounting
BBA 1103	Introduction to Microeconomics and Personal Finance
BEC 2200	Introduction to Economics
BEN 3001	Entrepreneur and Innovation
BG 1301	Fundamentals of Statistics
ECO 2201	Microeconomics
ECO 2202	Macroeconomics
ECO 2531	Principles of Microeconomics
ECO 2541	Principles of Macroeconomics
GE 1101	Thai Civilization
GE 1103	Thai Historical Perspectives
GE 1203	Society, Politics and Economics
GE 1207	Fundamental Psychology
GE 1403	Communication in Thai (for Thai students only)
GE 1404	Thai Culture and Tradition
GE 1405	Thai Language and Culture (for International students)
GE 1408	Thai usage (for students who graduated from international schools)
GS 1108	Applied Mathematics
MA 1000	Business Mathematics and Statistics
SA 1201	Statistics I
SA 2200	Statistics II

In addition to the above courses, students are not allowed to enroll in courses from previous curriculum of the Martin de Tours School of Management and Economics unless they have obtained a written permission from the School. These courses are designated with the following letter codes: ACT, BIS, ECO, FIN, HTM, IBM, IDM, IML,INS, MGT, MIS, MKT, and REM.

STUDY PLAN

First and Second Year (Freshmen and Sophomore)
During the freshmen year, all students in Business Economics pursue the same study plan consisting of general education courses, business core courses, and major required courses which provides them with the basic knowledge on all the disciplines in Economics and Business. The study plan also prepares the students with adequate knowledge to select a business concentration/a business elective course that suits his/her ability, background, and preferences.

Third and Fourth Years (Junior and Senior)
During the junior and senior years, Business Economics students follow the Economics program of studies:
1. Seven Major Required Courses
2. Five Major Electives Courses
3. Five Business Concentration Courses
4. Two Free Elective Courses

During a senior year, students also have an option to pursue their study in the University of Essex (United Kingdom), and transfer their credits into Major Elective and Business Elective Courses.

FIRST YEAR
First Semester

Code	Subjects	Credits
BBA 1001	Business Exploration	3 (3-0-6)
BG 1001	English I	3 (2-3-6)
BEC 1302	Foundations of Mathematics and Logic	3 (3-0-6)
BEC 1401	Thinking as an Economist	3 (3-0-6)
BBA 1101	Seminar in Business I	1 (1-0-2)
GE 1302	Ecology and Sustainability	3 (3-0-6)
GE 1403	Communication in Thai	3 (3-0-6)
	Total	**19 (18-3-38)**

Second Semester

BAC 1621	Accounting for Economists	3 (3-0-6)
BEC 1101	Microeconomics I	3 (3-0-6)
BEC 1201	Macroeconomics I	3 (3-0-6)
BEC 1302	Basic Probability Theory and Statistics	3 (3-0-6)
BG 1002	English II	3 (2-3-6)
GE 2102	Human Heritage and Globalization	3 (3-0-6)
	Total	**18 (17-3-36)**

SECOND YEAR
First Semester

BBA 1104	Fundamentals of Marketing	3 (3-0-6)
BBA 2102	Organization and Management	3 (3-0-6)
BEC 2301	Calculus I	3 (3-0-6)
BEC 2303	Fundamentals of Econometrics	3 (3-0-6)
BEC 2401	Information Literacy Skills	3 (3-0-6)
BG 2000	English III	3 (2-3-6)
	Total	**18 (17-3-36)**

Second Semester

BBA 2001	Human Behavior	3 (3-0-6)
BBA 2106	Seminar in Business II	1 (1-0-2)
BEC 2101	Microeconomics II	3 (3-0-6)
BEC 2102	Economic Decision Making for Management	3 (3-0-6)
BEC 2302	Calculus II	3 (3-0-6)
BEC 2304	Business and Economic Forecasting	3 (3-0-6)
BG 2001	English IV	3 (2-3-6)
	Total	**19 (18-3-38)**

THIRD YEAR
First Semester

BEC 3101	Firms, Competition, and Market Structure	3 (3-0-6)
BEC 3301	Computer Tools for Economic Analysis	3 (2-2-5)
BEC 3201	Macroeconomics II	3 (3-0-6)
BEC 3402	Ethics and Economics	1 (1-0-2)
BBA 2103	Corporate Finance	3 (3-0-6)
GE 2202	Ethics	3 (3-0-6)
	One Business Elective Course	3 (3-0-6)
	Total	**19 (18-2-37)**

Second Semester

BEC 3102	Competitive Strategy	3 (3-0-6)
BEC 3302	Quantitative Methods in Economics	3 (3-0-6)
BEC 3303	Data Analysis in Business and Economics	3 (3-0-6)
BEC 3401	Professional Communication in Economics	3 (3-0-6)
	One Business Elective Course	3 (3-0-6)
	One Major Elective Course	3 (3-0-6)
	Total	**18 (18-0-36)**

FOURTH YEAR
First Semester

BEC 4401	Senior Project	3 (3-0-6)
	Three Business Elective Courses	9 (9-0-18)
	One Major Elective Course	3 (3-0-6)
	Total	**15 (15-0-30)**

Second Semester

	Three Major Elective Courses	9 (9-0-18)
	Two Free Elective Courses	6 (6-0-12)
	Total	**15 (15-0-30)**

DDI Business Administration Design and Digital Innovation

www.ddi.au.edu @ddiabac

DESIGN AND DIGITAL INNOVATION (DDI)

The AU Advanced & Innovative Business Administration Program: DDI: "Design & Digital Innovation" specialized to equipping graduates towards becoming successful entrepreneurs in digital age. Learn from leading world-class successful businessmen, i.e. essentially in 4 vital areas: Business, Technology & Innovation, Design Tactics, Individual & Organizational Development; with added foreign language proficiency and internship & professional training projects in various industries, enabling students to practically initiate their own businesses.

CREATING ENTREPRENEURS FOR THE DIGITAL ERA

Bachelor of Business Administration Program Design and Digital Innovation (B.B.A. Design & Digital Innovation) is a program aimed to create entrepreneurs for the digital age, who would succeed in building their business and innovation in the future. Students would learn from successful global business owners. Block Teaching model is used allowing students to gain intensive knowledge of each subject. Thus, learning is better than other forms of learning.

FOCUS ON PRACTICALITY
(Sandbox Model)

This program focuses on students' practice. Apart from studying in the classroom, students gain experience from Mentors, business experts in the digital age from many famous companies. Students would learn through case study, group discussion, practical workshop, and project assignment-simulation In addition, students will receive funding from the Assumption University to create their own businesses.

Therefore, the Bachelor of Business Administration program Design and Digital Innovation Program, has the goal for nurturing students, who have the ambition to become entrepreneurs. They would gain chances to fully enter business trial by learning to fall before going out to face the world in the digital age. It is like a playground for students before they grow into successful entrepreneurs in the future.

THREE-YEAR INTENSIVE CURRICULA

Our 3-year intensive program offers fun, modern style of learning. Students can experiment and start a Sandbox Business in a space that allows students with dreams of becoming a successful entrepreneur to set up new businesses. The purpose is to test ideas, technologies, and innovations invented in the businesses. A Sandbox Business is like a children playground. Sand is poured so that children do not get hurt when they fall. In starting a business, we encourage students not to be afraid of failure. Even if they fail, they still have business coaches and program mechanisms that support and guide students to further progress because they can have an opportunity to learn from failure.

LEARN WHAT YOU NEED, FOCUS ON PRACTICALITY

Design & Digital Innovation Program utilizes a Block Teaching mode. This takes less time than other programs, which allows students to gain knowledge and focus on each course. So, this learning method is better than others. In addition, it's suitable for students. They can continuously practice with real business case, apart from learning in classroom. Students can integrate and apply their knowledge, skills, and experience for work in the future.

LEARN FROM BUSINESS PROFESSIONALS FROM LEADING ORGANIZATION

Students can learn from experienced businessmen, who would be their coaches. They include Dr.Boonkiat Chokwattana and Dr.Surat Wongrattanapatsorn from Sahapat PLC., Dr.Kittinut Tikawan from True Corporation PLC., Dr.Prapon Rattanachaikanon from True Coffee, True Corporation PLC., and Dr.Sangsuk Pittayanukul from Smooth-E, Siam Health Group Co.,Ltd.

CAREERS THAT GRADUATES CAN PURSUE

Bachelor of Business Administration, Digital Design and Innovation Program offers students the opportunities to gain exposure and practical action in various fields of knowledge in order for them to choose and plan running a business. They can be Digital Business Entrepreneurs, Marketing Strategic Planners, Business Consultants, Product Designers, and Application and Software Developers.

THE IMPORTANCE OF SOFT SKILLS IN THE DIGITAL AGE

Soft Skills "a skill that modern entrepreneurs must have. DDI 's student can hear the experiences and ideas from the famous youtuber, alumni from ABAC. Talk about the importance of having soft skills to use in the workplace.

CORE LEARNING

Bachelor of Business Administration Program in Design & Digital Innovation (BBA in Design & Digital Innovation) is an integrated program jointly organized by 5 faculties of Assumption University, which are 1.) Faculty of Business and Economics 2.) Faculty of Science and Technology 3 .) Faculty of Communication Arts 4.) Faculty of Architecture and Design 5.) and Faculty of Music to organize learning and train students to be real entrepreneurs. The students in this program will be selected into the house according to the skill and aptitude of the person. The results are evaluated through the Psytech Assessment Tool program, the principles of each house are as follows:

NEGOTIO INNOVATIO ATELIER SPIRITA

NEGOTIO
A home for avid management training, students will have the classes with qualified teachers and special speakers from leading global companies, who are ready to provide knowledge. This is an experience, which cannot be found anywhere else. Students will learn from real experiences. They would have a chance to develop their own business opportunities with a Mentor guiding the path towards a successful digital career. Students would be ready to step into the world of international market competition.

INNOVATIO
Home of technology with new innovations which will change the perspective of students. The goal is to create a broader vision through being well-informed about the world of technology. They would be ready to change their own business to keep pace with the competitive world in the digital age. Students would stay abreast of globalization through application of modern technology for successful business practices.

ATELIER
A home for the modern designer, learning in this house provides knowledge of product design and making advertising media for differentiation from the market competitors. The goal is to innovate and create inspiring product designs, including the principles of creative thinking and making of graphic presentations.

SPIRITA
A home that fosters the spirit of students as ethical business entrepreneurs for the environment, society, and life. Students will learn life skills for adapting public communication skills to better express one's identity to stand out and gain acceptance. These are critical factors that support successful business entrepreneurs.

In addition to the four houses where students in the Bachelor of Business Administration Design and Digital Innovation (B.B.A. Design & Digital Innovation) will be trained in every skill from each home, students are able to customize the courses based on their interests. Students can choose 30 credit courses from more than 800 different faculties. They would also receive a certifi ate when they study a group of courses that meet the requirements of that particular faculty. The Bachelor of Business Administration program Design and Digital Innovation Program is a course that provides open and free learning experiences focusing on the goal of making students entrepreneurs in the digital age.

FACILITY

Bachelor of Business Administration Program Design and Digital Innovation (B.B.A. Design & Digital Innovation) focuses on providing students with facilities that are conducive to learning, exchanging ideas, and sharing experiences with each other. The program aims to inspire students to become entrepreneurs. The various facilities are specially designed such as Smart Classroom, Digital True Lab, Common Room, Auditorium, and Lecture Room. In addition, students would receive premium care from staff specializing in providing assistance in all areas.

PSYTECH ASSESSMENT TOOL

Find Yourself with the Latest Technology
The Psytech Assessment Tool is an international test used by big companies to recruit personnel. It is considered a tool to assess the aptitude and ability to test the potential of the person. The test is divided into 2 aspects: 1.) Evaluation of attitude and 2.) Evaluation of aptitude. This will help individuals to know their aptitudes or talents, such as an aptitude for critical thinking, creative aptitude, management aptitude, and skills in arts. This enables the company to assess the potential of the people, who came to work filling in the appropriate fields

Develop Hidden Potential

In terms of thought processes, subjects assessed with the Psytech Assessment Tool will assess students' weaknesses or self-imposed flaws that require further training or development, as well as self-motivation. This includes examination of emotional intelligence or leadership thinking process as well.

For the Bachelor of Business Administration program Design and Digital Innovation Program, this is a collaboration with True Corporation Public Company Limited, which encourages students in this course to be able to access this test through the Psytech Assessment Tool. Thus, students can assess themselves knowing their aptitude and hidden potential through quizzes. Thus, students can be aware of themselves from the moment they start attending university. They would know the areas of weakness and strength that they have. This will enable students to develop their strengths even further and improve on their weaknesses. Therefore, they would be best prepared before graduating from university and ready to work in international companies.

COOPERATION NETWORK

Bachelor of Business Administration, Digital Design and Innovation Program has signed the collaboration agreement with well-known national and international companies in various industries, where students can learn from all aspects of these companies. They can learn from business experts as well as collaboration through internships and special instructors, who would coach the students.

INTERNSHIP

True Academy Project
DDI students will have an opportunity to choose to do internship with True under "True Academy Project", which allows students to be educated learning from scholars within 4-5 months. They also will receive the job certification from True. In addition, students will receive the credits, without any wasting of time while still continuing with the curriculum.

The True Academy Project focuses on the real activities, responsibilities, and experiences in real work environments. Students are expected to learn and expend their knowledge in business with provided examples and situations from various business processes. Moreover, students who join this project will receive priority from the company, and a chance to work with the company.

GRADUATION REQUIREMENTS

Assumption University confers the degree of Bachelor of Business Administration upon students who meet all of the following requirements:

- Have completed the total number of credits of the curriculum
- Have obtained a cumulative grade point average of at least 2.00
- Have participated sessions of the Professional Ethics Seminar
- Have obtained library and financial clearance from the University
- Have demonstrated good behavior and discipline
- Have to meet the minimum English Proficienc requirement specified in one of the following criteri

Test Instruments	Required Passing Score
AU English Proficienc Assessment or	70%*
TOEFL (iBT) or	90
TOEFL (P) or	575
IELTS	6.5

**70% = Level B2 of Common European Framework of Reference for Language (CEFR)*

OBJECTIVES

To produce graduates who have the characteristics, knowledge and skills as follow:

Characteristics

(1) Morally sound, committed to acting justly and open to further growth.
(2) Able to work as a team as well as have leadership qualities.
(3) Possess interpersonal skills and positive attitude

Knowledge

(4) Knowledgeable of the principles and theories in the functional areas and able to apply with respect to the Business Administration.

Skills

(5) Possess analytical and creative thinkingskills and practical knowledge to acquire proficiency in business from an interdisciplinary and multi-cultural perspective.
(6) Able to apply analytical tools and conceptual frameworks logical and critical thinking skills to solve complex business problems and open end challenges.
(7) Have skills of ideation attitude, communication and presentation skills, IT skills and Entrepreneurial skills.
(8) Flexible, competent and well-rounded in confronting and solving business problems.

CURRICULUM STRUCTURE

Total number of credits	120 Credits
A. General Education Courses	**30 Credits**
Language Courses	9 Credits
Social Science Courses	9 Credits
Humanities Courses	6 Credits
Science and Mathematics Courses	6 Credits
B. Specialized Courses	**81 Credits**
Core Courses	21 Credits
Required Courses	30 Credits
Personalised Courses	30 Credits
C. Free Elective Courses	**9 Credits**

COURSES

A. General Education Courses — 30 Credits

Language Courses — 9 Credits

SRX 1001	English for Effective Communication	3 (2-3-6)
SRX 1002	English for Academic Purposes	3 (2-3-6)
SRX 1003	Integrated English Skills	3 (2-3-6)

Social Science Courses — 9 Credits

SRX 1101	Happiness Advantage	1 (1-0-2)
SRX 1201	Business Etiquettes and Personal/CEO Branding	2 (2-0-4)
SRX 2111	Pitching and Story Telling	2 (2-0-4)
SRX 2201	Legal Aspects in Business, IT, and Creative Industry	2 (2-0-4)
SRX 2202	Well-being for Learning and Life	1 (1-0-2)
SRX 2211	Future Skill Forum	1 (1-0-2)

Humanities Courses — 6 Credits

DEX 1201	Global History of Art and Design	2 (2-0-4)
SRX 1103	Aesthetic	1 (1-0-2)
SRX 1104	Designing Life with Passion	1 (1-0-2)
SRX 2101	Empathy and Customer Centric	2 (2-0-4)

Science and Mathematics Courses — 6 Credits

INX 1201	AI for Business	2 (2-0-4)
INX 2101	Practical Data Science for Entrepreneurs	2 (2-0-4)
INX 2201	Business Intelligence for Strategic Planning	2 (2-0-4)

B. Specialized Courses — 81 Credits

Core Courses — 21 Credits

ENX 1111	Digital Mindset and Sustainability	2 (2-0-4)
ENX 1112	Entrepreneurial Inspiration	1 (1-0-2)
ENX 1113	Business Innovation and Design Thinking	2 (2-0-4)
ENX 1211	Leadership for a Digital Age	2 (2-0-4)
ENX 1212	Global Strategy and Communication	2 (2-0-4)
ENX 2211	Brand-Driven Innovation	2 (2-0-4)
DEX 0011	Preparation for Design	Non-Credit (20 Hrs.)
DEX 1111	Introduction to Creative Culture and Trend	2 (2-0-4)
DEX 1112	Photography and Cinematography	2 (2-0-4)
DEX 1211	Introduction to Environmental Design	2 (2-0-4)
INX 1111	Tech Startup	2 (2-0-4)
INX 2111	Application Design and Coding	2 (2-0-4)
SRX 0011	Overview of Entrepreneurship and Innovative Design	Non-Credit

Required Courses — 30 Credits

ENX 1121	Digital Consumer Insights	2 (2-0-4)
ENX 1221	Digital Marketing	2 (2-0-4)
ENX 1222	Business Networking and Incubation	3 (3-0-6)
ENX 2111	Lifestyle and Experiential Marketing	2 (2-0-4)
ENX 2121	Global Business and Commercialization	3 (3-0-6)
ENX 2221	Entrepreneurial Finance	2 (2-0-4)
ENX 2222	Entrepreneurial Accounting	2 (2-0-4)
ENX 2223	Economics for Entrepreneur	2 (2-0-4)
DEX 1221	Design Thinking/Method	2 (2-0-4)
DEX 2121	Graphic Communication and Presentation	2 (2-0-4)
DEX 2221	Design Studio	4 (4-0-8)
INX 2121	Agile Methods	2 (2-0-4)
INX 2122	UI/UX Design in Technology	2 (2-0-4)

ENX 2301	Workshop I	Non-Credit
ENX 2302	Workshop II	Non-Credit

Personalised Course **30 Credits**

Students can take 30 credits from any courses listed below upon completion of the prerequisites (if any).

Music Entrepreneurship Track

MB 2531	Music Business	3 (3-0-6)
MB 3537	Music Career Exposure	3 (3-0-6)
MB 3541	Online Social Media for Music Business	3 (3-0-6)
MB 3551	Creative Music Entrepreneurship	3 (3-0-6)
MP 2400	Audio Fundamentals	3 (3-0-6)
MP 3411	Song Demo Production	3 (1-4-4)
MP 4422	Sound Design	3 (1-4-4)
MS 1300	Introduction to Musical Skills	1 (0-2-1)
MS 1301	Musical Skills I	2 (1-2-3)
MU 1001	Music Appreciation	3 (3-0-6)
MU 1131	Pop Songwriting	3 (3-0-6)
MU 2002	Bodyslam Studies	3 (3-0-6)
MU 3551	Acting for Musicians	3 (1-4-4)
MU 3602	Music Therapy	3 (3-0-6)
MU 3603	Music, Health, and Well-being	3 (3-0-6)
SRX 4400-4499	Selected Topics in Music and Entertainment Business	3 (3-0-6)

Architecture Track

AR 2309	Architectural Design Methods	3 (3-0-6)
AR 5401	Building Cost Estimation and Control	3 (3-0-6)
AR 5404	Construction Management	3 (1-4-4)
AR 5413	Project Management	3 (3-0-6)
AR 5414	Energy Saving (Workshop in Germany)	3 (3-0-6)
AR 5417	Interior Design by Architects	3 (2-2-5)
AR 5420	Light, Perception and Culture	3 (3-0-6)
AR 5425	Project Feasibility Study	3 (3-0-6)

Interior Design Track

IND 3102	Design Research and Development	3 (3-0-6)
IND 3308	Brand and Marketing in Interior Design	3 (2-2-5)
IND 3302	Interior Material and Technology	3 (2-2-5)
IND 4404	Home Textile and Soft Furnishing	3 (2-2-5)
IND 4409	Branding Experience in Art and Design	3 (2-2-5)

Product Design Track

PD 2102	User Experience Design	3 (2-2-5)
PD 2304	Art and Design Appreciation	3 (3-0-6)
PD 3301	Material and Manufacturing Processes I	3 (2-2-5)
PD 3306	Marketing for Product Design	3 (3-0-6)
PD 3402	Graphic and Packaging Design	3 (2-2-5)
PD 3406	Toy and Play Design	3 (2-2-5)
PD 3407	Furniture Design	3 (2-2-5)

Advertising Track

AD 3103	Advertising Creative Strategy (English)	3 (2-2-5)
AD 3112	Brand Communication	3 (2-2-5)
AD 3113	Customer Relationship Management	3 (3-0-6)
AD 3114	Interactive Advertising and Marketing Communication	3 (3-0-6)
AD 3124	Strategic Brand Positioning	3 (3-0-6)
AD 3106	Art Direction	3 (2-2-5)
AD 3108	Copywriting (English)	3 (2-2-5)

Digital Media Communication Track

CA 1025	Computer Graphic Design	3 (2-2-5)
DM 2403	Digital Media Production and Management	3 (2-2-5)
DM 3426	Innovation and Digital Technology	3 (3-0-6)
DM 3424	Digital Content Creation	3 (3-0-6)

Computer Generated Imagery Track

ART 3022	Thai Inspiration	3 (2-2-5)
CGI 3234	Character Design	3 (1-4-4)

Public Relations Track

PR 2203	Persuasive Communication	3 (3-0-6)
PR 3230	Digital Public Relations	3 (2-2-5)
PR 3218	Special Events Management for Public Relations	3 (2-2-5)
PR 3228	Intercultural Communication	3 (3-0-6)
PR 3225	Personality Development and Personal Branding	3 (2-2-5)

Live Event Creation and Management Track

CA 1023	Introduction to live event creation and management	3 (2-2-5)
LIVE 2103	Acting for Live Events	3 (1-4-4)

Visual Communication Design Track

ART 3924	Printmaking	3 (2-2-5)
ART 3925	Creative Photography	3 (2-2-5)
VIS 4124	Book Binding	3 (2-2-5)
VIS 4920	Art Exposure	3 (3-0-6)

Innovative Technology Track

INX 4101	Software Engineering	3 (3-0-6)
INX 4102	IT Project Management	3 (3-0-6)
INX 4103	Web Application Development	3 (3-0-6)
INX 4104	iOS Application Development	3 (3-0-6)
INX 4105	Android Application Development	3 (3-0-6)
INX 4201	Data Mining	3 (3-0-6)
INX 4202	Machine Learning	3 (3-0-6)
INX 4203	Big Data Analytics	3 (3-0-6)
INX 4204	Decision Support and Recommender Systems	3 (3-0-6)
INX 4205	Intelligent System Development	3 (3-0-6)
INX 4301	Sales and Distribution Management System	3 (3-0-6)
INX 4302	Supply Chain Management System	3 (3-0-6)
INX 4303	Finance and Accounting Management System	3 (3-0-6)
INX 4304	Customer Relationship Management System	3 (3-0-6)
INX 4305	FinTech and Blockchain Technology	3 (3-0-6)
INX 4400-4499	Selected Topics	3 (3-0-6)

Design, Creativity and Communication Track

DEX 3001	Selected Topics in Design, Creativity and Communication Concepts	3 (3-0-6)
DEX 3002	Selected Topics in Design, Creativity and Communication Practices I	3 (2-2-5)
DEX 3003	Selected Topics in Design, Creativity and Communication Practices II	3 (1-1-4)

Business Elective Track

BDM 3201	Digital Business	3 (2-2-5)
BDM 3202	Digital Commerce	3 (2-2-5)
BDM 3203	Cybersecurity	3 (2-2-5)
BDM 3204	Enterprise Resource Planning	3 (2-2-5)
BDM 3205	Information Systems Strategy, Management, and Acquisition	3 (2-2-5)
BDM 3301	Data Analytics Fundamentals	3 (2-2-5)
BDM 3302	Data Management	3 (2-2-5)
BDM 3304	Systems Analysis and Design	3 (2-2-5)
BDM 3403	Robotic Process Automation	3 (2-2-5)
BDM 3404	Data Structures and Algorithms	3 (2-2-5)
BDM 3405	Database Systems	3 (2-2-5)
BDM 3406	Mobile Application Development	3 (2-2-5)
BDM 3409	Game Design and Development	3 (2-2-5)
BDM 3410	Low-code Development	3 (2-2-5)
BDM 3413	eSports	3 (2-2-5)
BDM 3416	Data Engineering	3 (2-2-5)
BDM 3417	Data Storytelling	3 (2-2-5)
BDM 3418	Digital Marketing Analytics	3 (2-2-5)
BDM 3419	Text Mining	3 (2-2-5)
BDM 3420	Cloud Computing	3 (2-2-5)
BDM 3422	IT Infrastructure	3 (2-2-5)
BDM 3423	Penetration Testing	3 (2-2-5)
BDM 3481	Digital Business Internship I	3 (0-30-0)
BDM 3482	Digital Business Internship II	3 (0-30-0)
BDM 4400-4409	Selected topics in Digital Business Management	3 (2-2-5)

BEN 3304	Project Management	3 (3-0-6)
BEN 3406	Legal Aspects and Intellectual Property of Entrepreneurship	3 (3-0-6)
BEN 3407	Entrepreneurial Finance and Accounting	3 (3-0-6)
BEN 3408	Conflict and Change Management	3 (3-0-6)
BEN 3409	Organization Transition	3 (3-0-6)
BEN 3410	Entrepreneurship Practicum I	3 (3-0-6)
BEN 3411	Entrepreneurship Practicum II	3 (3-0-6)
BEN 4212	Growth Mindset and Sustaining Organization	3 (3-0-6)
BEN 4213	Digital Entrepreneurship	3 (3-0-6)
BEN 4315	Family Business Management	3 (3-0-6)
BEN 4316	Social Entrepreneurship	3 (3-0-6)
BEN 4419	Operational Excellence, Collaboration and Partnership Management	3 (3-0-6)
BEN 4420	Creative Industries Entrepreneurship	3 (3-0-6)
BEN 4421	Venture Opportunity I	3 (3-0-6)
BEN 4422	Venture Opportunity II	3 (3-0-6)
BIR 3211	Risk Management and Insurance	3 (3-0-6)
BRE 3411	Real Estate Marketing	3 (3-0-6)
BRE 3412	Sustainability in Real Estate	3 (3-0-6)
BRE 3413	Real Estate Investment Alternatives	3 (3-0-6)
BRE 3421	Contemporary Issues in Real Estate Appraisal	3 (3-0-6)
BRE 3422	Implications of Real Estate Finance and Appraisal	3 (3-0-6)
ENX 3410-3419	Selected Topic in Law	3 (3-0-6)
ENX 3420-3429	Selected Topic in Health and Wellness	3 (3-0-6)
ENX 3430-3439	Selected Topic in Biotechnology	3 (3-0-6)
ENX 3440-3449	Selected Topic in Digital Technology	3 (3-0-6)
ENX 3450-3459	Selected Topic in Engineering Technology	3 (3-0-6)
ENX 3460-3469	Selected Topic in Design	3 (3-0-6)
ENX 3470-3479	Selected Topic in Creative Arts	3 (3-0-6)
ENX 3480-3489	Selected Topic in Language and Culture	3 (3-0-6)

Economics Track

BEC 1302	Basic Probability Theory and Statistics	3 (3-0-6)
BEC 1401	Thinking as an Economist	3 (3-0-6)

C. Free Elective Courses — 9 Credits

Students can take free elective courses of 9 credits from any faculty in Assumption University upon completion of the prerequisites (if any).

STUDY PLAN

PRE-SESSIONAL

SRX 0011	Overview of Entrepreneurship and Innovation Design	Non-Credit
DEX 0011	Preparation for Design	Non-Credit

FIRST YEAR

First Semester

Code	Subjects	Credits
SRX 1001	English for Effective Communication	3 (2-3-6)
SRX 1101	Happiness Advantage	1 (1-0-2)
ENX 1111	Digital Mindset and Sustainability	2 (2-0-4)
ENX 1112	Entrepreneurial Inspiration	1 (1-0-2)
ENX 1113	Business Innovation and Design Thinking	2 (2-0-4)
ENX 1121	Digital Consumer Insights	2 (2-0-4)
DEX 1111	Introduction to Creative Culture and Trend	2 (2-0-4)
DEX 1112	Photography and Cinematography	2 (2-0-4)
INX 1111	Tech Startups	2 (2-0-4)
SRX 1103	Aesthetic	1 (1-0-2)
SRX 1104	Designing Life with Passion	1 (1-0-2)
SRX 14031	Business Ethics Seminar I	Non-credit
	Total	**19 (18-3-38)**

Second Semester

SRX 1002	English for Academic Purposes	3 (2-3-6)
ENX 1211	Leadership for a Digital Age	2 (2-0-4)
ENX 1212	Global Strategy and Communication	2 (2-0-4)
ENX 1221	Digital Marketing	2 (2-0-4)
DEX 1201	Global History of Art and Design	2 (2-0-4)
DEX 1211	Introduction to Environmental Design	2 (2-0-4)
DEX 1221	Design Thinking/Method	2 (2-0-4)
INX 1201	AI for Business	2 (2-0-4)
SRX 1201	Business Etiquettes and Personal/CEO Branding	2 (2-0-4)
SRX 14032	Business Ethics Seminar II	Non-credit
	Total	**19 (18-3-38)**

SECOND YEAR

First Semester

SRX 1003	Integrated English Skills	3 (2-3-6)
ENX 2111	Lifestyle and Experiential Marketing	2 (2-0-4)
ENX 2121	Global Business and Commercialization	3 (3-0-6)
ENX 1222	Business Networking and Incubation	3 (3-0-6)
DEX 2121	Graphic Communication and Presentation	2 (2-0-4)
INX 2101	Practical Data Science for Entrepreneurs	2 (2-0-4)
INX 2111	Application Design and Coding	2 (2-0-4)
INX 2122	UI/UX Design in Technology	2 (2-0-4)
SRX 2101	Empathy and Customer Centric	2 (2-0-4)
ENX 2301	Workshop I	Non-Credit
SRX 14033	Business Ethics Seminar III	Non-credit
	Total	**21 (20-3-42)**

Second Semester

ENX 2211	Brand-Driven Innovation	2 (2-0-4)
ENX 2221	Entrepreneurial Finance	2 (2-0-4)
ENX 2222	Entrepreneurial Accounting	2 (2-0-4)
ENX 2223	Economics for Entrepreneur	2 (2-0-4)
DEX 2221	Design Studio	4 (4-0-8)
INX 2201	Business Intelligence for Strategic Planning	2 (2-0-4)
INX 2121	Agile Methods	2 (2-0-4)
SRX 2111	Pitching and Story Telling	2 (2-0-4)
SRX 2201	Legal Aspects in Business, IT, and Creative Industry	2 (2-0-4)
SRX 2202	Well-being for Learning and Life	1 (1-0-2)
SRX 2211	Future Skill Forum	1 (1-0-2)
ENX 2302	Workshop II	Non-Credit
SRX 14034	Business Ethics Seminar IV	Non-Credit
	Total	**22 (22-0-44)**

THIRD YEAR

First Semester

	Four Personalised Track Courses	12 (12-0-24)
	Three Free Elective Course	9 (9-0-18)
SRX 14035	Business Ethics Seminar V	Non-Credit
SRX 14036	Business Ethics Seminar VI	Non-Credit
	Total	**21 (21-0-42)**

Second Semester

	Six Personalised Track Courses	18 (18-0-30)
SRX 14037	Business Ethics Seminar VII	Non-Credit
SRX 14038	Business Ethics Seminar VIII	Non-Credit
	Total	**18 (18-0-30)**

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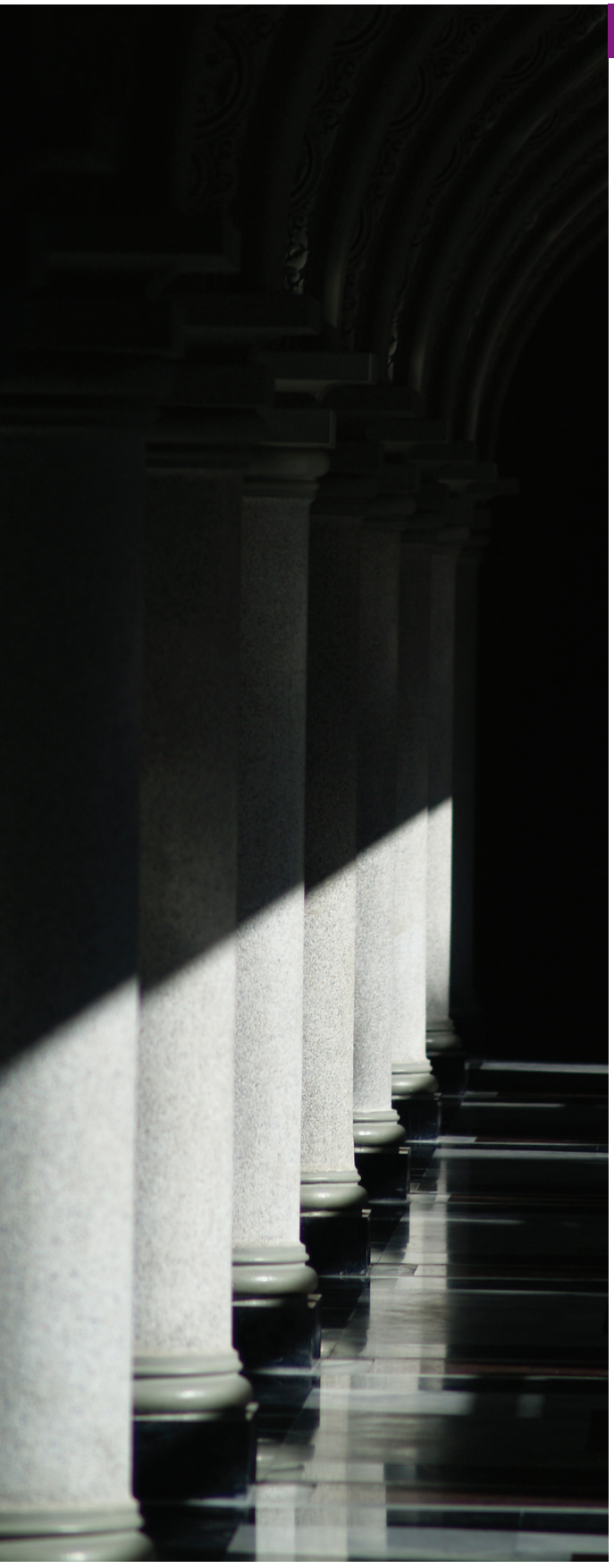


BACHELOR OF ARTS

PROGRAM IN BUSINESS ENGLISH

GRADUATION REQUIREMENTS

Assumption University confers the degree of Bachelor of Arts in Business English upon students who meet all of the following requirements:

1. Have completed the total number of credits of the curriculum
2. Have obtained a cumulative grade point average of at least 2.00
3. Have participated in 16 sessions of the Professional Ethics Seminar
4. Have obtained library and financial clearance f om the University
5. Have demonstrated good behavior and discipline
6. English proficiency standa d for undergraduate level Prior to graduation, undergraduate students are obligated to meet the minimum English proficienc requirement specified in one of the followin criteria:

Test Instruments	Required Passing Score
AU English Proficienc Assessment or	70%*
TOEFL (iBT) or	90
TOEFL (P) or	575
IELTS	6.5

**70% = Level B2 of Common European Framework of Reference for Language (CEFR)*

OBJECTIVES

To produce graduates who have the characteristics, knowledge and skills as follows:

1. Have a sense of social and self-responsibility and become an ethical citizen of the society.
2. Have English proficiency necessary for busines executions and be well-rounded in terms of intercultural communication.
3. Demonstrate skills and expertise in applying knowledge to real life context and solving problems creatively and efficiently
4. Be able to work and communicate effectively with both Thai and international people with respect and courtesy.

CURRICULUM STRUCTURE

Total number of credits	142 Credits
A. General Education Courses	**40 Credits**
Language Courses	15 Credits
Social Science Required Courses	10 Credits
Social Science Elective Courses	6 Credits
Humanities Course	3 Credits
Science and Mathematics Courses	6 Credits
B. Specialized Courses	**96 Credits**
Required Core Courses	30 Credits
Major Required Courses	36 Credits
Major Elective Courses	15 Credits
Minor Courses	15 Credits
C. Free Elective Courses	**6 Credits**

COURSES

A. General Education Courses

Language Courses **15 Credits**

BG 1001	English I	3 (2-3-6)
BG 1002	English II	3 (2-3-6)
BG 2000	English III	3 (2-3-6)
BG 2001	English IV	3 (2-3-6)
GE 1403	Communication in Thai (for Thai students)	3 (3-0-6)
or		
GE 1405	Thai Language and Culture (for non-Thai students)	
or		
GE 1408	Thai Usage (for international students)	

Social Science Courses **16 Credits**

(1) Social science required courses **10 Credits**

BBA 2001	Human Behavior	3 (3-0-6)
BBA 1003	Introduction to Microeconomics and Personal Finance (only for Arts students)	3 (3-0-6)
GE 1204	Physical Education	1 (1-0-2)
GE 2202	Ethics	3 (3-0-6)

(2) Social science elective courses **6 Credits**

Students are required to choose two of the following courses.

GE 1203	Society, Politics and Economics	3 (3-0-6)
GE 1205	ASEAN Ways	3 (3-0-6)
GE 2203	Art of Living	3 (3-0-6)
GE 2206	Personality Development	3 (3-0-6)
GE 2301	Lifestyles in Dynamic World	3 (3-0-6)
GE 2303	Building Brilliant Brain	3 (3-0-6)
CSX 2001	Introduction to Information Technology	3 (3-0-6)
or		
ITX 3002	Introduction to Information Technology	3 (3-0-6)

Humanities Course **3 Credits**

GE 2102	Human Heritage and Globalization	3 (3-0-6)

Science and Mathematics Courses		**6 Credits**
MA 1000	Business Mathematics and Statistics (For School of Arts, School of Communication Arts and School of Music only)	3 (3-0-6)
GE 1302	Ecology and Sustainability	3 (3-0-6)

B. Specialized Courses

Required Core Courses		**30 Credits**
BBA 1001	Business Exploration	3 (3-0-6)
BBA 1102	Data and Information Literacy	3 (2-2-5)
BBA 1104	Fundamentals of Marketing	3 (3-0-6)
BBA 2102	Organization and Management	3 (3-0-6)
BAC 1601	Fundamentals of Financial Accounting	3 (3-0-6)
GE 2103	Art of Reasoning	3 (3-0-6)
GL 1101	Elements of Spoken Language	3 (3-0-6)
GL 2101	Introduction to Language	3 (3-0-6)
GL 3104	Language, Culture, and Society	3 (3-0-6)
GL 3106	Trends in Business English	3 (3-0-6)

Major Required Courses		**36 credits**
EN 2230	Listening and Speaking	3 (3-0-6)
EN 3213	Business Communication in English	3 (3-0-6)
EN 3214	Fundamental Writing Development	3 (3-0-6)
EN 3272	Art of Translation	3 (3-0-6)
or		
EN 4254	Academic Writing *(only for foreign students)*	3 (3-0-6)
EN 3291	Intercultural Business Communication	3 (3-0-6)
EN 4232	Business Conversation	3 (3-0-6)
EN 4233	Public Speaking in English	3 (3-0-6)
EN 4241	Critical and Analytical Reading	3 (3-0-6)
EN 4256	Introduction to Business Research Writing	3 (3-0-6)
EN 4259	New Media Literacy	3 (3-0-6)
EN 4272	Translation in Business English	3 (3-0-6)
or		
EN 4292	Business Article Writing (only for foreign students)	3 (3-0-6)
EN 4296	Advanced Listening and Note-taking in Business	3 (3-0-6)

Major Elective Courses		**15 credits**
EN 3234	English Pronunciation	3 (3-0-6)
EN 3281	English for Tourism	3 (3-0-6)
EN 3283	English for International Trade	3 (3-0-6)
EN 3287	English for Office Management	3 (3-0-6)
EN 3288	English for Airline Business	3 (3-0-6)
EN 3289	English for Music Business	3 (3-0-6)
EN 3290	English for Entrepreneurship	3 (3-0-6)
EN 3292	Grammar Essentials for Professional Life	3 (3-0-6)
EN 3293	English for Human Resources	3 (3-0-6)
EN 3294	English for Hotel Services	3 (3-0-6)
EN 3295	English for Online Business	3 (3-0-6)
EN 3296	English for Diplomatic Affairs	3 (3-0-6)
EN 4254	Academic Writing (only for foreign students)	3 (3-0-6)
EN 4262	Reading of Modern Viewpoints	3 (3-0-6)
EN 4292	Business Article Writing (only for foreign Students)	3 (3-0-6)
EN 4294	Business English Internship I	3 (3-0-6)
EN 4295	Business English Internship II	3 (3-0-6)

Minor Courses **15 Credits**

1. Business Chinese

Minor Required Courses		**12 Credits**
CN 1400	Introduction to Chinese	3 (3-0-6)
CN 1401	Chinese I	3 (3-0-6)
CN 2401	Chinese II	3 (3-0-6)
CN 2402	Chinese III	3 (3-0-6)

Minor Elective Courses **3 Credits**

Students can take any courses from the Department of Business Chinese upon completion of the prerequisites (if any).

2. Business French

Minor Required Courses		**15 Credits**
FR 1510	French I	4 (3-2-6)
FR 1511	French II	4 (3-2-6)
FR 2512	French III	4 (3-2-6)
FR 3537	Communicative Skills in French	3 (3-0-6)
or		
FR 3539	French for Workplace Communication	3 (3-0-6)

Students can take any courses from the Department of Business French upon completion of the prerequisites (if any).

3. Business Japanese

Minor Required Courses		12 Credits
JA 1700	Introduction to Japanese	3 (3-0-6)
JA 1701	Japanese I	3 (3-0-6)
JA 2701	Japanese II	3 (3-0-6)
JA 2702	Japanese III	3 (3-0-6)

Minor Elective Courses **3 Credits**

Students can take any courses from the Department of Business Japanese upon completion of the prerequisites (if any).

4. Thai (Only for international students)

Minor Required Courses		15 Credits
TH 1500	Introduction to Thai	3 (3-0-6)
TH 1501	Thai Language I	3 (3-0-6)
TH 2501	Thai Language II	3 (3-0-6)
TH 2502	Thai Language III	3 (3-0-6)
TH 3501	Advanced Reading	3 (3-0-6)

5. Business Economics

Minor Required Courses		15 Credits
BEC 1401	Thinking as an Economist	3 (3-0-6)
BEC 2102	Economic Decision Making for Management	3 (3-0-6)
BEC 2303	Fundamentals of Econometrics	3 (3-0-6)
BEC 2304	Business and Economic Forecasting	3 (3-0-6)
BEC 3101	Firms, Competition and Market Structure	3 (3-0-6)

6. Entrepreneurship and Innovation Management

Minor Required Courses		15 Credits
BEN 3001	Entrepreneur and Innovation	3 (3-0-6)
BEN 3201	Innovation and Design Thinking	3 (3-0-6)
BEN 3202	Entrepreneurial Commercialization	3 (3-0-6)
BEN 3303	Entrepreneurial Leadership	3 (3-0-6)
BEN 4315	Family Business Management	3 (3-0-6)

7. Finance

Minor Required Courses		15 Credits
BBA 2103	Corporate Finance	3 (3-0-6)
BFN 3211	Investment Strategy and Applied Valuation	3 (3-0-6)
BFN 3212	Financial Reporting and Analysis	3 (3-0-6)
BFN 3221	Business and Economic Analysis for Decision Making	3 (3-0-6)
BFN 3223	Advanced Financial Management	3 (3-0-6)

8. Hospitality and Tourism Management

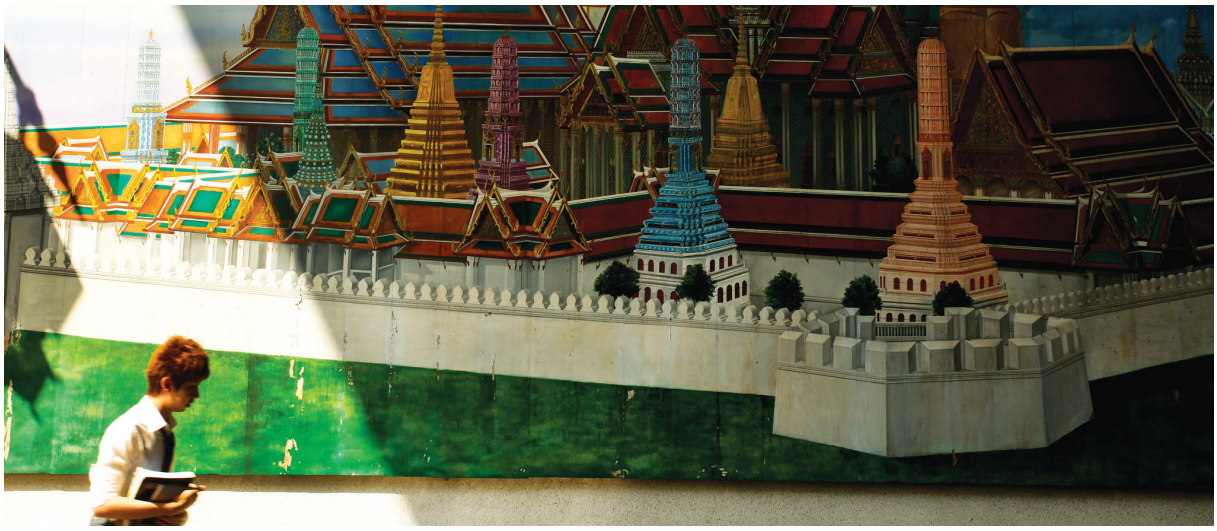
Minor Required Courses		15 Credits
BHT 3201	Introduction to Hospitality and Tourism Management	3 (3-0-6)
BHT 3202	Consumer Behavior in Hospitality and Tourism	3 (3-0-6)
BHT 3203	Food and Beverage Management	3 (3-0-6)
BHT 3204	Personality and Communication in Hospitality and Tourism	3 (3-0-6)
BHT 3205	Marketing for Hospitality and Tourism	3 (3-0-6)

9. International Business Management

Minor Required Courses		15 Credits
BIB 3201	Cross Cultural Human Resource Management	3 (3-0-6)
BIB 3202	Export-Import Policy and Strategy	3 (3-0-6)
BIB 3203	Global Business in Practice	3 (3-0-6)
BIB 3204	International Management	3 (3-0-6)
BIB 4209	International Strategic Management	3 (3-0-6)

10. Insurance

Minor Required Courses		15 Credits
BIR 3211	Risk Management and Insurance	3 (3-0-6)
BIR 3221	Property Insurance	3 (3-0-6)
BIR 3222	Casualty Insurance	3 (3-0-6)
BIR 3223	Life Assurance	3 (3-0-6)
BIR 4311	Employee Benefits	3 (3-0-6)



11. Marketing

Minor Required Courses		15 Credits
BMK 3201	Consumer Behavior	3 (3-0-6)
BMK 3202	Digital Marketing	3 (3-0-6)
BMK 3203	Brand Driven Innovation	3 (3-0-6)
BMK 3204	Competitive Analysis and Strategy	3 (3-0-6)
BMK 4302	Contemporary Issues in Marketing	3 (3-0-6)

12. Digital Business Management

Minor Required Courses		15 Credits
BDM 3201	Digital Business	3 (2-2-5)
BDM 3202	Digital Commerce	3 (2-2-5)
BDM 3203	Cyber security	3 (2-2-5)
BDM 3204	Enterprise Resource Planning	3 (2-2-5)
BDM 3205	Information Systems Strategy, Management, and Acquisition	3 (2-2-5)

13. Real Estate

Minor Required Courses		15 Credits
BRE 3201	Real Estate Business	3 (3-0-6)
BRE 3202	Real Estate Law	3 (3-0-6)
BRE 3203	Real Estate Economics	3 (3-0-6)
BRE 3204	Building Design and Construction Techniques	3 (3-0-6)
BRE 3205	Real Estate Development	3 (3-0-6)

14. Supply Chain Management

Minor Required Courses		15 Credits
BSC 3201	Logistics and Supply Chain Management	3 (3-0-6)
BSC 3202	Supply Chain Innovation and Technology	3 (3-0-6)
BSC 3203	Lean Manufacturing and Agile Supply Chain	3 (3-0-6)
BSC 3204	International Transportation and Distribution Management	3 (3-0-6)
BSC 3205	Warehousing and Material Handling	3 (3-0-6)

15. Communication Arts

Minor Required Courses		15 Credits
CA 1021	Introduction to Advertising and Branding	3 (3-0-6)
CA 1023	Introduction to Live Event Creation and Management	3 (2-2-5)
CA 1024	Introduction to Digital Media Communication	3 (2-2-5)
ART 1208	Computer Graphic Foundation	3 (2-2-5)
ART 2311	Photography	3 (2-2-5)

16. Music Entrepreneurship

Minor Required Courses		15 Credits
MB 2433	Computer Application for Musicians	3 (1-4-4)
MB 2531	Music Business	3 (3-0-6)
MB 2532	Music Industry	3 (3-0-6)
MS 1301	Musical Skills I	2 (3-2-1)
MS 1302	Musical Skills II	2 (3-2-1)
MS 2301	Musical Skills III	2 (3-2-1)

C. Free Elective Course — 6 Credits

Students can take free elective courses of 6 credits from any faculty in Assumption University upon completion of the prerequisites (if any).

STUDY PLAN

FIRST YEAR

First Semester

Code	Subjects	Credits
BG 1001	English I	3 (2-3-6)
BBA 1001	Business Exploration	3 (3-0-6)
GE 2013	Art of Reasoning	3 (3-0-6)
GE 1204	Physical Education	1 (1-0-2)
GE 1403	Communication in Thai	3 (3-0-6)
or		
GE 1405	Thai Language and Culture (only for non-Thai students)	
or		
GE 1408	Thai Usage (only for Thai students from international schools)	
GE 1302	Ecology and Sustainability	3 (3-0-6)
	Total	**16 (15-3-32)**

Second Semester

BG 1002	English II	3 (2-3-6)
GE 2102	Human Heritage and Globalization	3 (3-0-6)
BBA 1104	Fundamentals of Marketing	3 (3-0-6)
BBA 1003	Introduction to Microeconomics and Personal Finance (only for Arts students)	3 (3-0-6)
GL 1101	Elements of Spoken Language	3 (3-0-6)
	One Social Science Elective Course	3 (3-0-6)
	Total	**18 (17-3-36)**

SECOND YEAR

First Semester

BG 2000	English III	3 (2-3-6)
BBA 1102	Data and Information Literacy	3 (2-2-5)
BBA 2102	Organization Management	3 (3-0-6)
EN 2230	Listening and Speaking	3 (3-0-6)
GL 2101	Introduction to Language	3 (3-0-6)
	One Free Elective	3 (3-0-6)
	Total	**18 (17-5-36)**

Second Semester

BG 2001	English IV	3 (2-3-6)
GE 2202	Ethics	3 (3-0-6)
EN 3214	Fundamental Writing Development	3 (3-0-6)
MA 1000	Business Mathematics and Statistics	3 (3-0-6)
	One Free Elective Course	3 (3-0-6)
	One Social Science Elective Course	3 (3-0-6)
	Total	**18 (17-3-36)**

THIRD YEAR

First Semester

BBA 2001	Human Behavior	3 (3-0-6)
GL 3104	Language, Culture and Society	3 (3-0-6)
EN 3213	Business Communication in English	3 (3-0-6)
EN 3272	Art of Translation	3 (3-0-6)
or		
EN 4254	Academic Writing (only for foreign students)	
EN 3291	Intercultural Business Communication	3 (3-0-6)
	One Minor Course	3 (3-0-6)
	Total	**18 (18-0-36)**

Second Semester

GL 3106	Trends in Business English	3 (3-0-6)
EN 4272	Translation in Business English	3 (3-0-6)
or		
EN 4292	Business Article Writing (only for foreign students)	
EN 4232	Business Conversation	3 (3-0-6)
	One Major Elective Course	3 (3-0-6)
	One Major Elective Course	3 (3-0-6)
	One Minor Course	3 (3-0-6)
	Total	**18 (18-0-36)**

FOURTH YEAR

First Semester

EN 4296	Advanced Listening and Note-taking in Business	3 (3-0-6)
EN 4259	New Media Literacy	3 (3-0-6)
BAC 1601	Fundamentals of Financial Accounting	3 (3-0-6)
	One Major Elective Course	3 (3-0-6)
	One Minor Course	3 (3-0-6)
	One Minor Course	3 (3-0-6)
	Total	**18 (18-0-36)**

Second Semester

EN 4233	Public Speaking in English	3 (3-0-6)
EN 4241	Critical and Analytical Reading	3 (3-0-6)
EN 4256	Introduction to Business Research Writing	3 (3-0-6)
	One Major Elective Course	3 (3-0-6)
	One Major Elective Course	3 (3-0-6)
	One Minor Elective Course	3 (3-0-6)
	Total	**18 (18-0-36)**

BACHELOR OF ARTS

PROGRAM IN BUSINESS FRENCH

GRADUATION REQUIREMENTS

Assumption University confers the degree of Bachelor of Arts in Business French upon students who meet all of the following requirements:

1. Have completed the total number of credits of the curriculum
2. Have obtained a cumulative grade point average of at least 2.00
3. Have participated in 16 sessions of the Professional Ethics Seminar
4. Have obtained library and financial clearance f om the University
5. Have demonstrated good behavior and discipline
6. English proficiency standa d for undergraduate level Prior to graduation, undergraduate students are obligated to meet the minimum English proficiency equirement specified i one of the following criteria

Test Instruments	Required Passing Score
AU English Proficienc Assessment or	70%*
TOEFL (iBT) or	90
TOEFL (P) or	575
IELTS	6.5

**70% = Level B2 of Common European Framework of Reference for Language (CEFR)*

OBJECTIVES

To produce graduates who have the characteristics, knowledge and skills as follows:

1. Have a sense of social and self-responsibility and become ethical citizens of the society.
2. Have up-to-date and business language skills both in French and in English for listening, speaking, reading and writing.
3. Demonstrate skills and expertise in applying the knowledge to real life context and solving problems creatively and efficiently
4. Able to work and communicate effectively with both Thai and international people with respect and courtesy.
5. Able to use computer and other technologies in communicating and presenting information.

CURRICULUM STRUCTURE

Total number of credits	142 Credits
A. General Education Courses	**37 Credits**
Language Courses	15 Credits
Social Science Courses	10 Credits
Humanities Courses	6 Credits
Science and Mathematics Courses	6 Credits
B. Specialized Courses	**99 Credits**
Core Courses	30 Credits
Major Required Courses	45 Credits
Major Elective Courses	9 Credits
Minor Courses	15 Credits
C. Free Elective Courses	**6 Credits**

COURSES

A. General Education Courses

Language Courses **15 Credits**

BG 1001	English I	3 (2-3-6)
BG 1002	English II	3 (2-3-6)
BG 2000	English III	3 (2-3-6)
BG 2001	English IV	3 (2-3-6)
GE 1403	Communication in Thai (for Thai students)	3 (2-3-6)
or		
GE 1405	Thai Language and Culture (for non-Thai students)	3 (2-3-6)

Social Science Courses **10 Credits**

(1)Social Science required courses **7 Credits**

BBA 1003	Introduction to Microeconomics and Personal Finance	3 (3-0-6)
GE 1201	Information Literacy Skills	1 (1-0-2)
or		
GE 1204	Physical Education	
GE 2202	Ethics	3 (3-0-6)

(2)Social Science elective Courses **3 Credits**

Students are required to choose one of the following courses.

GE 1203	Society, Politics and Economics	3 (3-0-6)
GE 1205	ASEAN Ways	3 (3-0-6)
GE 2203	Art of Living	3 (3-0-6)
GE 2206	Personality Development	3 (3-0-6)
GE 2301	Lifestyles in Dynamic World	3 (3-0-6)
GE 2303	Building Brilliant Brain	3 (3-0-6)
CSX 2001	Introduction to Information Technology	3 (3-0-6)
or		
ITX 3002	Introduction to Information Technology	

Humanities Courses **6 Credits**

GE 1104	Thai Historical Perspectives	3 (3-0-6)
GE 2102	Human Heritage and Globalization	3 (3-0-6)

Science and Mathematics Courses **6 Credits**

GE 1302	Ecology and Sustainability	3 (3-0-6)
MA 1000	Business Mathematics and Statistics	3 (3-0-6)

B. Specialized Courses

(1) Core Courses **30 Credits**

BAC 1601	Fundamentals of Financial Accounting	3 (3-0-6)
BBA 1001	Business Exploration	3 (3-0-6)
BBA 1102	Data and Information Literacy	3 (2-2-5)
BBA 1104	Fundamentals of Marketing	3 (3-0-6)
BBA 2001	Human Behavior	3 (3-0-6)
BBA 2102	Organization and Management	3 (3-0-6)
GE 2103	Art of Reasoning	3 (3-0-6)
GL 1101	Elements of Spoken Language	3 (3-0-6)
GL 2101	Introduction to Language	3 (3-0-6)
GL 3104	Language, Culture and Society	3 (3-0-6)

(2) Major Required Courses **45 credits**

FR 1510	French I	4 (3-2-6)
FR 1511	French II	4 (3-2-6)
FR 2512	French III	4 (3-2-6)
FR 2513	French IV	4 (3-2-6)
FR 2514	French Pronunciation	3 (3-0-6)
FR 3501	Business French I	3 (3-0-6)
FR 3512	Business Communication in French	3 (3-0-6)
FR 3514	Writing Workshop	2 (1-2-2)
FR 3530	Oral Comprehension and Expression	3 (3-0-6)
FR 3570	Translation: French-Thai (for Thai students)	3 (3-0-6)
or		
FR 3532	French Conversation and Discussion (for foreign students)	
FR 4502	Business French II	3 (3-0-6)
FR 4543	Reading French Media	3 (3-0-6)
FR 4573	Aspects of French-Speaking Countries	3 (3-0-6)
FR 4590	Seminar	3 (3-0-6)

(3) Major Elective Courses **9 credits**

FR 3537	Communicative Skills in French	3 (3-0-6)
FR 3539	French for Workplace Communication	3 (3-0-6)
FR 3581	French for Tourism	3 (3-0-6)
FR 3583	French for Hotel Services	3 (3-0-6)
FR 4540	Reading in Business French	3 (3-0-6)
FR 4541	Business French Internship	3 (3-0-6)
FR 4572	Translation in Business French	3 (3-0-6)
FR 4591	Selected Topics in French Studies	3 (3-0-6)

(4) Minor Courses **15 Credits**

Digital Business Management

Minor Required Courses **15 Credits**

BDM 3201	Digital Business	3 (2-2-5)
BDM 3202	Digital Commerce	3 (2-2-5)
BDM 3203	Cybersecurity	3 (2-2-5)
BDM 3204	Enterprise Resource Planning	3 (2-2-5)
BDM 3205	Information Systems Strategy, Management, and Acquisition	3 (2-2-5)

Business Economics

Minor Required Courses **15 Credits**

BEC 1401	Thinking as an Economist	3 (3-0-6)
BEC 2102	Economic Decision Making for Management	3 (3-0-6)
BEC 2303	Fundamentals of Econometrics	3 (3-0-6)
BEC 2304	Business and Economic Forecasting	3 (3-0-6)
BEC 3101	Firms, Competition and Market Structure	3 (3-0-6)

Entrepreneur and Innovation Management

Minor Required Courses **15 Credits**

BEN 3001	Entrepreneur and Innovation	3 (3-0-6)
BEN 3201	Innovation and Design Thinking	3 (3-0-6)
BEN 3202	Entrepreneurial Commercialization	3 (3-0-6)
BEN 3303	Entrepreneurial Leadership	3 (3-0-6)
BEN 4315	Family Business Management	3 (3-0-6)

Finance

Minor Required Courses **15 Credits**

BBA 2103	Corporate Finance	3 (3-0-6)
BFN 3211	Investment Strategy and Applied Valuation	3 (3-0-6)
BFN 3212	Financial Reporting and Analysis	3 (3-0-6)
BFN 3221	Business and Economic Analysis for Decision Making	3 (3-0-6)
BFN 3223	Advanced Financial Management	3 (3-0-6)

Hospitality and Tourism Management

Minor Required Courses **15 Credits**

BHT 3201	Introduction to Hospitality and Tourism Management	3 (3-0-6)
BHT 3202	Consumer Behavior in Hospitality and Tourism	3 (3-0-6)
BHT 3203	Food and Beverage Management	3 (3-0-6)
BHT 3204	Personality and Communication in Hospitality and Tourism	3 (3-0-6)
BHT 3205	Marketing in Hospitality and Tourism	3 (3-0-6)

International Business Management

Minor Required Courses		15 Credits
BIB 3201	Cross Cultural Human Resource Management	3 (3-0-6)
BIB 3202	Export-Import Policy and Strategy	3 (3-0-6)
BIB 3203	Global Business in Practice	3 (3-0-6)
BIB 3204	International Management	3 (3-0-6)
BIB 4209	International Strategic Management	3 (3-0-6)

Insurance

Minor Required Courses		15 Credits
BIR 3211	Risk Management and Insurance	3 (3-0-6)
BIR 3221	Property Insurance	3 (3-0-6)
BIR 3222	Casualty Insurance	3 (3-0-6)
BIR 3223	Life Assurance	3 (3-0-6)
BIR 4311	Employee Benefits	3 (3-0-6)

Marketing

Minor Required Courses		15 Credits
BMK 3201	Consumer Behavior	3 (3-0-6)
BMK 3202	Digital Marketing	3 (3-0-6)
BMK 3203	Brand Driven Innovation	3 (3-0-6)
BMK 3204	Competitive Analysis and Strategy	3 (3-0-6)
BMK 4302	Contemporary Issues in Marketing	3 (3-0-6)

Real Estate

Minor Required Courses		15 Credits
BRE 3201	Real Estate Business	3 (3-0-6)
BRE 3202	Real Estate Law	3 (3-0-6)
BRE 3203	Real Estate Economics	3 (3-0-6)
BRE 3204	Building Design and Construction Techniques	3 (3-0-6)
BRE 3205	Real Estate Development	3 (3-0-6)

Supply Chain Management

Minor Required Courses		15 Credits
BSC 3201	Logistics and Supply Chain Management	3 (3-0-6)
BSC 3202	Supply Chain Innovation and Technology	3 (3-0-6)
BSC 3203	Lean Manufacturing and Agile Supply Chain	3 (3-0-6)
BSC 3204	International Transportation and Distribution Management	3 (3-0-6)
BSC 3205	Warehousing and Material Handling	3 (3-0-6)

Communication Arts

Minor Required Courses		15 Credits
ART 1208	Computer Graphic Foundation	3 (2-2-5)
ART 2311	Photography	3 (2-2-5)
CA 1021	Introduction to Advertising and Branding	3 (3-0-6)
CA 1023	Introduction to Live Event Creation and Management	3 (2-2-5)
CA 1024	Introduction to Digital Media Communication	3 (2-2-5)

Business Chinese

Minor Required Courses		12 Credits
CN 1400	Introduction to Chinese	3 (3-0-6)
CN 1401	Chinese I	3 (3-0-6)
CN 2401	Chinese II	3 (3-0-6)
CN 2402	Chinese III	3 (3-0-6)

Minor Elective Courses **3 Credits**

Students can choose any course from the Department of Business Chinese upon completion of the prerequisites (if any).

Business English

Minor Required Courses		12 Credits
EN 2230	Listening and Speaking	3 (3-0-6)
EN 3214	Fundamental Writing Development	3 (3-0-6)
EN 3213	Business Communication in English	3 (3-0-6)
EN 4232	Business Conversation	3 (3-0-6)

Minor Elective Courses **3 Credits**

Students can choose any course from the Department of Business English upon completion of the prerequisites (if any).

Business Japanese

Minor Required Courses		12 Credits
JA 1700	Introduction to Japanese	3 (3-0-6)
JA 1701	Japanese I	3 (3-0-6)
JA 2701	Japanese II	3 (3-0-6)
JA 2702	Japanese III	3 (3-0-6)

Minor Elective Courses **3 Credits**

Students can choose any course from the Department of Business Japanese upon completion of the prerequisites (if any).

Music Entrepreneurship

Minor Required Courses		15 Credits
MB 2433	Computer Application for Musicians	3 (1-4-4)
MB 2531	Music Business	3 (3-0-6)
MB 2532	Music Industry	3 (3-0-6)
MS 1301	Musical Skills I	2 (3-2-1)
MS 1302	Musical Skills II	2 (3-2-1)
MS 2301	Musical Skills III	2 (3-2-1)

C. Free Elective Courses 6 Credits

Students can choose free elective courses of 6 credits from any faculty in Assumption University upon completion of the prerequisites (if any).

STUDY PLAN

FIRST YEAR
First Semester

Code	Subjects	Credits
BBA 1001	Business Exploration	3 (3-0-6)
BG 1001	English I	3 (2-3-6)
FR 1510	French I	4 (3-2-6)
GE 1104	Thai Historical Perspectives	3 (3-0-6)
GE 1201	Information Literacy Skills	1 (1-0-2)
or		
GE 1204	Physical Education	
GE 1403	Communication in Thai	3 (3-0-6)
or		
GE 1405	Thai Language and Culture (for foreign students)	
	Total	**17 (15-5-32)**

Second Semester

BBA 1102	Data and Information Literacy	3 (2-2-5)
BG 1002	English II	3 (2-3-6)
FR 1511	French II	4 (3-2-6)
GE 1302	Ecology and Sustainability	3 (3-0-6)
GL 1101	Elements of Spoken Language	3 (3-0-6)
MA 1000	Business Mathematics and Statistics	3 (3-0-6)
	Total	**19 (16-7-35)**

SECOND YEAR
First Semester

BBA 1104	Fundamentals of Marketing	3 (3-0-6)
BBA 2001	Human Behavior	3 (3-0-6)
BG 2000	English III	3 (2-3-6)
FR 2512	French III	4 (3-2-6)
GE 2202	Ethics	3 (3-0-6)
GE 2102	Human Heritage and Globalization	3 (3-0-6)
	Total	**19 (17-5-36)**

Second Semester

BBA 1003	Introduction to Microeconomics and Personal Finance	3 (3-0-6)
BG 2001	English IV	3 (2-3-6)
FR 2514	French Pronunciation	3 (3-0-6)
FR 2513	French IV	4 (3-2-6)
GE 2103	Art of Reasoning	3 (3-0-6)
BBA 2102	Organization and Management	3 (3-0-6)
	Total	**19 (17-5-36)**

THIRD YEAR
First Semester

FR 3501	Business French I	3 (3-0-6)
FR 3514	Writing Workshop	2 (1-2-2)
FR 3530	Oral Comprehension and Expression	3 (3-0-6)
GL 2101	Introduction to Language	3 (3-0-6)
	One Minor Course	3 (3-0-6)
	One Major Elective Course	3 (3-0-6)
	Total	**17 (16-2-32)**

Second Semester

FR 3512	Business Communication in French	3 (3-0-6)
FR 3570	Translation: French-Thai (for Thai students)	3 (3-0-6)
or		
FR 3532	French Conversation and Discussion (for foreign students)	
GL 3104	Language, Culture and Society	3 (3-0-6)
	One Major Elective Course	3 (3-0-6)
	One Minor Course	3 (3-0-6)
	One Social Science elective course	3 (3-0-6)
	Total	**18 (18-0-36)**

FOURTH YEAR
First Semester

BAC 1601	Fundamentals of Financial Accounting	3 (3-0-6)
FR 4502	Business French II	3 (3-0-6)
FR 4543	Reading French Media	3 (3-0-6)
FR 4573	Aspects of French-Speaking Countries	3 (3-0-6)
	One Minor Course	3 (3-0-6)
	One Free Elective Course	3 (3-0-6)
	Total	**18 (18-0-36)**

Second Semester

FR 4590	Seminar	3 (3-0-6)
	One Major Elective Course	3 (3-0-6)
	One Free Elective Course	3 (3-0-6)
	Two Minor Courses	6 (6-0-12)
	Total	**15 (15-0-30)**

BACHELOR OF ARTS

PROGRAM IN BUSINESS CHINESE

GRADUATION REQUIREMENTS

Assumption University confers the degree of Bachelor of Arts in Business Chinese upon students who meet all of the following requirements:

1. Have completed the total number of credits of the curriculum
2. Have obtained a cumulative grade point average of at least 2.00
3. Have participated in 16 sessions of the Professional Ethics Seminar
4. Have obtained library and financial clearance f om the University
5. Have demonstrated good behavior and discipline
6. English proficiency standa d for undergraduate level Prior to graduation, undergraduate students are obligated to meet the minimum English proficiency equirement specified i one of the following criteria:

Test Instruments	Required Passing Score
AU English Proficienc Assessment or	70%*
TOEFL (iBT) or	90
TOEFL (P) or	575
IELTS	6.5

**70% = Level B2 of Common European Framework of Reference for Language (CEFR)*

OBJECTIVES OF CURRICULUM

To produce graduates who have the characteristics, knowledge and skills as follows:

1. Have personal integrity, positive attitude and a sense of social and self responsibility.
2. Have Chinese and English proficiency necessary fo business executions.
3. Have analytical and critical skills, initiative and ability to apply knowledge to real practice.
4. Have ability to work and communicate with both Thai and international people with respect and courtesy
5. Have computer and information technology skills.

CURRICULUM STRUCTURE

Total number of credits	142 Credits
A. General Education Courses	**37 Credits**
Language Courses	15 Credits
Social Science Courses	13 Credits
Humanities Course	3 Credits
Science and Mathematics Courses	6 Credits
B. Specialized Courses	**99 Credits**
Core Courses	21 Credits
Major Required Courses	48 Credits
Major Elective Courses	15 Credits
Minor Courses	15 Credits
C. Free Elective Courses	**6 Credits**

COURSES

A. General Education Courses

Language Courses **15 Credits**

BG 1001	English I	3 (2-3-6)
BG 1002	English II	3 (2-3-6)
BG 2000	English III	3 (2-3-6)
BG 2001	English IV	3 (2-3-6)
GE 1403	Communication in Thai (for Thai students)	3 (3-0-6)
or		
GE 1405	Thai Language and Culture (for non-Thai students)	3 (3-0-6)

Social Science Courses **13 Credits**
Social Science Required Courses **7 Credits**

BBA 2001	Human Behavior	3 (3-0-6)
GE 1201	Information and Literacy Skills	1 (1-0-3)
or		
GE 1204	Physical Education	1 (1-0-2)
GE 2202	Ethics	3 (3-0-6)

Social Science Elective Courses **6 Credits**
Students are required to choose two of the following courses.

GE 1203	Society, Politics and Economics	3 (3-0-6)
GE 1205	ASEAN Ways	3 (3-0-6)
GE 1302	Ecology and Sustainability	3 (3-0-6)
GE 2102	Human Heritage and Globalization	3 (3-0-6)
GE 2203	Art of Living	3 (3-0-6)
GE 2206	Personality Development	3 (3-0-6)
GE 2303	Building Brilliant Brain	3 (3-0-6)
CSX 2001	Introduction to Information Technology	3 (3-0-6)
or		
ITX 3002	Introduction to Information Technology	3 (3-0-6)

Humanities Courses **3 Credits**

GE 1104	Thai Historical Perspectives	3 (3-0-6)

Science and Mathematics Courses		**6 Credits**
MA 1000	Business Mathematics and Statistics	3 (3-0-6)
GE 2301	Lifestyles in Dynamic World	3 (3-0-6)

B. Specialized Courses

Core Course		**21 Credits**
BAC 1601	Fundamentals of Financial Accounting	3 (3-0-6)
BBA 1001	Business Exploration	3 (3-0-6)
BBA 1003	Introduction to Microeconomics and Personal Finance	3 (3-0-6)
BBA 1102	Data and Information Literacy	3 (2-2-5)
BBA 1104	Fundamentals of Marketing	3 (3-0-6)
BBA 2102	Organization and Management	3 (3-0-6)
GL 1101	Elements of Spoken Language	3 (3-0-6)

Major Required Courses		**48 credits**
CN 1400	Introduction to Chinese	3 (3-0-6)
CN 1401	Chinese I	3 (3-0-6)
CN 1430	Listening and Speaking in Chinese I	1 (1-0-2)
CN 1431	Listening and Speaking in Chinese II	1 (1-0-2)
CN 2401	Chinese II	3 (3-0-6)
CN 2402	Chinese III	3 (3-0-6)
CN 2431	Chinese Oral Comprehension and Expression I	2 (2-0-4)
CN 2432	Chinese Oral Comprehension and Expression II	2 (2-0-4)
CN 3403	Chinese IV	3 (3-0-6)
CN 3436	Chinese Business Conversation I	3 (3-0-6)
CN 3437	Chinese Business Conversation II	3 (3-0-6)
CN 3450	Introduction to Chinese Writing	3 (3-0-6)
CN 3451	Communicative Writing in Chinese	3 (3-0-6)
CN 3463	Introduction to Chinese Culture	3 (3-0-6)
CN 3470	Translation I: Chinese-Thai	3 (3-0-6)
or		
CN 3441	Chinese Reading and Oral Report (Only for foreign students)	
CN 4442	Reading in Chinese Newspapers	3 (3-0-6)
CN 4452	Business Writing in Chinese	3 (3-0-6)
CN 4471	Translation II: Thai-Chinese	3 (3-0-6)
or		
CN 4440	Reading in Business Chinese (Only for foreign students)	

Major Elective Courses		**15 credits**
CN 3420	Integrated Chinese Skills	3 (3-0-6)
CN 3433	Chinese from Audio-Visual Media	3 (3-0-6)
CN 3441	Chinese Reading and Oral Report	3 (3-0-6)
CN 3481	Chinese for Tourism	3 (3-0-6)
CN 3485	Chinese for Hotel Services	3 (3-0-6)
CN 3483	Chinese for Service Industries	3 (3-0-6)
CN 3484	Chinese for Office Managemen	3 (3-0-6)
CN 4433	Public Speaking in Chinese	3 (3-0-6)
CN 4436	Advanced Business Conversation in Chinese	3 (3-0-6)
CN 4440	Reading in Business Chinese	3 (3-0-6)
CN 4460	Survey of Chinese Literature	3 (3-0-6)
CN 4491	Seminar on Selected Topics	3 (3-0-6)
CN 4493	Business Chinese Internship	3 (0-9-3)

Minor Courses **15 Credits**

Digital Business Management

Minor Required Courses		**15 Credits**
BDM 3201	Digital Business	3 (2-2-5)
BDM 3202	Digital Commerce	3 (2-2-5)
BDM 3203	Cybersecurity	3 (2-2-5)
BDM 3204	Enterprise Resource Planning	3 (2-2-5)
BDM 3205	Information Systems Strategy, Management, and Acquisition	3 (2-2-5)

Business Economics

Minor Required Courses		**15 Credits**
BEC 1401	Thinking as an Economist	3 (3-0-6)
BEC 2102	Economic Decision Making for Management	3 (3-0-6)
BEC 2303	Fundamentals of Econometrics	3 (3-0-6)
BEC 2304	Business and Economic Forecasting	3 (3-0-6)
BEC 3101	Firms, Competition and Market Structure	3 (3-0-6)

Entrepreneur and Innovation Management

Minor Required Courses		**15 Credits**
BEN 3001	Entrepreneur and Innovation	3 (3-0-6)
BEN 3201	Innovation and Design Thinking	3 (3-0-6)
BEN 3202	Entrepreneurial Commercialization	3 (3-0-6)
BEN 3303	Entrepreneurial Leadership	3 (3-0-6)
BEN 4315	Family Business Management	3 (3-0-6)

Finance

Minor Required Courses		15 Credits
BBA 2103	Corporate Finance	3 (3-0-6)
BFN 3211	Investment Strategy and Applied Valuation	3 (3-0-6)
BFN 3212	Financial Reporting and Analysis	3 (3-0-6)
BFN 3221	Business and Economic Analysis for Decision Making	3 (3-0-6)
BFN 3223	Advanced Financial Management	3 (3-0-6)

Hospitality and Tourism Management

Minor Required Courses		15 Credits
BHT 3201	Introduction to Hospitality and Tourism Management	3 (3-0-6)
BHT 3202	Consumer Behavior in Hospitality and Tourism	3 (3-0-6)
BHT 3203	Food and Beverage Management	3 (3-0-6)
BHT 3204	Personality and Communication in Hospitality and Tourism	3 (3-0-6)
BHT 3205	Marketing in Hospitality and Tourism	3 (3-0-6)

International Business Management

Minor Required Courses		15 Credits
BIB 3201	Cross Cultural Human Resource Management	3 (3-0-6)
BIB 3202	Export-Import Policy and Strategy	3 (3-0-6)
BIB 3203	Global Business in Practice	3 (3-0-6)
BIB 3204	International Management	3 (3-0-6)
BIB 4209	International Strategic Management	3 (3-0-6)

Insurance

Minor Required Courses		15 Credits
BIR 3211	Risk Management and Insurance	3 (3-0-6)
BIR 3221	Property Insurance	3 (3-0-6)
BIR 3222	Casualty Insurance	3 (3-0-6)
BIR 3223	Life Assurance	3 (3-0-6)
BIR 4311	Employee Benefits	3 (3-0-6)

Marketing

Minor Required Courses		15 Credits
BMK 3201	Consumer Behavior	3 (3-0-6)
BMK 3202	Digital Marketing	3 (3-0-6)
BMK 3203	Brand Driven Innovation	3 (3-0-6)
BMK 3204	Competitive Analysis and Strategy	3 (3-0-6)
BMK 4302	Contemporary Issues in Marketing	3 (3-0-6)

Real Estate

Minor Required Courses		15 Credits
BRE 3201	Real Estate Business	3 (3-0-6)
BRE 3202	Real Estate Law	3 (3-0-6)
BRE 3203	Real Estate Economics	3 (3-0-6)
BRE 3204	Building Design and Construction Techniques	3 (3-0-6)
BRE 3205	Real Estate Development	3 (3-0-6)

Supply Chain Management

Minor Required Courses		15 Credits
BSC 3201	Logistics and Supply Chain Management	3 (3-0-6)
BSC 3202	Supply Chain Innovation and Technology	3 (3-0-6)
BSC 3203	Lean Manufacturing and Agile Supply Chain	3 (3-0-6)
BSC 3204	International Transportation and Distribution Management	3 (3-0-6)
BSC 3205	Warehousing and Material Handling	3 (3-0-6)

Communication Arts

Minor Required Courses		15 Credits
ART 1208	Computer Graphic Foundation	3 (2-2-5)
ART 2311	Photography	3 (2-2-5)
CA 1021	Introduction to Advertising and Branding	3 (3-0-6)
CA 1023	Introduction to Live Event Creation and Management	3 (2-2-5)
CA 1024	Introduction to Digital Media Communication	3 (2-2-5)

12. Music Entrepreneurship

Minor Required Courses		**15 Credits**
MB 2433	Computer Application for Musicians	3 (1-4-4)
MB 2531	Music Business	3 (3-0-6)
MB 2532	Music Industry	3 (3-0-6)
MS 1301	Musical Skills I	2 (3-2-1)
MS 1302	Musical Skills II	2 (3-2-1)
MS 2301	Musical Skills III	2 (3-2-1)

13. Business English

Minor Required Courses		**12 Credits**
EN 2230	Listening and Speaking	3 (3-0-6)
EN 3214	Fundamental Writing Development	3 (3-0-6)
EN 3213	Business Communication in English	3 (3-0-6)
EN 4232	Business Conversation	3 (3-0-6)

Minor Elective Courses **3 Credits**

Students can take any course from the Department of Business English upon completion of the prerequisites (if any).

14. Business French

Minor Required Courses		**12 Credits**
FR 1510	French I	4 (3-2-6)
FR 1511	French II	4 (3-2-6)
FR 2512	French III	4 (3-2-6)

Minor Elective Courses		**3 Credits**
FR 3537	Communicative Skills in French	3 (3-0-6)
or		
FR 3539	French for Workplace Communication	3 (3-0-6)

15. Business Japanese

Minor Required Courses		**12 Credits**
JA 1700	Introduction to Japanese	3 (3-0-6)
JA 1701	Japanese I	3 (3-0-6)
JA 2701	Japanese II	3 (3-0-6)
JA 2702	Japanese III	3 (3-0-6)

Minor Elective Courses **3 Credits**

Students can take any course from the Department of Business Japanese upon completion of the prerequisites (if any).

C. Free Elective Courses 6 Credits

Students can take free elective courses of 6 credits from any faculty in Assumption University upon completion of the prerequisites (if any).

Free elective courses of the Department which are offered to non Business Chinese Major:

CN 0400	Chinese for Beginners I	3 (3-0-6)
CN 0401	Chinese for Beginners II	3 (3-0-6)

STUDY PLAN

FIRST YEAR
First Semester

Code	Subjects	Credits
BG 1001	English I	3 (2-3-6)
GE 1104	Thai Historical Perspectives	3 (3-0-6)
GE 1201	Information and Literacy Skills	1 (1-0-3)
or		
GE 1204	Physical Education	1 (1-0-2)
GE 2301	Lifestyles in Dynamic World	3 (3-0-6)
GE 1403	Communication in Thai	3 (3-0-6)
or		
GE 1405	Thai Language and Culture (Only for foreign students)	3 (3-0-6)
CN 1400	Introduction to Chinese	3 (3-0-6)
CN 1430	Listening and Speaking in Chinese I	1 (1-0-2)
	Total	**17 (16-3-35)**

Second Semester

BG 1002	English II	3 (2-3-6)
BBA 2001	Human Behavior	3 (3-0-6)
GL 1101	Elements of Spoken Language	3 (3-0-6)
MA 1000	Business Mathematics and Statistics	3 (3-0-6)
BBA 1001	Business Exploration	3 (3-0-6)
CN 1401	Chinese I	3 (3-0-6)
CN 1431	Listening and Speaking in Chinese II	1 (1-0-2)
	Total	**19 (18-3-38)**

SECOND YEAR
First Semester

BG 2000	English III	3 (2-3-6)
BBA 1104	Fundamentals of Marketing	3 (3-0-6)
CN 2401	Chinese II	3 (3-0-6)
CN 2431	Chinese Oral Comprehension and Expression I	2 (2-0-4)
	Two Social Science Elective Courses	6 (6-0-12)
	Total	**17 (16-3-34)**

Second Semester

BG 2001	English IV	3 (2-3-6)
BAC 1601	Fundamentals of Financial Accounting	3 (3-0-6)
BBA 2102	Organization and Management	3 (3-0-6)
GE 2202	Ethics	3 (3-0-6)
CN 2402	Chinese III	3 (3-0-6)
CN 2432	Chinese Oral Comprehension and Expression II	2 (2-0-4)
	Total	**17 (16-3-34)**

THIRD YEAR
First Semester

BBA 1003	Introduction to Microeconomics and Personal Finance	3 (3-0-6)
CN 3403	Chinese IV	3 (3-0-6)
CN 3436	Chinese Business Conversation	3 (3-0-6)
CN 3450	Introduction to Chinese Writing	3 (3-0-6)
CN 3470	Translation I: Chinese-Thai	3 (3-0-6)
or		
CN 3441	Chinese Reading and Oral Report (only for foreign students)	3 (3-0-6)
	One Minor Course	3 (3-0-6)
	Total	**18 (18-0-36)**

Second Semester

CN 3437	Chinese Business Conversation II	3 (3-0-6)
CN 3451	Communicative Writing in Chinese	3 (3-0-6)
CN 3463	Introduction to Chinese Culture	3 (3-0-6)
	Two Major Elective Courses	6 (6-0-12)
	One Minor Course	3 (3-0-6)
	Total	**18 (18-0-36)**

FOURTH YEAR
First Semester

CN 4452	Business Writing in Chinese	3 (3-0-6)
CN 4471	Translation II: Thai-Chinese	3 (3-0-6)
or		
CN 4440	Reading in Business Chinese (only for foreign students)	3 (3-0-6)
	Two Major Elective Courses	6 (6-0-12)
	One Minor Course	3 (3-0-6)
	One Free Elective Courses	3 (3-0-6)
	Total	**18 (18-0-36)**

Second Semester

BBA 1102	Data and Information Literacy	3 (2-2-5)
CN 4442	Reading in Chinese Newspapers	3 (3-0-6)
	One Major Elective Courses	3 (3-0-6)
	Two Minor Courses	6 (6-0-12)
	One Free Elective Courses	3 (3-0-6)
	Total	**18 (17-2-35)**

BACHELOR OF ARTS

PROGRAM IN BUSINESS JAPANESE

GRADUATION REQUIREMENTS

Assumption University confers the degree of Bachelor of Arts in Business Japanese upon students who meet all of the following requirements:

- Have completed the total number of credits of the curriculum
- Have obtained a cumulative grade point average of at least 2.00
- Have participated in 16 sessions of the Professional Ethics Seminar
- Have obtained library and financial clearance f om the University
- Have demonstrated good behavior and discipline
- English proficiency standa d for undergraduate level Prior to graduation, undergraduate students are obligated to meet the minimum English proficienc requirement specified in one of the following criteria

Test Instruments	Required Passing Score
AU English Proficienc Assessment or	70%*
TOEFL (iBT) or	90
TOEFL (P) or	575
IELTS	6.5

**70% = Level B2 of Common European Framework of Reference for Language (CEFR)*

OBJECTIVES OF CURRICULUM

To produce graduates who have the characteristics, knowledge and skills as follows:

1. Have a sense of social and self responsibility and become an ethical citizen of the society.
2. Have up-to-date and business language skills both in Japanese and in English for listening, speaking, reading and writing through technologies.
3. Demonstrate skills and expertise in applying knowledge to real life context and solving problems creatively and efficiently
4. Able to work and communicate effectively with both Thai and international people with respect and courtesy.
5. Able to use information technology and other technologies in communicating and presenting information.

CURRICULUM STRUCTURE

Total number of credits	142 Credits
A. General Education Courses	**40 Credits**
Language Courses	15 Credits
Social Science Courses	13 Credits
Humanities Courses	6 Credits
Science and Mathematics Courses	6 Credits
B. Specialized Courses	**93 Credits**
Core Courses	24 Credits
Major Required Courses	39 Credits
Major Elective Courses	15 Credits
Minor Courses	15 Credits
C. Free Elective Courses	**9 Credits**

COURSES

A. General Education Courses

Language Courses **15 Credits**

BG 1001	English I	3 (2-3-6)
BG 1002	English II	3 (2-3-6)
BG 2000	English III	3 (2-3-6)
BG 2001	English IV	3 (2-3-6)
GE 1403	Communication in Thai (for Thai students)	3 (3-0-6)
or		
GE 1405	Thai Language and Culture (for non-Thai students)	
or		
GE 1408	Thai Usage (for international students)	

Social Science Courses **7 Credits**

BBA 1003	Introduction to Microeconomics and Personal Finance	3 (3-0-6)
GE 1204	Physical Education	1 (1-0-2)
GE 2202	Ethics	3 (3-0-6)

Social Science Elective Courses **6 Credits**

Students are required to choose two of the following courses.

GE 1203	Society, Politics and Economic	3 (3-0-6)
GE 1205	ASEAN Ways	3 (3-0-6)
GE 2203	Art of Living	3 (3-0-6)
GE 2206	Personality Development	3 (3-0-6)
GE 2301	Lifestyles in Dynamic World	3 (3-0-6)
GE 2303	Building Brilliant Brain	3 (3-0-6)
CSX 2001	Introduction to Information Technology	3 (3-0-6)
or		
ITX 3002	Introduction to Information Technology	3 (3-0-6)

Humanities Courses **6 Credits**

GE 1104	Thai Historical Perspectives	3 (3-0-6)
GE 2102	Human Heritage and Globalization	3 (3-0-6)

Science and Mathematics Courses **6 Credits**

MA 1000	Business Mathematics and Statistics	3 (3-0-6)
GE 1302	Ecology and Sustainability	3 (3-0-6)

B. Specialized Courses

Core Courses **24 Credits**

BAC 1601	Fundamentals of Financial Accounting	3 (3-0-6)
BBA 1001	Business Exploration	3 (3-0-6)
BBA 1102	Data and Information Literacy	3 (2-2-5)
BBA 1104	Fundamentals of Marketing	3 (3-0-6)
BBA 2001	Human Behavior	3 (3-0-6)
BBA 2102	Organization and Management	3 (3-0-6)
GL 1101	Elements of Spoken Language	3 (3-0-6)
GL 3102	Introduction to Linguistics	3 (3-0-6)

Major Required Courses **39 credits**

JA 1700	Introduction to Japanese	3 (3-0-6)
JA 1701	Japanese I	3 (3-0-6)
JA 2701	Japanese II	3 (3-0-6)
JA 2702	Japanese III	3 (3-0-6)
JA 2703	Basic Reading and Writing in Japanese I	3 (3-0-6)
JA 2704	Basic Reading and Writing in Japanese II	3 (3-0-6)
JA 3701	Intermediate Japanese Grammar	3 (3-0-6)
JA 3702	Business Japanese I	3 (3-0-6)
JA 3704	Oral Comprehension and Expression	3 (3-0-6)
JA 3724	Aspects of Japan	3 (3-0-6)
JA 4701	Reading in Business Japanese I	3 (3-0-6)
JA 4702	Business Writing in Japanese I	3 (3-0-6)
JA 4725	Translation in Business Japanese	3 (3-0-6)

Major Elective Courses **15 credits**

JA 3705	Japanese for Office Management	3 (3-0-6)
JA 3721	Introduction to Japanese Linguistics	3 (3-0-6)
JA 3722	Japanese Reading and Oral Report	3 (3-0-6)
JA 3723	Introduction to Japanese Phonetics	3 (3-0-6)
JA 3726	Japanese for Tourism	3 (3-0-6)
JA 3727	Japanese for Hotels	3 (3-0-6)
JA 3728	Japanese for Airline Services	3 (3-0-6)
JA 3729	Survey of Japanese Literature	3 (3-0-6)
JA 4703	Translation I: Japanese-Thai	3 (3-0-6)
JA 4704	Translation II: Thai-Japanese	3 (3-0-6)
JA 4721	Japanese Conversation and Discussion	3 (3-0-6)
JA 4722	Reading in Business Japanese II	3 (3-0-6)
JA 4723	Business Writing in Japanese II	3 (3-0-6)
JA 4724	Business Japanese II	3 (3-0-6)
JA 4726	Public Speaking in Japanese	3 (3-0-6)
JA 4727	Seminar	3 (3-0-6)
JA 4729	Cooperative Education	6 (320 hours)

Minor Courses **15 Credits**

(1) Business English

Minor Required Courses **12 Credits**

EN 2230	Listening and Speaking	3 (3-0-6)
EN 3214	Fundamental Writing Development	3 (3-0-6)
EN 3213	Business Communication in English	3 (3-0-6)
EN 4232	Business Conversation	3 (3-0-6)

Minor Elective Courses **3 Credits**

Students can take any courses from the Department of Business English upon completion of the prerequisites (if any).

(2) Business French

Minor Required Courses **15 Credits**

FR 1510	French I	4 (3-2-6)
FR 1511	French II	4 (3-2-6)
FR 2512	French III	4 (3-2-6)
FR 3537	Communicative Skills in French	3 (3-0-6)
or		
FR 3539	French for workplace communication	3 (3-0-6)

(3) Business Chinese

Minor Required Courses **12 Credits**

CN 1400	Introduction to Chinese	3 (3-0-6)
CN 1401	Chinese I	3 (3-0-6)
CN 2401	Chinese II	3 (3-0-6)
CN 2402	Chinese III	3 (3-0-6)

Minor Elective Courses **3 Credits**

Students can take any courses from the Department of Business Chinese upon completion of the prerequisites (if any).

(4) Thai

Minor Required Courses **15 Credits**

TH 1501	Introduction to Thai	3 (3-0-6)
TH 1502	Thai Language I	3 (3-0-6)
TH 2501	Thai Language II	3 (3-0-6)
TH 2502	Thai Language III	3 (3-0-6)
TH 3501	Advanced Reading	3 (3-0-6)
or		
TH 3502	Advanced Thai Writing	3 (3-0-6)

(5) Business Economics

Minor Required Courses		15 Credits
BEC 1401	Thinking as an Economist	3 (3-0-6)
BEC 2102	Economics Decision Making for Management	3 (3-0-6)
BEC 2303	Fundamental of Econometrics	3 (3-0-6)
BEC 2304	Business and Economic Forecasting	3 (3-0-6)
BEC 3101	Firms, Competition and Market Structure	3 (3-0-6)

(6) Entrepreneur and Innovation Management

Minor Required Courses		15 Credits
BEN 3001	Entrepreneur and Innovation	3 (3-0-6)
BEN 3201	Innovation and Design Thinking	3 (3-0-6)
BEN 3202	Entrepreneurial Commercialization	3 (3-0-6)
BEN 3303	Entrepreneurial Leadership	3 (3-0-6)
BEN 4315	Family Business Management	3 (3-0-6)

(7) Finance

Minor Required Courses		15 Credits
BBA 2103	Corporate Finance	3 (3-0-6)
BFN 3211	Investment Strategy and Applied Valuation	3 (3-0-6)
BFN 3212	Financial Reporting and Analysis	3 (3-0-6)
BFN 3221	Business and Economic Analysis for Decision Making	3 (3-0-6)
BFN 3223	Advanced Financial Management	3 (3-0-6)

(8) Hospitality and Tourism Management

Minor Required Courses		15 Credits
BHT 3201	Introduction to Hospitality and Tourism Management	3 (3-0-6)
BHT 3202	Consumer Behavior in Hospitality and Tourism	3 (3-0-6)
BHT 3203	Food and Beverage Management	3 (3-0-6)
BHT 3204	Personality and Communication in Hospitality and Tourism	3 (3-0-6)
BHT 3205	Marketing in Hospitality and Tourism	3 (3-0-6)

(9) International Business Management

Minor Required Courses		15 Credits
BIB 3201	Cross Cultural Human Resource Management	3 (3-0-6)
BIB 3202	Export-Import Policy and Strategy	3 (3-0-6)
BIB 3203	Global Business in Practice	3 (3-0-6)
BIB 3204	International Management	3 (3-0-6)
BIB 4209	International Strategic Management	3 (3-0-6)

(10) Insurance

Minor Required Courses		15 Credits
BIR 3211	Risk Management and Insurance	3 (3-0-6)
BIR 3221	Property Insurance	3 (3-0-6)
BIR 3222	Casualty Insurance	3 (3-0-6)
BIR 3223	Life Assurance	3 (3-0-6)
BIR 4311	Employee Benefits	3 (3-0-6)

(11) Marketing

Minor Required Courses		15 Credits
BMK 3201	Consumer Behavior	3 (3-0-6)
BMK 3202	Digital Marketing	3 (3-0-6)
BMK 3203	Brand Driven Innovation	3 (3-0-6)
BMK 3204	Competitive Analysis and Strategy	3 (3-0-6)
BMK 4302	Contemporary Issues in Marketing	3 (3-0-6)

(12) Digital Business Management

Minor Required Courses		15 Credits
BDM 3201	Digital Business	3 (2-2-5)
BDM 3202	Digital Commerce	3 (2-2-5)
BDM 3203	Cybersecurity	3 (2-2-5)
BDM 3204	Enterprise Resource Planning	3 (2-2-5)
BDM 3205	Information Systems Strategy, Management, and Acquisition	3 (3-0-6)

(13) Real Estate

Minor Required Courses		15 Credits
BRE 3201	Real Estate Business	3 (3-0-6)
BRE 3202	Real Estate Law	3 (3-0-6)
BRE 3203	Real Estate Economics	3 (3-0-6)
BRE 3204	Building Design and Construction Techniques	3 (3-0-6)
BRE 3205	Real Estate Development	3 (3-0-6)

(14) Supply Chain Management

Minor Required Courses		15 Credits
BSC 3201	Logistics and Supply Chain Management	3 (3-0-6)
BSC 3202	Supply Chain Innovation and Technology	3 (3-0-6)
BSC 3203	Lean Manufacturing and Agile Supply Chain	3 (3-0-6)
BSC 3204	International Transportation and Distribution Management	3 (3-0-6)
BSC 3205	Warehousing and Material Handling	3 (3-0-6)

(15) Communication Arts

Minor Required Courses		15 Credits
CA 1021	Introduction to Advertising and Branding	3 (3-0-6)
CA 1023	Introduction to Live Event Creation and Management	3 (2-2-5)
CA 1024	Introduction to Digital Media Communication	3 (2-2-5)
ART 1208	Computer Graphic Foundation	3 (2-2-5)
ART 2311	Photography	3 (2-2-5)

(16) Music Entrepreneurship

Minor Required Courses		15 Credits
MB 2433	Computer Application for Musicians	3 (1-4-4)
MB 2531	Music Business	3 (3-0-6)
MB 2532	Music Industry	3 (3-0-6)
MS 1301	Musical Skills I	2 (3-2-1)
MS 1302	Musical Skills II	2 (3-2-1)
MS 2301	Musical Skills III	2 (3-2-1)

C. Free Elective Courses — 9 Credits

Students can take free elective courses of 9 credits from any faculty in Assumption University upon completion of the prerequisites (if any).

(1) Business Japanese

JA 0721	Japanese for Beginners I	3 (3-0-6)
JA 0722	Japanese for Beginners II	3 (3-0-6)
JA 0723	Reading and Writing Japanese Scripts	3 (3-0-6)

STUDY PLAN

FIRST YEAR

First Semester

Code	Subjects	Credits
BG 1001	English I	3 (2-3-6)
MA 1000	Business Mathematics and Statistics	3 (3-0-6)
GE 1104	Thai Historical Perspectives	3 (3-0-6)
GE 1204	Physical Education	1 (1-0-2)
BBA 1102	Data and Information Literacy	3 (3-0-6)
GE 1403	Communication in Thai	3 (3-0-6)
or		
GE 1405	Thai Language and Culture (for non-Thai students)	
or		
GE 1408	Thai Usage (for international students)	
JA 1700	Introduction to Japanese	3 (3-0-6)
	Total	**19 (18-3-38)**

Second Semester

BG 1002	English II	3 (2-3-6)
BBA 1001	Business Exploration	3 (3-0-6)
JA 1701	Japanese I	3 (3-0-6)
GE 1302	Ecology and Sustainability	3 (3-0-6)
GL 1101	Elements of Spoken Language	3 (3-0-6)
	One Social Science Elective Course	3 (3-0-6)
	Total	**18 (17-3-36)**

SECOND YEAR

First Semester

BG 2000	English III	3 (2-3-6)
BBA 1104	Fundamentals of Marketing	3 (3-0-6)
JA 2701	Japanese II	3 (3-0-6)
JA 2703	Basic Reading and Writing I	3 (3-0-6)
GE 2102	Human Heritage and Globalization	3 (3-0-6)
	One Social Science Elective Course	3 (3-0-6)
	Total	**18 (17-3-36)**

Second Semester

BG 2001	English IV	3 (2-3-6)
BAC1601	Fundamentals of Financial Accounting	3 (3-0-6)
BBA 2001	Human Behavior	3 (3-0-6)
GL 3102	Introduction to Linguistics	3 (3-0-6)
JA 2702	Japanese III	3 (3-0-6)
JA 2704	Basic Reading and Writing II	3 (3-0-6)
	Total	**18 (17-3-36)**

THIRD YEAR

First Semester

BBA 1003	Introduction to Microeconomics and Personal Finance	3 (3-0-6)
GE 2202	Ethics	3 (3-0-6)
JA 3702	Business Japanese I	3 (3-0-6)
JA 3704	Oral Comprehension and Expression	3 (3-0-6)
JA 3724	Aspects of Japan	3 (3-0-6)
	One Minor Course	3 (3-0-6)
	Total	**18 (18-0-36)**

Second Semester

JA 3701	Intermediate Japanese Grammar	3 (3-0-6)
JA 4701	Reading in Business Japanese I	3 (3-0-6)
BBA 2102	Organization and Management	3 (3-0-6)
	Two Major Elective Courses	6 (6-0-12)
	One Minor Course	3 (3-0-6)
	Total	**18 (18-0-36)**

FOURTH YEAR

First Semester

JA 4702	Business Writing in Japanese I	3 (3-0-6)
JA 4725	Translation in Business Japanese	3 (3-0-6)
	One Major Elective Course	3 (3-0-6)
	Two Minor Courses	6 (6-0-12)
	One Free Elective Course	3 (3-0-6)
	Total	**18 (18-0-36)**

Second Semester

	Two Major Elective Courses	6 (6-0-12)
	One Minor Course	3 (3-0-6)
	Two Free Elective Courses	6 (6-0-12)
	Total	**15 (15-0-30)**

STUDY PLAN

For student who will take JA4729 Cooperative Education in the second semester of Fourth year

FIRST YEAR

First Semester

Code	Subjects	Credits
BG 1001	English I	3 (2-3-6)
MA 1000	Business Mathematics and Statistics	3 (3-0-6)
GE 1104	Thai Historical Perspectives	3 (3-0-6)
GE 1204	Physical Education	1 (1-0-2)
BBA 1102	Data and Information Literacy	3 (3-0-6)
GE 1403	Communication in Thai	3 (3-0-6)
or		
GE 1405	Thai Language and Culture (for non-Thai students)	
or		
GE 1408	Thai Usage (for international students)	
JA 1700	Introduction to Japanese	3 (3-0-6)
	Total	**19 (18-3-38)**

Second Semester

BG 1002	English II	3 (2-3-6)
BBA 1001	Business Exploration	3 (3-0-6)
JA 1701	Japanese I	3 (3-0-6)
GE 1302	Ecology and Sustainability	3 (3-0-6)
GL 1101	Elements of Spoken Language	3 (3-0-6)
	One Social Science Elective Course	3 (3-0-6)
	Total	**18 (17-3-36)**

SECOND YEAR

First Semester

BG 2000	English III	3 (2-3-6)
BBA 1104	Fundamentals of Marketing	3 (3-0-6)
JA 2701	Japanese II	3 (3-0-6)
JA 2703	Basic Reading and Writing I	3 (3-0-6)
GE 2102	Human Heritage and Globalization	3 (3-0-6)
	One Social Science Elective Course	3 (3-0-6)
	Total	**18 (17-3-36)**

Second Semester

BG 2001	English IV	3 (2-3-6)
BAC1601	Fundamentals of Financial Accounting	3 (3-0-6)
BBA 2001	Human Behavior	3 (3-0-6)
GL 3102	Introduction to Linguistics	3 (3-0-6)
JA 2702	Japanese III	3 (3-0-6)
JA 2704	Basic Reading and Writing II	3 (3-0-6)
	Total	**18 (17-3-36)**

THIRD YEAR

First Semester

BBA 1003	Introduction to Microeconomics and Personal Finance	3 (3-0-6)
GE 2202	Ethics	3 (3-0-6)
JA 3702	Business Japanese I	3 (3-0-6)
JA 3704	Oral Comprehension and Expression	3 (3-0-6)
JA 3724	Aspects of Japan	3 (3-0-6)
	Two Minor Course	6 (6-0-12)
	Total	**21 (21-0-42)**

Second Semester

JA 3701	Intermediate Japanese Grammar	3 (3-0-6)
JA 4701	Reading in Business Japanese I	3 (3-0-6)
BBA 2102	Organization and Management	3 (3-0-6)
	Two Major Elective Courses	6 (6-0-12)
	One Minor Course	3 (3-0-6)
	One Free Elective Course	3 (3-0-6)
	Total	**21 (21-0-42)**

FOURTH YEAR

First Semester

JA 4702	Business Writing in Japanese I	3 (3-0-6)
JA 4725	Translation in Business Japanese	3 (3-0-6)
	One Major Elective Course	3 (3-0-6)
	Two Minor Courses	6 (6-0-12)
	One Free Elective Course	6 (6-0-12)
	Total	**21 (21-0-42)**

Second Semester

JA 4729	Cooperative Education	6 (320 hrs.)
	Total	**6 (320 hrs.)**

LOUIS NOBIRON SCHOOL OF MUSIC

BACHELOR OF ARTS

PROGRAM IN MUSIC ENTREPRENEURSHIP

GRADUATION REQUIREMENTS

Assumption University confers the degree of Bachelor of Arts in Music Entrepreneurship upon students who meet all of the following requirements:

- Have completed the total number of 132 credits required for the curriculum with accumulative grade point average (GPA) of at least 2.00
- Have passed at least 70% of AU English Proficienc Assessment, or score 90 on TOEFL (iBT), or score 575 on TOEFL (P), or score 6.5 on IELTS
- Have completed MB 4000 Internship in Music Entrepreneurship with at least 240 hrs.
- Have completed MB 4538 Concert Management with S (Satisfactory)
- Have participated in music events stipulated in MU 7001-8 Concert and Seminar Attendance I-VIII
- Have participated in 16 sessions of the BG 14031-BG 14038 Professional Ethics Seminar
- Have obtained library and financial clearance f om the University.
- Have demonstrated good behavior and discipline.

OBJECTIVES

To produce graduates who have the characteristics, knowledge and skills as follows:

1. Have knowledge in business, entrepreneurial spirit and skills in performance, composition, arrangement and music technology with individual creativity essential for music entrepreneurial careers as performers, writers, producers, or teachers.
2. Understand the code of ethics in the music industry and entrepreneurial spirit.
3. Have awareness of the impact of music on society and community well-being.
4. Have social understanding and appreciation of the value of musical service to community and culture, as well as the necessity of continuous improvement in their careers.
5. Integrate their professional growth and intellectual development with their interpersonal skills.
6. Able to interact with people in the music business and with the audience during music performance.
7. Able to use information technology and other technologies in communicating and presenting information.

CURRICULUM STRUCTURE

Total number of credits	132 Credits
A. General Education Courses	**30 Credits**
Language Courses	12 Credits
Social Science Courses	6 Credits
Humanities Course	3 Credits
Science and Mathematics Courses	6 Credits
General Education Elective Course	3 Credits
B. Specialized Courses	**93 Credits**
Core Courses	33 Credits
Major Required Courses	30 Credits
Concentration Courses	18 Credits
Major Elective Courses	12 Credits
C. Free Elective Courses	**9 Credits**

COURSES

A. General Education Courses

Language Courses		**15 Credits**
BG 1001	English I	3 (2-3-6)
BG 1002	English II	3 (2-3-6)
BG 2000	English III	3 (2-3-6)
BG 2001	English IV	3 (2-3-6)
Social Science Courses		**6 Credits**
BBA 1003	Introduction to Microeconomics and Personal Finance	3 (3-0-6)
GE 2202	Ethics	3 (3-0-6)
Humanities Course		**3 Credits**
MU 1231	History and Literature of Music	3 (3-0-6)
Science and Mathematics Courses		**6 Credits**
MA 1000	Business Mathematics and Statistics	3 (3-0-6)
MB 1500	Introduction to Data Science	3 (3-0-6)

General Education Elective Courses **3 Credits**

Students are required to choose any one of the following courses.

ECO 2200	Introduction to Economics	3 (3-0-6)
GE 1102	Introduction to Philosophy	3 (3-0-6)
GE 1203	Society, Politics and Economics	3 (3-0-6)
GE 1205	ASEAN Ways	3 (3-0-6)
GE 1206	Philosophy of Sufficiency Econom	3 (3-0-6)
GE 1207	Fundamental Psychology	3 (3-0-6)
GE 1301	Environmental Science	3 (3-0-6)
GE 1302	Ecology and Sustainability	3 (3-0-6)
GE 1403	Communication in Thai (Thai Students)	3 (3-0-6)
GE 1405	Thai Language and Culture (Foreign Students)	3 (3-0-6)
GE 1406	Burmese Language	3 (3-0-6)
GE 1407	Russian Language	3 (3-0-6)
GE 1408	Thai Usage (Students from International College)	3 (3-0-6)
GE 2102	Human Heritage and Globalization	3 (3-0-6)
GE 2103	Art of Reasoning	3 (3-0-6)
GE 2104	Thai Buddhism	3 (3-0-6)
GE 2105	Introduction to World Religion	3 (3-0-6)
GE 2106	Logical Thinking and Application	3 (3-0-6)
GE 2107	Applied Philosophy in Social Sciences and Humanities	3 (3-0-6)
GE 2203	Art of Living	3 (3-0-6)
GE 2205	Communication and Multicultural society	3 (3-0-6)
GE 2206	Personality Development	3 (3-0-6)
GE 2207	Sport, Health and Wellness Development	3 (3-0-6)
GE 2208	Thai Politics and Government	3 (3-0-6)
GE 2301	Lifestyles in Dynamic World	3 (3-0-6)
GE 2302	Climate Change and Human Life	3 (3-0-6)
GE 2303	Building Brilliant Brain	3 (3-0-6)
GE 3401	Public Speaking in Thai	3 (3-0-6)
MA 1200	Mathematics for Business	3 (3-0-6)
MGT 2404	Managerial Psychology	3 (3-0-6)

B. Specialized Courses

Core Courses **33 Credits**

BAC 1601	Fundamentals of Financial Accounting	3 (3-0-6)
BBA 1001	Business Exploration	3 (3-0-6)
BBA 1104	Fundamentals of Marketing	3 (3-0-6)
MB 2500	Business Intelligence and Data Analytics	3 (3-0-6)
MB 2531	Music Business	3 (3-0-6)
MB 3512	Legal Aspects of Music Business	3 (3-0-6)
MB 3539	Methodology and Research Writing	3 (3-0-6)
MP 2400	Audio Fundamentals	3 (3-0-6)
MU 0201	Music Ensemble I	1 (0-2-1)
MU 1301	Music Fundamentals I	3 (3-0-6)
MU 1302	Music Fundamentals II	3 (3-0-6)
MU 1501	Chorus I	1 (0-2-1)
MU 1502	Chorus II	1 (0-2-1)
MU 7001-8	Concert and Seminar Attendance I-VIII	Non-credit

Major Required Courses **30 credits**

MB 3540	Digital Music Marketing	3 (3-0-6)
MB 3550	Feasibility Study for Music Entrepreneur	3 (3-0-6)
MB 4000	Internship in Music Entrepreneurship	0 (240 hrs.)
MB 4500	Music Entrepreneurship Seminar	2 (2-0-4)
MB 4538	Concert Management	Non-credit
MP 2410	Music Computer Application	3 (1-4-4)
MP 2510	Visual Media for Musician	2 (1-2-3)
MP 2511	Digital Photography for Musician	1 (0-2-1)
MP 3411	Song Demo Production	3 (1-4-4)
MP 3510	Computer Graphic for Musician	3 (1-4-4)
MS 1001	Major Instrument I	2 (1-2-3)
MS 1002	Major Instrument II	2 (1-2-3)
MS 1003	Major Instrument III	2 (1-2-3)
MS 1004	Major Instrument IV	2 (1-2-3)
MS 4001	Senior Project I	0 (0-9-0)
MS 4002	Senior Project II	0 (0-9-0)
MU 2131	Basic Songwriting	2 (2-0-4)

Concentration Courses **18 Credits**

1. Music Production

MP 3430	Computer Music and Digital Audio	3 (3-0-6)
MP 3431	Music Production Analysis	3 (2-3-4)
MP 4432	Audio Recording	3 (2-3-4)
MP 4433	Mixing and Mastering	3 (2-3-4)
MU 4130	Music for Visual Media	3 (2-2-5)
MU 4131	Commercial Music Arranging	3 (2-2-5)

2. Songwriting

MP 3430	Computer Music and Digital Audio	3 (3-0-6)
MP 4432	Audio Recording	3 (2-3-4)
MS 3001	Songwriting I	2 (1-2-3)
MS 3002	Songwriting II	2 (1-2-3)
MS 3003	Songwriting III	2 (1-2-3)
MU 4130	Music for Visual Media	3 (2-2-5)
MU 4131	Commercial Music Arranging	3 (2-2-5)

3. Music Performance

MP 4432	Audio Recording	3 (2-3-4)
MS 1005	Major Instrument V	2 (1-2-3)
MS 1006	Major Instrument VI	2 (1-2-3)
MS 1007	Major Instrument VII	2 (1-2-3)
MS 1008	Major Instrument VIII	2 (1-2-3)
MU 0202	Music Ensemble II	1(0-2-1)
MU 0203	Music Ensemble III	1(0-2-1)
MU 0204	Music Ensemble IV	1(0-2-1)
MU 0205	Music Ensemble V	1(0-2-1)
MU 2700	Introduction to Music Education	3(3-0-6)

4. Music Business and Data Analytics

MB 3541	Online Social Media for Music Business	3 (3-0-6)
MB 3551	Creative Music Entrepreneurship	3 (3-0-6)
MB 3561	Artist and Music Management	3 (3-0-6)
MB 4560	Machine Learning and Data Mining	3 (3-0-6)
MB 4561	AI Application in Music Business	3 (3-0-6)
MB 4562	Data Visualization	3 (3-0-6)

5. Musical and Live Event Management

CA 1023	Introduction to Live Event Creation and Management	3 (5-2-2)
LV 2101	Script Analysis and Creation for Live Events	3 (5-2-2)
LV 2102	Design for Live Event Creation and Management	3 (5-2-2)
LV 2103	Acting for Live Events	3 (4-4-1)
LV 3103	Show Directing	3 (4-4-1)
MU 4100	Musical Theatre	3 (4-4-1)

6. Digital Marketing

BMK 3202	Digital Marketing	3 (3-0-6)
BMK 3410	Digital Customer Insights	3 (3-0-6)
BMK 3411	Content Marketing	3 (3-0-6)
BMK 4403	Digital Media Strategies	3 (3-0-6)
BMK 4404	Digital Marketing in Practice	3 (3-0-6)
MB 3541	Online Social Media for Music Business	3 (3-0-6)

7. Business Management

MGT 2900	Principles of Management	3 (3-0-6)
MGT 3905	Operation Management	3 (3-0-6)
MGT 3923	Strategic Human Resources Management	3 (3-0-6)
MGT 4117	Entrepreneur and Innovation	3 (3-0-6)
MKT 3620	Global Marketing	3 (3-0-6)
MKT 4730	Marketing Management	3 (3-0-6)

8. Advertising and Branding

CA 1021	Introduction to Advertising and Branding	3 (3-0-6)
AD 2100	Consumer Insight	3 (3-0-6)
AD 2101	Idea Generation in Advertising	3 (5-2-2)
AD 2102	Principles of Marketing Communication	3 (3-0-6)
AD 3112	Brand Communication	3 (3-0-6)
AD 3114	Interactive Advertising and Marketing Communication	3 (3-0-6)

9. Computer Motion and Graphic Design

ART 1208	Computer Graphics Foundation	3 (5-2-2)
ART 2311	Photography	3 (5-2-2)
CGI 2205	Motion Graphic Design	3 (5-2-2)
CGI 2235	Introduction to Motion Picture	3 (5-2-2)
CGI 2236	Introduction to Sound Design	3 (5-2-2)
MP 3430	Computer Music and Digital Audio	3 (3-0-6)

10. Business English

EN 2230	Listening and Speaking	3 (3-0-6)
EN 3214	Fundamental Writing Development	3 (3-0-6)
EN 3213	Business Communication in English	3 (3-0-6)
EN 4232	Business Conversation	3 (3-0-6)

Students can take any 6 credits from the Department of Business English upon completion of the prerequisites (if any).

11. Business French

FR 1500	Introduction to French	3 (3-2-7)
FR 1501	French I	3 (3-2-7)
FR 2501	French II	3 (3-2-7)
FR 2502	French III	3 (3-2-7)

Students can take any 6 credits from the Department of Business French upon completion of the prerequisites (if any).

12. Business Chinese

CN 1400	Introduction to Chinese	3 (3-0-6)
CN 1401	Chinese I	3 (3-0-6)
CN 2401	Chinese II	3 (3-0-6)
CN 2402	Chinese III	3 (3-0-6)

Students can take any other 6 credits from the Department of Business Chinese upon completion of the prerequisites (if any).

13. Business Japanese

JA 1700	Introduction to Japanese	3 (3-0-6)
JA 1701	Japanese I	3 (3-0-6)
JA 2701	Japanese II	3 (3-0-6)
JA 2702	Japanese III	3 (3-0-6)

Students can take any other 6 credits from the Department of Business Japanese upon completion of the prerequisites (if any).

Major Elective Courses **12 Credits**

Students can choose 12 credits from any concentration course above or the courses listed below

EN 3289	English for Music Business	3 (3-0-6)
MB 2532	Music Industry	3 (3-0-6)
MB 3437	Virtual Band in Globalization Era	3 (3-0-6)
MB 3534	Music Management and Entrepreneurship	3 (3-0-6)
MB 3535	Music Licensing	3 (3-0-6)
MB 3536	Viral Music Marketing	3 (3-0-6)
MB 3537	Music Career Exposure	3 (3-0-6)
MB 3538	History of Music Industry in Thailand	3 (3-0-6)
MB 4510	Project Management for Music Entrepreneur	3 (3-0-6)
MB 4512	Music in Film Industry	3 (3-0-6)
MB 4533	Digital Music Publishing	3 (3-0-6)
MB 4534	Music Label Simulation	3 (3-0-6)
MB 4535	Digital Creativity in Music Promotion	3 (3-0-6)
MB 4540	Music Business Data Analysis	3 (3-0-6)
MB 4541	Music Business Finance and Accounting	3 (3-0-6)
MC 1260	Instrumentation and Score Preparation	2 (1-2-3)
MC 2161	Jazz Theory I	3 (3-0-6)
MC 2162	Jazz Theory II	3 (3-0-6)
MC 2163	Jazz Theory III	3 (3-0-6)

MC 2260	Introduction to Film Scoring	2 (2-0-4)
MC 2351	Piano Accompaniment I	1 (0-2-1)
MC 2352	Piano Accompaniment II	1 (0-2-1)
MC 2353	Piano Accompaniment III	1 (0-2-1)
MC 2361	Jazz Improvisation I	1 (0-2-1)
MC 2362	Jazz Improvisation II	1 (0-2-1)
MC 2363	Jazz Improvisation III	1 (0-2-1)
MC 2661	Improvisation for Composition I	2 (1-2-3)
MC 2662	Improvisation for Composition II	2 (1-2-3)
MC 3251	History of Music I	3 (3-0-6)
MC 3252	History of Music II	3 (3-0-6)
MC 3261	Dramatic Scoring	3 (3-0-6)
MC 3262	Dramatic Orchestration for Film	3 (3-0-6)
MC 3271	Jazz Composition and Arranging I	3 (3-0-6)
MC 3272	Jazz Composition and Arranging II	3 (3-0-6)
MC 3351	Conducting	3 (2-3-6)
MC 3501	Flamenco Techniques	2 (1-2-3)
MC 4011	Arranging and Orchestration I	2 (2-0-4)
MC 4012	Arranging and Orchestration II	2 (2-0-4)
MC 4160	Jazz Composition	3 (3-0-6)
MC 4561	Yamaha Music Pedagogy	3 (3-0-6)
MC 4562	Entrepreneurship for Musicians	3 (3-0-6)
MGT 3922	Introduction to New Venture	3 (3-0-6)
MGT 3924	Human Resources Development	3 (3-0-6)
MKT 3627	Sales Promotion	3 (3-0-6)
MKT 3628	Public Relations	3 (3-0-6)
MKT 3629	Pricing Strategy and Decision	3 (3-0-6)
MKT 3823	Marketing Channel Strategy and Decisions	3 (3-0-6)
MKT 4725	Competitive Analysis and Strategy	3 (3-0-6)
MKT 4726	Advertising and Creative Strategies	3 (3-0-6)
MKT 4806	Product and Brand Management	3 (3-0-6)
MP 3420	Music Notation Software	2 (1-2-3)
MP 3421	Critical Listening	3 (2-3-4)
MP 3422	Synthesizer Basic	1 (0-2-1)
MP 3423	Pro Tools	2 (1-2-3)
MP 3424	Logic	2 (1-2-3)
MP 3425	Cubase	2 (1-2-3)
MP 3426	Ableton Live	2 (1-2-3)
MP 3427	Drum Beat Programming	2 (1-2-3)
MP 3428	Live Sound Reinforcement	3 (1-4-4)
MP 3429	Sound in Digital Domain	3 (3-0-6)
MP 3520	Final Cut Pro	2 (1-2-3)
MP 3521	Music Video Production	3 (1-4-4)
MP 4420	Electronic Music Production	3 (3-0-6)
MP 4421	Digital DJ	3 (3-0-6)
MP 4422	Sound Design	3 (1-4-4)
MP 4423	Microphone Techniques	3 (1-4-4)
MP 4424	Music Production Skills	3 (1-4-4)
MS 2001	Minor Instrument I	2 (1-2-3)
MS 2002	Minor Instrument II	2 (1-2-3)
MS 2003	Minor Instrument III	2 (1-2-3)
MS 2004	Minor Instrument IV	2 (1-2-3)
MS 4001	Applied Composition I	2 (1-2-3)
MS 4002	Applied Composition II	2 (1-2-3)
MS 4003	Applied Composition III	2 (1-2-3)
MS 4004	Applied Composition IV	2 (1-2-3)
MS 4005	Applied Composition V	2 (1-2-3)
MS 4006	Applied Composition VI	2 (1-2-3)
MS 9001	Independent Music Study I	2 (1-2-3)
MS 9002	Independent Music Study II	2 (1-2-3)
MS 9003	Independent Music Study III	2 (1-2-3)
MS 9004	Independent Music Study IV	2 (1-2-3)
MU 0111	Ear Training I	1 (0-2-1)
MU 0112	Ear Training II	1 (0-2-1)
MU 0206	Music Ensemble VI	1 (0-2-1)
MU 0207	Music Ensemble VII	1 (0-2-1)
MU 0208	Music Ensemble VIII	1 (0-2-1)
MU 0301	String Ensemble I	3 (1-4-4)
MU 0302	String Ensemble II	3 (1-4-4)
MU 1200	Music and Choreography	3 (1-4-4)
MU 1303	Music Fundamentals III	3 (3-0-6)
MU 1304	Music Fundamentals IV	3 (3-0-6)
MU 1958	Thongchai McIntyre Studies	3 (3-0-6)
MU 2002	Bodyslam Studies	3 (3-0-6)
MU 2211	History of Thai Music	3 (3-0-6)
MU 2221	Popular Music Literature	3 (3-0-6)
MU 2332	Keyboard Skills	1 (0-2-1)
MU 2333	Guitar Skills	1 (0-2-1)
MU 2360	Basic Improvisation	1 (0-2-1)
MU 2503	Chorus III	1 (0-2-1)
MU 2504	Chorus IV	1 (0-2-1)
MU 2511	Vocal Diction I	1 (1-0-2)
MU 2512	Vocal Diction II	1 (1-0-2)
MU 2513	Vocal Diction III	1 (1-0-2)
MU 2514	Vocal Diction IV	1 (1-0-2)
MU 3121	Composition	3 (3-0-6)
MU 3133	Commercial Songwriting	3 (3-0-6)
MU 3134	Jingle Writing	3 (3-0-6)
MU 3135	Jazz Songwriting	3 (3-0-6)
MU 3231	Music Genre Studies	3 (3-0-6)
MU 3232	Hip-Hop and Rap Music	3 (3-0-6)
MU 3241	Vocal Literature	3 (3-0-6)
MU 3351	Conducting	3 (2-3-4)
MU 3551	Acting for Musicians	3 (1-4-4)
MU 3552	The Art of Guitar Making	3 (3-0-6)
MU 3602	Music Therapy	3 (3-0-6)
MU 3603	Music, Health, and Well-being	3 (3-0-6)
MU 3604	Music and Gender Studies	3 (3-0-6)
MU 3701	Music Education Management	3 (3-0-6)
MU 3702	Music Curriculum and Instruction	3 (3-0-6)
MU 3703	Methodology of Music Teaching	3 (3-0-6)
MU 3704	Music Teaching	3 (2-1-6)
MU 4103	Form and Analysis	3 (3-0-6)
MU 4112	Arranging	3 (3-0-6)
MU 4136	Advanced Jazz Songwriting	3 (3-0-6)
MU 4223	Music in Human Life	3 (3-0-6)
MU 4539	Music Cognition	3 (3-0-6)
MU 4545	Careers and Professions in Music	3 (3-0-6)
MU 4750	Music Pedagogy	3 (3-0-6)

C. Free Elective Courses — 9 Credits

Students can take free elective courses of 9 credits from any available programme in Assumption University upon completion of the prerequisites (if any).

D. Free Elective Courses for Non-Music Students

MB 1001	Music Business Fundamentals	3 (3-0-6)
MP 1001	Music Production Fundamentals	3 (1-4-4)
MS 1300	Introduction to Musical Skills	1 (0-2-1)
MU 1001	Music Appreciation	3 (3-0-6)
MU 1131	Pop Songwriting (Thai)	3 (3-0-6)
MU 1132	Pop Songwriting (English)	3 (3-0-6)

STUDY PLAN

FIRST YEAR

First Semester

Code	Subjects	Credits
BBA 1001	Business Exploration	3 (3-0-6)
BG 1001	English I	3 (2-3-6)
BG 14031	Ethics Seminar I	Non-credit
MB 2531	Music Business	3 (3-0-6)
MS 1001	Major Instrument I	2 (1-2-3)
MP 2400	Audio Fundamentals	3 (3-0-6)
MU 1301	Music Fundamentals I	3 (3-0-6)
MU 1501	Chorus I	1 (0-2-1)
MU 7001	Concert and Seminar Attendance I	Non-credit
	Total	**18 (15-7-34)**

Second Semester

BG 1002	English II	3 (2-3-6)
BG 14032	Ethics Seminar II	Non-credit
MB 1500	Introduction to Data Science	3 (3-0-6)
MS 1002	Major Instrument II	2 (1-2-3)
MP 2510	Visual Media for Musician	2 (1-2-3)
MP 2511	Digital Photography for Musician	1 (0-2-1)
MU 1302	Music Fundamentals II	3 (3-0-6)
MU 1231	History and Literature of Music	3 (3-0-6)
MU 1502	Chorus II	1 (0-2-1)
MU 7002	Concert and Seminar Attendance II	Non-credit
	Total	**18 (15-11-32)**

SECOND YEAR

First Semester

BBA 1104	Fundamentals of Marketing	3 (3-0-6)
BG 14033	Ethics Seminar III	Non-credit
BG 2000	English III	3 (2-3-6)
MA 1000	Business Mathematics and Statistics	3 (3-0-6)
MB 2500	Business Intelligence and Data Analytics	3 (3-0-6)
MS 1003	Major Instrument III	2 (1-2-3)
MP 2410	Music Computer Application	3 (1-4-4)
MU 2131	Basic Songwriting	2 (2-0-4)
MU 7003	Concert and Seminar Attendance III	Non-credit
	Total	**19 (15-9-35)**

Second Semester

BBA 1003	Introduction to Microeconomics and Personal Finance	3 (3-0-6)
BG 14034	Ethics Seminar IV	Non-credit
BG 2001	English IV	3 (2-3-6)
MB 3540	Digital Music Marketing	3 (3-0-6)
MS 1004	Major Instrument IV	2 (1-2-3)
MP 3411	Song Demo Production	3 (1-4-4)
MP 3510	Computer Graphic for Musician	3 (1-4-4)
MU 0201	Music Ensemble I	1 (0-2-1)
MU 7004	Concert and Seminar Attendance IV	Non-credit
	Total	**18 (11-15-30)**

THIRD YEAR

First Semester

BAC 1601	Fundamentals of Financial Accounting	3 (3-0-6)
BG 14035	Ethics Seminar V	Non-credit
MB 3512	Legal Aspects in Music Business	3 (3-0-6)
MU 7005	Concert and Seminar Attendance V	Non-credit
	Two Concentration Courses	6 (3-0-6)
	One Major Elective Course	3 (3-0-6)
	One General Education Elective Course	3 (3-0-6)
	Total	**18 (18-0-36)**

Second Semester

BG 14036	Ethics Seminar VI	Non-credit
MB 3539	Methodology and Research Writing	3 (3-0-6)
MB 3550	Feasibility Study for Music Entrepreneur	3 (3-0-6)
MU 7006	Concert and Seminar Attendance VI	Non-credit
	Two Concentration Courses	6 (6-0-12)
	One Free Elective Course	3 (3-0-6)
	Total	**15 (15-0-30)**

Summer Session

MB 4000	Internship in Music Entrepreneurship	0 (240 hrs.)
	Total	**0 (240 hours)**

FOURTH YEAR

First Semester

BG 14037	Ethics Seminar VII	Non-credit
GE 2200	Ethics	3 (3-0-6)
MB 4538	Concert Management	Non-credit
MS 4001	Senior Project I	0 (0-9-0)
MU 7007	Concert and Seminar Attendance VII	Non-credit
	Two Concentration Courses	6 (6-0-12)
	Two Major Elective Courses	6 (6-0-12)
	Total	**15 (15-0-30)**

Second Semester

BG 14038	Ethics Seminar VIII	Non-credit
MB 4500	Music Entrepreneurship Seminar	2 (2-0-4)
MS 4002	Senior Project II	0 (0-9-0)
MU 7008	Concert and Seminar Attendance VIII	Non-credit
	One Major Elective Course	3 (3-0-6)
	Two Free Elective Courses	6 (6-0-12)
	Total	**11 (11-9-22)**

ALBERT LAURENCE SCHOOL OF **COMMUNICATION ARTS**

BACHELOR OF COMMUNICATION ARTS

PROGRAM IN ADVERTISING

GRADUATION REQUIREMENTS

Assumption University confers the degree of Bachelor of Communication Arts in Advertising upon students who meet all of the following requirements:

- Have completed the total number of credits of the curriculum.
- Have not been placed on probation in any categories.
- Have obtained a cumulative grade point average of at least 2.00.
- Have participated in 16 sessions of the Professional Ethics Seminar.
- Have obtained library and financial clearance f om the University.
- Have demonstrated good behavior and discipline
- Have met the minimum English proficienc requirement specified in one of the following criteria

Test Instruments	Required Passing Score
AU English Proficienc Assessment or	70%*
TOEFL (iBT) or	90
TOEFL (P) or	575
IELTS	6.5

**70% = Level B2 of Common European Framework of Reference for Language (CEFR)*

CURRICULUM STRUCTURE

Total number of credits	129 Credits
A. General Education Courses	**30 Credits**
Language Courses	15 Credits
Social Science Courses	6 Credits
Humanities Courses	6 Credits
Science and Mathematics Course	3 Credits
B. Specialized Courses	**93 Credits**
Core Courses	36 Credits
Major Required Courses	42 Credits
Major Elective Courses	15 Credits
C. Free Elective Courses	**6 Credits**

OBJECTIVES

To produce graduates who have the characteristics, knowledge and skills as follows:

1. Have morals, ethics, public consciousness, and social responsibility in accordance with professional code of ethics.
2. Have well-grounded academic knowledge, skills, and practical experiences in the field of advertising, communication arts, management and business and able to work in the field of advertising business and communication in the society.
3. Have the skill to analyze situations by appropriately applying their knowledge, reasoning, and judgment when they encounter situations in different social contexts, and cultures.
4. Have a good personality with good social manners and able to appropriately work with people at all levels.
5. Able to continuously develop themselves academically and professionally.
6. Have knowledge and ability to use basic mathematics to interpret data and analyze information for planning, management, and development.
7. Make efficient use of information technology and foreign languages, especially English and able to communicate cross-culturally.
8. Have creativity and communication skills for presentation.

COURSES

A. General Education Courses

Language Courses		15 Credits
BG 1001	English I	3 (2-3-6)
BG 1002	English II	3 (2-3-6)
BG 2000	English III	3 (2-3-6)
BG 2001	English IV	3 (2-3-6)
GE 1403	Communication in Thai (for Thai students)	3 (3-0-6)
or		
GE 1405	Thai Language and Culture (for non-Thai students)	3 (3-0-6)

Social Science Courses		6 Credits
CA 4010	Law and Ethical Concerns for Communication	3 (3-0-6)
GE 2202	Ethics	3 (3-0-6)

Humanities Courses		6 Credits
GE 1102	Introduction to Philosophy	3 (3-0-6)
GE 2101	World Civilization	3 (3-0-6)

Science and Mathematics Course		3 Credits
BG 1301	Fundamentals of Statistics	3 (3-0-6)

B. Specialized Courses

Core Courses		36 Credits
CA 1001	Introduction to Communication	3 (3-0-6)
CA 1002	Introduction to Photography and Cinematography	3 (2-2-5)
CA 1021	Introduction to Advertising and Branding	3 (3-0-6)
CA 2003	Presentation Technique	3 (2-2-5)
CA 1022	Introduction to Public Relations	3 (3-0-6)
CA 1024	Introduction to Digital Media Communication	3 (2-2-5)
CA 1025	Computer Graphic Design	3 (2-2-5)
CA 1023	Introduction to Live Event Creation and Management	3 (2-2-5)
CA 2019	Communication Arts Research	3 (3-0-6)
MGT 1101	Introduction to Business	3 (3-0-6)
MGT 2900	Principles of Management	3 (3-0-6)
MKT 2280	Principles of Marketing	3 (3-0-6)

Major Required Courses		42 credits
AD 2100	Consumer Insight	3 (3-0-6)
AD 2101	Idea Generation in Advertising	3 (2-2-5)
AD 2102	Principles of Marketing Communication	3 (3-0-6)
AD 3102	Advertising Media Planning	3 (3-0-6)
AD 3103	Advertising Creative Strategy (English)	
or		
AD 3104	Advertising Creative Strategy (Thai)	3 (2-2-5)
AD 3112	Brand Communication	3 (3-0-6)
AD 3113	Customer Relationship Management	3 (3-0-6)
AD 3114	Interactive Advertising and Marketing Communication	3 (3-0-6)
AD 3119	Advertising and Marketing Communication Research	3 (2-2-5)
AD 4100	Seminar in Advertising	3 (3-0-6)
AD 4116	Advertising Workshop I	6 (6-2-10)
AD 4117	Advertising Workshop II	6 (6-2-10)

Major Elective Courses **15 credits**

Students can choose one of the two plans in the following.

Plan A: Major Concentration Courses

Students can choose one of three concentrations in the following.

1. Concentration in Strategic Integrated Marketing Communication
2. Concentration in Brand Communication
3. Concentration in Advertising Creative and Production

Or

Plan B: Major Elective Courses

Plan A Major Concentration Courses

Advertising students pursuing PLAN A must select a concentration in the major area below. Then, students must study three mandatory courses in the selected concentration and two major elective courses from Advertising to fulfill 15 c edits.

1. Concentration in Strategic Integrated Marketing Communication

AD 3120	Integrated Marketing Communication Planning and Strategy	3 (2-2-5)
AD 3121	Strategic Situation Analysis	3 (3-0-6)
AD 3122	Presentation Design for Campaign Planning	3 (2-2-5)
	Advertising Major Elective Course	
	Advertising Major Elective Course	

2. Concentration in Brand Communication

AD 3120	Integrated Marketing Communication Planning and Strategy	3 (2-2-5)
AD 3123	Corporate Brand Communication	3 (3-0-6)
AD 3124	Strategic Brand Positioning	3 (3-0-6)
	Advertising Major Elective Course	
	Advertising Major Elective Course	

3. Concentration in Advertising Creative and Production

AD 3106	Art Direction	3 (2-2-5)
AD 3107	Copywriting (Thai)	3 (2-2-5)
or		
AD 3108	Copywriting (English)	3 (2-2-5)
AD 3125	Production Design for Advertising and Brand Communication	3 (2-2-5)
	Advertising Major Elective Course	
	Advertising Major Elective Course	

PLAN B Major Elective Courses

Advertising students pursuing PLAN B must select any advertising major elective courses with any major requirement courses or major elective courses from Digital Media Communication, Live Event Creation and Management and Public Relations courses as major elective courses upon completion of the prerequisites (if any) to fulfill 15 c edits.

AD 3106	Art Direction	3 (2-2-5)
AD 3107	Copywriting (in Thai)	3 (2-2-5)
or		
AD 3108	Copywriting (in English)	3 (2-2-5)
AD 3117	Advertising and Popular Culture	3 (3-0-6)
AD 3126-30	Selected Topics in Advertising I	3 (3-0-6)
AD 3131-35	Selected Topics in Advertising II	3 (3-0-6)
AD 3120	Integrated Marketing Communication Planning and Strategy	3 (2-2-5)
AD 3121	Strategic Situation Analysis	3 (3-0-6)
AD 3122	Presentation Design for Campaign Planning	3 (2-2-5)
AD 3123	Corporate Brand Communication	3 (3-0-6)
AD 3124	Strategic Brand Positioning	3 (3-0-6)
AD 3125	Production Design for Advertising and Brand Communication	3 (2-2-5)

C. Free Elective Course **6 Credits**

Students can take free elective courses of 6 credits from any faculty in Assumption University upon completion of the prerequisites (if any)

STUDY PLAN

FIRST YEAR

First Semester

Code	Subjects	Credits
BG 1001	English I	3 (2-3-6)
CA 1001	Introduction to Communication	3 (3-0-6)
CA 1002	Introduction to Photography and Cinematography	3 (2-2-5)
or		
CA 1025	Computer Graphic Design	3 (2-3-6)
CA 1021	Introduction to Advertising and Branding	3 (3-0-6)
or		
CA 1022	Introduction to Public Relations	3 (3-0-6)
CA 1023	Introduction to Live Event Creation and Management	3 (3-2-5)
or		
CA 1024	Introduction to Digital Media Communication	3 (3-2-5)
GE 1403	Communication in Thai	3 (3-0-6)
or		
GE 1405	Thai Language and Culture (for non-Thai students)	3 (3-0-6)
	Total	**18 (15-7-34)**

Second Semester

BG 1002	English II	3 (2-3-6)
CA 1002	Introduction to Photography and Cinematography	3 (2-2-5)
or		
CA 1025	Computer Graphic Design	3 (2-2-5)
CA 1021	Introduction to Advertising and Branding	3 (3-0-6)
or		
CA 1022	Introduction to Public Relations	3 (3-0-6)
CA 1023	Introduction to Live Event Creation and Management	3 (2-2-5)
or		
CA 1024	Introduction to Digital Media Communication	3 (2-2-5)
GE 2101	World Civilization	3 (3-0-6)
MGT 1101	Introduction to Business	3 (3-0-6)
	Total	**18 (15-7-34)**

SECOND YEAR

First Semester

BG 2000	English III	3 (2-3-6)
BG 1301	Fundamentals of Statistics	3 (3-0-6)
MKT 2280	Principles of Marketing	3 (3-0-6)
or		
MGT 2900	Principles of Management	3 (3-0-6)
GE 2202	Ethics	3 (3-0-6)
CA 2003	Presentation Technique	3 (2-2-5)
GE 1102	Introduction to Philosophy	3 (3-0-6)
	Total	**18 (16-5-35)**

Second Semester

BG 2001	English IV	3 (2-3-6)
AD 2102	Principles of Marketing Communication	3 (3-0-6)
MKT 2280	Principles of Marketing	3 (3-0-6)
or		
MGT 2900	Principles of Management	3 (3-0-6)
AD 2100	Consumer Insight	3 (3-0-6)
AD 2101	Idea Generation in Advertising	3 (2-2-5)
CA 2019	Communication Arts Research	3 (3-0-6)
	Total	**18 (16-5-35)**

THIRD YEAR

First Semester

AD 3102	Advertising Media Planning	3 (3-0-6)
AD 3103	Advertising Creative Strategy (English)	3 (2-2-5)
or		
AD 3104	Advertising Creative Strategy (Thai)	3 (3-0-6)
AD 3112	Brand Communication	3 (3-0-6)
AD 3113	Customer Relationship Management	3 (3-0-6)
AD 3114	Interactive Advertising and Marketing Communication	3 (3-0-6)
AD 3119	Advertising and Marketing Communication Research	3 (2-2-5)
	Total	**18 (16-4-34)**

Second Semester

	Major Elective Course from Plan A or B	3 (3-0-6)
	Major Elective Course from Plan A or B	3 (3-0-6)
	Major Elective Course from Plan A or B	3 (3-0-6)
	Major Elective Course from Plan A or B	3 (3-0-6)
	Major Elective Course from Plan A or B	3 (3-0-6)
	Total	**15 (15-0-30)**

FOURTH YEAR

First Semester

AD 4100	Seminar in Advertising	3 (3-0-6)
AD 4116	Advertising Workshop I	6 (6-2-10)
CA 4010	Law and Ethical Concerns for Communication	3 (3-0-6)
	Free Elective	3 (3-0-6)
	Total	**15 (15-2-28)**

Second Semester

AD 4117	Advertising Workshop II	6 (6-2-10)
	Free Elective	3 (3-0-6)
	Total	**9 (9-2-16)**

CATHEDRAL OF LEARNING

BACHELOR OF COMMUNICATION ARTS

PROGRAM IN DIGITAL MEDIA COMMUNICATION

GRADUATION REQUIREMENTS

Assumption University confers the degree of Bachelor of Communication Arts in Digital Media Communication upon students who meet all of the following requirements:

- Have completed the total number of credits of the curriculum.
- Have obtained a cumulative grade point average of at least 2.00.
- Have participated in 16 sessions of the Professional Ethics Seminar.
- Have obtained library and financial clearance f om the University.
- Have demonstrated good behavior and discipline.
- Have met the minimum English proficienc requirement specified in one of the following criteria

Test Instruments	Required Passing Score
AU English Proficienc Assessment or	70%*
TOEFL (iBT) or	90
TOEFL (P) or	575
IELTS	6.5

**70% = Level B2 of Common European Framework of Reference for Language (CEFR)*

OBJECTIVES OF CURRICULUM

To produce graduates who have the characteristics, knowledge and skills as follows:

1. Have morals, ethics, public consciousness, and social responsibility in accordance with professional code of ethics.
2. Have well-grounded academic knowledge, skills, and practical experiences in the field of digita media and digital broadcasting, communication arts, management and business and able to work in the field of digital media communications an communication in the society.
3. Have the skill to analyze situations by appropriately applying their knowledge, reasoning, and judgment when they encounter situations in different social contexts, and cultures.
4. Have a good personality with good social manners and able to appropriately work with people at all levels.

CURRICULUM STRUCTURE

Total number of credits	135 Credits
A. General Education Courses	**30 Credits**
Language Courses	15 Credits
Social Science Courses	6 Credits
Humanities Courses	6 Credits
Science and Mathematics Course	3 Credits
B. Specialized Courses	**99 Credits**
Core Courses	36 Credits
Major Required Courses	48 Credits
Major Elective Courses	15 Credits
C. Free Elective Courses	**6 Credits**

COURSES

A. General Education Courses

Language Courses		**15 Credits**
BG 1001	English I	3 (2-3-6)
BG 1002	English II	3 (2-3-6)
BG 2000	English III	3 (2-3-6)
BG 2001	English IV	3 (2-3-6)
GE 1403	Communication in Thai (for Thai students)	3 (3-0-6)
or		
GE 1405	Thai Language and Culture (Only non-Thai students)	3 (3-0-6)

Social Science Courses		**6 Credits**
CA 4010	Law and Ethical Concerns for Communication	3 (3-0-6)
GE 2202	Ethics	3 (3-0-6)

Humanities Courses		**6 Credits**
GE 1102	Introduction to Philosophy	3 (3-0-6)
GE 2101	World Civilization	3 (3-0-6)

Science and Mathematics Course		**3 Credits**
BG 1301	Fundamentals of Statistics	3 (3-0-6)

B. Specialized Courses

Core Courses		**36 Credits**
CA 1001	Introduction to Communication	3 (3-0-6)
CA 1002	Introduction to Photography and Cinematography	3 (2-2-5)
CA 1021	Introduction to Advertising and Branding	3 (3-0-6)
CA 1022	Introduction to Public Relations	3 (3-0-6)
CA 1023	Introduction to Live Event Creation and Management	3 (2-2-5)
CA 1024	Introduction to Digital Media Communication	3 (2-2-5)
CA 1025	Computer Graphic Design	3 (2-2-5)
CA 2003	Presentation Technique	3 (2-2-5)
CA 2019	Communication Arts Research	3 (3-0-6)
MGT 1101	Introduction to Business	3 (3-0-6)
MGT 2900	Principles of Management	3 (3-0-6)
MKT 2280	Principles of Marketing	3 (3-0-6)

Major Required Courses		**48 credits**
DM 2401	Media Context Analysis	3 (3-0-6)
DM 2402	Narrative	3 (3-0-6)
DM 2403	Digital Media Production and Management	3 (2-2-5)
DM 2404	Digital Media Design	3 (2-2-5)
DM 3401	Cinematography	3 (2-2-5)
DM 3402	Editing Concept	3 (2-2-5)
DM 3403	UI and UX Design	3 (2-2-5)
DM 3404	Digital Motion Graphic	3 (2-2-5)
DM 3405	Website and Application Design	3 (2-2-5)
DM 3406	Sound Design for Digital Media Communication	3 (2-2-5)
DM 3400	Internship	3 (200 hrs)
DM 4401	Digital Media Communication Workshop I	6 (4-4-10)
DM 4402	Digital Media Communication Workshop II	6 (4-4-10)
DM 4403	Seminar in Digital Media Communication	3 (2-2-5)

Major Elective Courses **15 credits**

Students can choose one of the two plans in the following

Plan A: Major Concentration Courses

Students can choose one of two concentrations in the following.

- Concentration 1: "Motion Picture"
- Concentration 2: "Interactive Media"

Or

Plan B: Major Elective Courses

Plan A Major Concentration Courses

Digital Media Communication students pursuing PLAN A must select a concentration in the major area below. Then, students must study three mandatory courses in the selected concentration and select two major elective courses from public relations to fulfill 15 credits.

Concentration 1: "Motion Picture"

DM 3421	Screenwriting	3 (3-0-6)
DM 3422	Directing	3 (2-2-5)
DM 3425	Lighting	3 (2-2-5)
	Digital Media Communication Major Elective Course	
	Digital Media Communication Major Elective Course	

Concentration 2: "Interactive Media"

DM 3421	Screenwriting	3 (3-0-6)
DM 3424	Digital Content Creation	3 (3-0-6)
DM 3426	Innovation and Digital Technology	3 (3-0-6)
	Digital Media Communication Major Elective Course	
	Digital Media Communication Major Elective Course	

PLAN B Major Elective Courses

Digital Media Communication students pursuing PLAN B must select any Digital Media Communication major elective courses with any major required courses or major elective courses from Advertising, Public Relations and Live Event Creation and Management as major elective courses upon completion of the prerequisites (if any) to fulfill 15 c edits.

DM 3421	Screenwriting	3 (3-0-6)
DM 3422	Directing	3 (2-2-5)
DM 3423	Documentary	3 (2-2-5)
DM 3424	Digital Content Creation	3 (3-0-6)
DM 3425	Lighting	3 (2-2-5)
DM 3426	Innovation and Digital Technology	3 (3-0-6)
DM 4421	Advanced Photography and Digital Imaging	3 (2-2-5)
DM 4422	Advanced Directing	3 (2-2-5)
DM 4423	Advanced UI and UX Design	3 (2-2-5)
DM 4424	Selected Topic in Digital Media Communication	3 (2-2-5)

C. Free Elective Course **6 Credits**

Students can take free elective courses of 6 credits from any faculty in Assumption University upon completion of the prerequisites (if any).

STUDY PLAN

FIRST YEAR

First Semester

Code	Subjects	Credits
BG 1001	English I	3 (2-3-6)
CA 1001	Introduction to Communication	3 (3-0-6)
CA 1002	Introduction to Photography and Cinematography	3 (2-2-5)
CA 1021	Introduction to Advertising and Branding	3 (3-0-6)
or		
CA 1022	Introduction to Public Relations	
CA 1023	Introduction to Live Event Creation and Management	3 (2-2-5)
or		
CA 1024	Introduction Digital Media Communication	3 (2-2-5)
GE 1403	Communication in Thai (for Thai students)	3 (3-0-6)
or		
GE1405	Thai Language and Culture (for non-Thai students)	
	Total	**18 (15-7-34)**

Second Semester

BG 1002	English II	3 (2-3-6)
CA 1025	Computer Graphic Design	3 (2-2-5)
CA 1021	Introduction to Advertising and Branding	3 (3-0-6)
or		
CA 1022	Introduction to Public Relations	
CA 1023	Introduction to Live Event Creation and Management	3 (2-2-5)
or		
CA 1024	Introduction Digital Media Communication	
MGT 1101	Introduction to Business	3 (3-0-6)
GE 1102	Introduction to Philosophy	3 (3-0-6)
	Total	**18 (15-7-34)**

SECOND YEAR

First Semester

BG 2000	English III	3 (2-3-6)
BG 1301	Fundamentals of Statistics	3 (3-0-6)
MKT 2280	Principles of Marketing	3 (3-0-6)
CA 2003	Presentation Technique	3 (2-2-5)
GE 2101	World Civilization	3 (3-0-6)
GE 2202	Ethics	3 (3-0-6)
	Total	**18 (16-5-35)**

Second Semester

BG 2001	English IV	3 (2-3-6)
MGT 2900	Principles of Management	3 (3-0-6)
DM 2401	Media Context Analysis	3 (3-0-6)
DM 2402	Narrative	3 (3-0-6)
DM 2403	Digital Media Production and Management	3 (2-2-5)
DM 2404	Digital Media Design	3 (2-2-5)
	Total	**18 (15-7-34)**

THIRD YEAR

First Semester

CA 2019	Communication Arts Research	3 (3-0-6)
DM 3401	Cinematography	3 (2-2-5)
DM 3402	Editing Concept	3 (2-2-5)
DM 3403	UI and UX Design	3 (2-2-5)
	Major Elective	3 (2-2-5)
	Free Elective	3 (3-0-6)
	Total	**18 (13-8-32)**

Second Semester

DM 3404	Digital Motion Graphic	3 (2-2-5)
DM 3405	Website and Application Design	3 (2-2-5)
DM 3406	Sound Design for Digital Media Communication	3 (2-2-5)
	Major Elective	3 (2-2-5)
	Major Elective	3 (2-2-5)
	Total	**15 (10-10-25)**

Summer Session

DM 3400	Internship	3 (200 hrs)
	Total	**3 (200 hrs)**

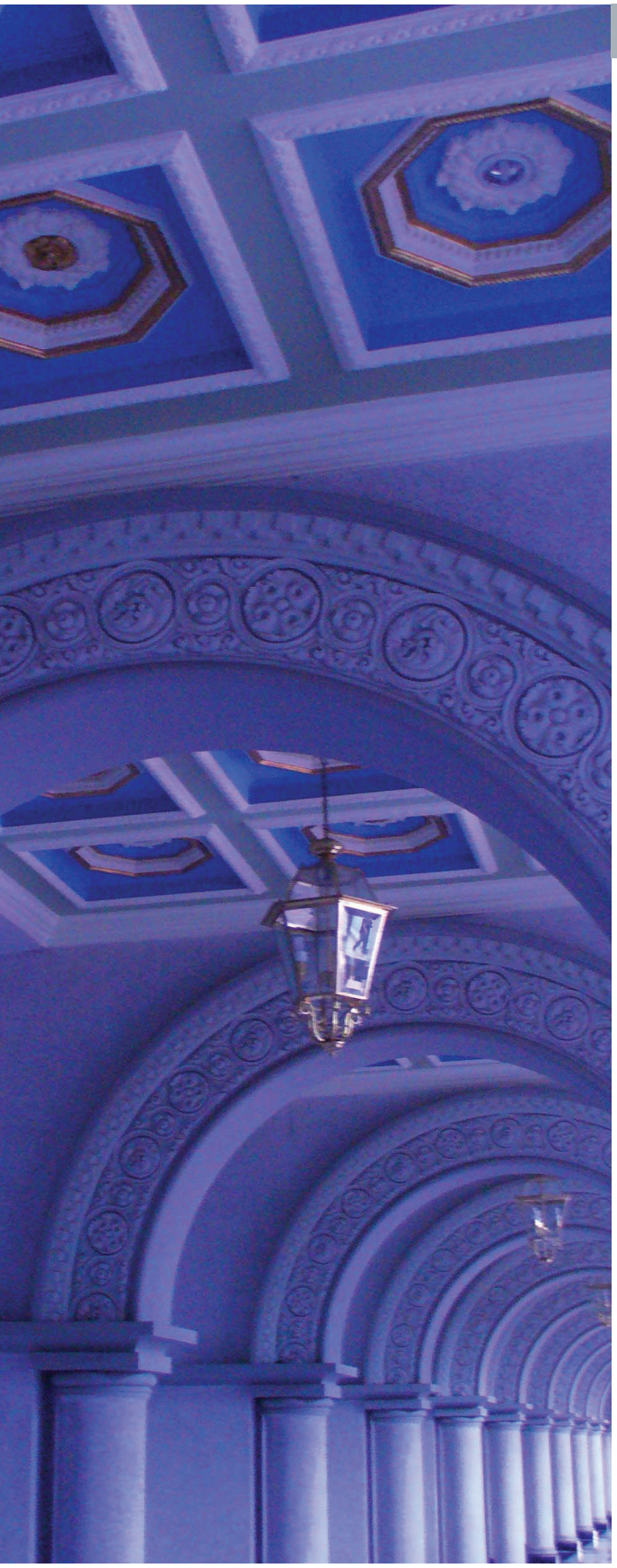
FOURTH YEAR

First Semester

CA 4010	Law and Ethical Concerns for Communication	3 (3-0-6)
DM 4401	Digital Media Communication Workshop I	6 (4-4-10)
	Major Elective	3 (2-2-5)
	Free Elective	3 (3-0-6)
	Total	**15 (12-6-27)**

Second Semester

DM 4402	Digital Media Communication Workshop II	6 (4-4-10)
DM 4403	Seminar in Digital Media Communication	3 (3-0-6)
	Major Elective	3 (2-2-5)
	Free Elective	3 (3-0-6)
	Total	**15 (10-6-27)**



BACHELOR OF COMMUNICATION ARTS

PROGRAM IN LIVE EVENT CREATION AND MANAGEMENT

GRADUATION REQUIREMENTS

Assumption University confers the degree of Bachelor of Communication Arts in Live Event Creation and Management upon students who meet all of the following requirements:

- Have completed the total number of credits of the curriculum
- Have obtained a cumulative grade point average of at least 2.00
- Have participated in 16 sessions of the Professional Ethics Seminar
- Have obtained library and financial clearance f om the University
- Have demonstrated good behavior and discipline.
- Have met the minimum English proficienc requirement specified in one of the following criteria

Test Instruments	Required Passing Score
AU English Proficienc Assessment or	70%*
TOEFL (iBT) or	90
TOEFL (P) or	575
IELTS	6.5

**70% = Level B2 of Common European Framework of Reference for Language (CEFR)*

OBJECTIVES OF CURRICULUM

To produce graduates who have the characteristics, knowledge and skills as follows:

(1) Have morals, ethics, public consciousness, and social responsibility in accordance with professional code of ethics.
(2) Know and understand the principles and practices in organizing including creating and designing a live event both behind the scene and on stage.
(3) Logically and systematically apply performance principles and practices when organizing and managing a live event.
(4) Effectively and efficiently use a pe formance, an event as a communication tool.
(5) Able to work with others harmoniously and responsibly.
(6) Able to use information and communication technology in creating a live event.
(7) Able to use English in communicating verbal cues and communicating to a diverse audience.

CURRICULUM STRUCTURE

Total number of credits	132 Credits
A. General Education Courses	**30 Credits**
Language Courses	15 Credits
Social Science Courses	6 Credits
Humanities Courses	6 Credits
Science and Mathematics Course	3 Credits
B. Specialized Courses	**102 Credits**
Core Courses	36 Credits
Major Required Courses	45 Credits
Major Elective Courses	15 Credits
C. Free Elective Courses	**6 Credits**

COURSES

A. General Education Courses

Language Courses		**15 Credits**
BG 1001	English I	3 (2-3-6)
BG 1002	English II	3 (2-3-6)
BG 2000	English III	3 (2-3-6)
BG 2001	English IV	3 (2-3-6)
GE 1403	Communication in Thai (for Thai students)	3 (3-0-6)

Social Science Courses		**6 Credits**
CA 4010	Law and Ethical Concerns for Communication	3 (3-0-6)
GE 2202	Ethics	3 (3-0-6)

Humanities Courses		**6 Credits**
GE 1102	Introduction to Philosophy	3 (3-0-6)
GE 2101	World Civilization	3 (3-0-6)

Science and Mathematics Course		**3 Credits**
BG 1301	Fundamentals of Statistics	3 (3-0-6)

B. Specialized Courses

1. Core Courses — 36 Credits

CA 1001	Introduction to Communication	3 (3-0-6)
CA 1002	Introduction to Photography and Cinematography	3 (2-2-5)
CA 1021	Introduction to Advertising and Branding	3 (3-0-6)
CA 1022	Introduction to Public Relations	3 (3-0-6)
CA 1023	Introduction to Live Event Creation and Management	3 (2-2-5)
CA 1024	Introduction to Digital Media Communication	3 (2-2-5)
CA 1025	Computer Graphic Design	3 (2-2-5)
CA 2003	Presentation Technique	3 (2-2-5)
CA 2019	Communication Arts Research	3 (3-0-6)
MGT 1101	Introduction to Business	3 (3-0-6)
MGT 2900	Principles of Management	3 (3-0-6)
MKT 2280	Principles of Marketing	3 (3-0-6)

2. Major Required Courses — 45 credits

LV 2101	Script Analysis and Creation for Live Events	3 (2-2-5)
LV 2102	Design for Live Event Creation and Management	3 (2-2-5)
LV 2103	Acting for Live Events	3 (1-4-4)
LV 2104	Art and Literature Appreciation	3
LV 3101	Sound Creation and Production for Live Events	3 (1-4-4)
LV 3102	Art Direction for Live Events	3 (2-2-5)
LV 3103	Show Directing	3 (1-4-4)
LV 3104	Marketing Communication for Live Events	3 (2-2-5)
LV 3105	Stage Management for Live Events	3 (1-4-4)
LV3110	Live Event Creation and Management Internship	3 (2-2-5)
LV 4101	Live Event Creation and Management Workshop I	3 (1-4-4)
LV 4102	Live Event Creation and Management workshop II	6 (2-8-8)
LV 4103	Research Methodology for Live Events	3 (2-2-5)
LV 4104	Project Management for Live Events	3 (1-4-4)

3. Major Elective Courses — 15 credits

Students can choose courses to fulfill 15 c edits from the following courses and/or choose minor courses of other departments.

LV 3201	Creative Writing and Script Adaptation for Live Events	3 (2-2-5)
LV 3202	Costume and Make up	3 (1-4-4)
LV 3203	Advanced Acting for Live Events	3 (1-4-4)
LV 3204	Personality Development	3 (1-4-4)
LV 3205	Lighting and Media Design for Live Events	3 (1-4-4)
LV 3206	Property and Scene Design	3 (1-4-4)
LV 4201	Art and Culture in 21st Century	3 (2-2-5)
LV 4202	Cultural Events and Festival Management	3 (1-4-4)
LV 4203	Promotion and Strategy for Live Events	3 (2-2-5)
LV 4204	Selected Topic in Live Event Creation and Management	3 (1-4-4)
LV 4205	Approaches and Concept of Criticism in Live Events	3 (2-2-5)

C. Free Elective Course — 6 Credits

Students can take free elective courses of 6 credits (two courses) from any faculty in Assumption University upon completion of the prerequisites (if any).

STUDY PLAN

FIRST YEAR
First Semester

Code	Subjects	Credits
BG 1001	English I	3 (2-3-6)
CA 1001	Introduction to Communication	3 (3-0-6)
CA 1002	Introduction to Photography and Cinematography	3 (2-2-5)
MGT 1101	Introduction to Business	3 (3-0-6)
CA 1021	Introduction to Advertising and Branding	3 (3-0-6)
or		
CA 1022	Introduction to Public Relations	3 (3-0-6)
CA 1023	Introduction to Live Event Creation and Management	3 (3-0-6)
or		
CA 1024	Introduction Digital Media Communication	3 (2-2-5)
	Total	**18 (15-7-34)**

Second Semester

BG 1002	English II	3 (2-3-6)
CA 1021	Introduction to Advertising and Branding	3 (3-0-6)
or		
CA 1022	Introduction to Public Relations	
CA 1023	Introduction to Live Event Creation and Management	3 (2-2-5)
or		
CA 1024	Introduction Digital Media Communication	
GE 1102	Introduction to Philosophy	3 (3-0-6)
GE 1403	Communication in Thai	3 (3-0-6)
MGT 2900	Principles of Management	3 (3-0-6)
	Total	**18 (17-5-35)**

SECOND YEAR
First Semester

BG 2000	English III	3 (2-3-6)
CA 2003	Presentation Technique	3 (2-2-5)
MKT 2280	Principles of Marketing	3 (3-0-6)
CA 1025	Computer Graphic Design	3 (2-2-5)
BG 1301	Fundamentals of Statistics	3 (3-0-6)
GE 2101	World Civilization	3 (3-0-6)
	Total	**18 (16-7-34)**

Second Semester

BG 2001	English IV	3 (2-3-6)
LV 2101	Script Analysis and Creation for Live Events	3 (2-2-5)
LV 2104	Art and Literature Appreciation	3 (3-0-6)
CA 2019	Communication Arts Research	3 (3-0-6)
LV 2103	Acting for Live event	3 (1-4-4)
LV 2102	Design for Live Event Creation and Management	3 (2-2-5)
	Total	**18 (13-7-32)**

THIRD YEAR
First Semester

LV 3104	Marketing Communication for Live Events	3 (2-2-5)
LV 3102	Art Direction for Live Events	3 (2-2-5)
LV 3105	Stage Management for Live Events	3 (1-4-4)
LV 3101	Sound Creation and Production for Live Events	3 (1-4-4)
	Major Elective	3 (2-2-5)
	Major Elective	3 (3-0-6)
	Total	**18 (11-14-29)**

Second Semester

LV 4103	Research methodology for Live Events	3 (2-2-5)
LV 3103	Show Directing	3 (1-4-4)
CA 4010	Law and Ethical Concern for Communication	3 (3-0-6)
	Major Elective	3 (3-0-6)
	Major Elective	3 (3-0-6)
	Total	**15 (12-6-27)**

FOURTH YEAR
First Semester

LV 3110	Live Event Creation and Management Internship	3 (1-4-4)
LV 4104	Project Management for Live Events	3 (1-4-4)
LV4101	Live Event Creation and Management workshop I	3 (1-4-4)
	Major Elective	3 (3-0-6)
	Major Elective	3 (3-0-6)
	Total	**15 (9-12-24)**

Second Semester

LV 4102	Live Event Creation and Management workshop II	6 (2-10-10)
	Major Elective	3 (3-0-6)
	Free Elective	3 (3-0-6)
	Total	**12 (8-10-22)**

BACHELOR OF COMMUNICATION ARTS

PROGRAM IN PUBLIC RELATIONS

GRADUATION REQUIREMENTS

Assumption University confers the degree of Bachelor of Communication Arts in Public Relations upon students who meet all of the following requirements:

- Have completed the total number of credits of the curriculum
- Have obtained accumulative grade point average of at least 2.00
- Have participated in 16 sessions of the Professional Ethics Seminar
- Have obtained library and financial clearance f om the University
- Have demonstrated good behavior and discipline
- Are obligated to meet the minimum English proficiency equirement specified in one of th following criteria:

Test Instruments	Required Passing Score
AU English Proficienc Assessment or	70%*
TOEFL (iBT) or	90
TOEFL (P) or	575
IELTS	6.5

**70% = Level B2 of Common European Framework of Reference for Language (CEFR)*

CURRICULUM STRUCTURE

Total number of credits	132 Credits
A. General Education Courses	**30 Credits**
Language Courses	15 Credits
Social Science Courses	6 Credits
Humanities Courses	6 Credits
Science and Mathematics Course	3 Credits
B. Specialized Courses	**96 Credits**
Core Courses	36 Credits
Major Required Courses	45 Credits
Major Elective Courses	15 Credits
C. Free Elective Courses	**6 Credits**

OBJECTIVES

To produce graduates who have the characteristics, knowledge and skills as follows:

1. Have morals, ethics, public consciousness, and social responsibility in accordance with professional code of ethics.
2. Have well-grounded academic knowledge, skills, and practical experiences in the field of public relations, communication arts, management and business and able to work in the field of public relations and communication in the society.
3. Have the skill to analyze situations by appropriately applying their knowledge, reasoning, and judgment when they encounter situations in different social contexts, and cultures.
4. Have a good personality with good social manners and able to appropriately work with people at all levels.
5. Able to continuously develop themselves academically and professionally.
6. Have knowledge and ability to use basic mathematics to interpret data and analyze information for planning, management, and development.
7. Make efficient use of information technology and foreign languages, especially English and able to communicate cross-culturally.
8. Have creativity and communication skills for presentation.

COURSES

A. General Education Courses

Language Courses		15 Credits
BG 1001	English I	3 (2-3-6)
BG 1002	English II	3 (2-3-6)
BG 2000	English III	3 (2-3-6)
BG 2001	English IV	3 (2-3-6)
GE 1403	Communication in Thai (for Thai students)	3 (3-0-6)
or		
GE 1405	Thai Language and Culture (for non-Thai students)	3 (3-0-6)

Social Science Courses		6 Credits
CA 4010	Law and Ethical Concerns for Communication	3 (3-0-6)
GE 2202	Ethics	3 (3-0-6)

Humanities Courses		6 Credits
GE 1102	Introduction to Philosophy	3 (3-0-6)
GE 2101	World Civilization	3 (3-0-6)

Science and Mathematics Course		3 Credits
BG 1301	Fundamentals of Statistics	3 (3-0-6)

B. Specialized Courses

1. Core Courses		36 Credits
CA 1001	Introduction to Communication	3 (3-0-6)
CA 1002	Introduction to Photography and Cinematography	3 (2-2-5)
CA 1021	Introduction to Advertising	3 (3-0-6)
CA 1022	Introduction to Public Relations	3 (3-0-6)
CA 1023	Introduction to Live Event Creation and Management	3 (2-2-5)
CA 1024	Introduction to Digital Media Communication	3 (2-2-5)
CA 1025	Computer Graphic Design	3 (2-2-5)
CA 2003	Presentation Technique	3 (2-2-5)
CA 2019	Communication Arts Research	3 (3-0-6)
MGT 1101	Introduction to Business	3 (3-0-6)
MGT 2900	Principles of Management	3 (3-0-6)
MKT 2280	Principles of Marketing	3 (3-0-6)

2. Major Required Courses		45 credits
PR 2201	Marketing Public Relations	3 (3-0-6)
PR 2202	Strategic Public Relations Campaign Planning and Evaluation	3 (3-0-6)
PR 2203	Persuasive Communication	3 (3-0-6)
PR 3214	Organization Communication	3 (3-0-6)
PR 3215	Writing for Public Relations in English	3 (2-2-5)
PR 3231	Content Strategy	3 (3-0-6)
PR 3230	Digital Public Relations	3 (2-2-5)
PR 4201	Corporate Communication and Stakeholder Relations	3 (3-0-6)
PR 4221	Public Relations for Issue and Crisis Management	3 (3-0-6)
PR 4227	Public Relations Senior Project for Marketing Communication	6 (4-4-10)
PR 4228	Public Relations Senior Project for Social Campaign	6 (4-4-10)
PR 4209	Seminar in Public Relations	3 (2-2-5)
PR 4213	Public Relations Internship	3 (200 Hours)

3. Major Elective Courses **15 credits**

Students can choose one of the two plans in the following.

Plan A: Major Concentration Courses

Students can choose one of two concentrations in the following.

- Concentration 1: "Relationship Management"
- Concentration 2: "Public Relations Campaign Execution"

Or

Plan B: Major Elective Courses

Plan A Major Concentration Courses

Public Relations students pursuing PLAN A must select a concentration in the major area below. Then, students must study three mandatory courses in the selected concentration and select two major elective courses from public relations to fulfill 15 c edits.

Concentration 1: "Relationship Management"

PR 3227	Media Relations and Planning	3 (3-0-6)
PR 4219	Community Relations	3 (3-0-6)
PR 4233	Investor Relations	3 (3-0-6)
	Public Relations Major Elective Course	
	Public Relations Major Elective Course	

Concentration 2:
"Public Relations Campaign Execution"

PR 3218	Special Events Management for Public Relations	3 (2-2-5)
PR 4232	Fundamental Design for Public Relations	3 (2-2-5)
PR 4234	Traditional Media Production for Public Relations	3 (2-2-5)
	Public Relations Major Elective Course	
	Public Relations Major Elective Course	

PLAN B Major Elective Courses

Public Relations students pursuing PLAN B must select any public relations major elective courses with any major required courses or major elective courses from Advertising, Digital Media Communication and Live Event Creation and Management as major elective courses upon completion of the prerequisites (if any) to fulfill 15 c edits.

PR 3216	Writing for Public Relations in Thai	3 (2-2-5)
PR 3224	Applied Research for Public Relations	3 (2-2-5)
PR 3225	Personality Development and Personal Branding	3 (2-2-5)
PR 3228	Intercultural Communication	3 (3-0-6)
PR 4226	Selected Topics in Public Relations	3 (3-0-6)
PR 4229	Public Speaking	3 (2-2-5)
PR 4230	Interactive Media for Public Relations	3 (2-2-5)
PR 4231	Sponsorship Management for Public Relations	3 (2-2-5)
PR 4235	Current Trends and Digital Literacy	3 (3-0-6)
PR 4236	Computer Graphic for Public Relations	3 (2-2-5)

C. Free Elective Course **6 Credits**

Students can take free elective courses of 6 credits from any faculty in Assumption University upon completion of the prerequisites (if any).

STUDY PLAN

FIRST YEAR

First Semester

Code	Subjects	Credits
BG 1001	English I	3(2-3-6)
CA 1001	Introduction to Communication	3(3-0-6)
CA 1021	Introduction to Advertising and Branding	3(3-0-6)
or		
CA 1022	Introduction to Public Relations	
CA 1023	Introduction to Live Event Creation and Management	3(2-2-5)
or		
CA 1024	Introduction Digital Media Communication	
CA 1002	Introduction to Photography and Cinematography	3(2-2-5)
GE 1403	Communication in Thai	3(3-0-6)
or		
GE 1405	Thai Language and Culture	
	Total	**18 (15-7-34)**

Second Semester

BG 1002	English II	3(2-3-6)
GE 2101	World Civilization	3(3-0-6)
CA 1021	Introduction to Advertising	3(3-0-6)
or		
CA 1022	Introduction to Public Relations	
CA 1023	Introduction to Live Event Creation and Management	3(2-2-5)
or		
CA 1024	Introduction Digital Media Communication	
CA 1025	Computer Graphic Design	3(2-2-5)
MGT 1101	Introduction to Business	3(3-0-6)
	Total	**18 (15-7-34)**

SECOND YEAR

First Semester

BG 2000	English III	3(2-3-6)
CA 2003	Presentation Technique	3(2-2-5)
MKT 2280	Principles of Marketing	3(3-0-6)
BG 1301	Fundamentals of Statistics	3(3-0-6)
GE 1102	Introduction to Philosophy	3(3-0-6)
GE 2202	Ethics	3(3-0-6)
	Total	**18 (16-5-35)**

Second Semester

BG 2001	English IV	3(2-3-6)
MGT 2900	Principles of Management	3(3-0-6)
CA 2019	Communication Arts Research	3(3-0-6)
PR 2201	Marketing Public Relations	3(3-0-6)
PR 2202	Strategic Public Relations Campaign Planning and Evaluation	3(3-0-6)
PR 2203	Persuasive Communication	3(3-0-6)
	Total	**18 (17-3-36)**

THIRD YEAR

First Semester

PR 3214	Organization Communication	3(3-0-6)
PR 3215	Writing for Public Relations in English	3(2-2-5)
PR 3230	Digital Public Relations	3(2-2-5)
	Major Elective	3(3-0-6)
	Major Elective	3(3-0-6)
	Total	**15 (13-4-28)**

Second Semester

PR 3231	Content Strategy	3(3-0-6)
PR 4201	Corporate Communication and Stakeholder Relations	3(3-0-6)
PR 4221	Public Relations for Issue and Crisis Management	3(3-0-6)
	Major Elective Course	3(3-0-6)
	Major Elective Course	3(3-0-6)
	Total	**15 (10-0-30)**

Summer Semester

PR 4213	Public Relations Internship	3 (200 Hours)
	Total	**3 (200 Hours)**

FOURTH YEAR

First Semester

CA 4010	Law and Ethical Concerns for Communication	3(3-0-6)
PR 4227	Public Relations Senior Project for Marketing Communication	6(4-4-10)
	Major Elective Course	3(3-0-6)
	Free Elective Course	3(3-0-6)
	Total	**15 (13-4-28)**

Second Semester

PR 4228	Public Relations Senior Project for Social Campaign	6(4-4-10)
PR 4209	Seminar in Public Relations	3(2-2-5)
	Free Elective Course	3(3-0-6)
	Total	**12 (9-6-21)**

CATHEDRAL OF LEARNING

BACHELOR OF FINE AND APPLIED ARTS

PROGRAM IN COMPUTER GENERATED IMAGERY

GRADUATION REQUIREMENTS

Assumption University confers the degree of Bachelor of Fine and Applied Arts in Computer Generated Imagery upon students who meet all of the following requirements:

- Have completed the total number of credits of the curriculum.
- Have obtained a cumulative grade point average of at least 2.00.
- Have participated in 16 sessions of the Professional Ethics Seminar.
- Have obtained library and financial clearance f om the University.
- Have demonstrated good behavior and discipline.
- Have met the minimum English proficienc requirement specified in one of the following criteria

Test Instruments	Required Passing Score
AU English Proficienc Assessment or	70%*
TOEFL (iBT) or	90
TOEFL (P) or	575
IELTS	6.5

**70% = Level B2 of Common European Framework of Reference for Language (CEFR)*

OBJECTIVES OF CURRICULUM

To produce graduates who have the characteristics, knowledge and skills as follow:

1. Exercise professional ethics and recognize the impact of creative works on the society.
2. Capable of applying theoretical knowledge and technical skills in computer generated imagery to profession.
3. Capable of using skills in critical, logical and analytical thinking to solve problems in their profession and life.
4. Able to work with others in their field
5. Capable of using information technology in the practice of their profession.
6. Capable of using communication skills in Thai and English on conveying message visualizing ideas and presenting professional works. works.

CURRICULUM STRUCTURE

Total number of credits	134 Credits
A. General Education Courses	**31 Credits**
Language Courses	12 Credits
Social Science Courses	7 Credits
Humanities Courses	9 Credits
Science and Mathematics Course	3 Credits
B. Specialized Courses	**97 Credits**
Core Courses	33 Credits
Major Required Courses	49 Credits
Major Elective Courses	15 Credits
C. Free Elective Courses	**6 Credits**

COURSES

A. General Education Courses

Language Courses		**12 Credits**
BG 1001	English I	3 (2-3-6)
BG 1002	English II	3 (2-3-6)
BG 2000	English III	3 (2-3-6)
BG 2001	English IV	3 (2-3-6)
Social Science Courses		**7 Credits**
GE 1204	Physical Education	1 (1-0-2)
GE 2202	Ethics	3 (3-0-6)
MGT 1101	Introduction to Business	3 (3-0-6)
Humanities Courses		**9 Credits**
ART 3022	Thai Inspiration	3 (2-2-5)
GE 2101	World Civilization	3 (3-0-6)
MGT 2404	Managerial Psychology	3 (3-0-6)
Science and Mathematics Course		**3 Credits**
MA 1200	Mathematics for Business	3 (3-0-6)

B. Specialized Courses

Core Courses		**33 Credits**
ART 0011	Intensive Drawing	Non-credit
ART 1001	Drawing	3 (2-2-5)
ART 1002	2 Dimensional Foundation	3 (2-2-5)
ART 1003	Color Theory	3 (2-2-5)
ART 1005	Painting	3 (2-2-5)
ART 1007	Figure Drawing	3 (2-2-5)
ART 1208	Computer Graphics Foundation	3 (2-2-5)
ART 2009	History of Art	3 (3-0-6)
ART 2021	Digital Type and Typography	3 (2-2-5)
ART 2311	Photography	3 (2-2-5)
ART 4019	Aesthetics	3 (3-0-6)
MKT 2280	Principles of Marketing	3 (3-0-6)
Major Required Courses		**49 credits**
CGI 3025	CGI Internship	1 (120 hours)
CGI 1201	Computer Graphics Design Studio I	3 (2-2-5)
CGI 2235	Introduction to Motion Picture	3 (2-2-5)
CGI 2203	Computer Graphics Design Studio II	3 (2-2-5)
CGI 2204	Introduction to 3D Modeling	3 (1-4-4)
CGI 2205	Motion Graphics Design	3 (1-4-4)
CGI 2236	Introduction to Sound Design	3 (1-4-4)
CGI 2207	Animation Concept and Storytelling	3 (2-2-5)
CGI 2208	Computer Graphics Design Studio III	3 (2-2-5)
CGI 3210	Computer Graphics Design Studio IV	3 (2-2-5)
CGI 3211	Cinematic Lighting and Rendering	3 (1-4-4)
CGI 3212	Computer Graphics Design Studio V	3 (2-2-5)
CGI 3213	Digital Image for Digital Production	3 (1-4-4)
CGI 4223	Art Thesis I	3 (2-2-5)
CGI 4224	Computer Graphics Design Portfolio	3 (2-2-5)
CGI 4225	Art Thesis II	6 (1-10-7)

Major Elective Courses		**15 credits**

Choose one group of elective courses

Animation

CGI 3209	3D Animation	3 (1-4-4)
CGI 3214	Movement Analysis and Integration	3 (1-4-4)
CGI 3227	Lip Sync and Facial Expressions for Animation	3 (1-4-4)
CGI 3228	Introduction to Rigging	3 (1-4-4)
CGI 4229	Advanced 3D Character Animation	3 (1-4-4)

Visual Effects

CGI 3230	Cinematography for Visual Effects	3 (1-4-4)
CGI 3231	Digital Material for Texturing	3 (1-4-4)
CGI 3220	Digital Compositing	3 (1-4-4)
CGI 3236	Visual Effects	3 (1-4-4)
CGI 4232	Matte Painting for Visual Effects	3 (1-4-4)

C. Free Elective Course — 6 Credits

Students can take free elective courses of 6 credits from any faculty in Assumption University upon completion of the prerequisites (if any).

CGI 3233	Advanced 3D Modeling and 3D Visualization	3 (1-4-4)
CGI 3234	Character Design	3 (1-4-4)

STUDY PLAN

FIRST YEAR

First Semester

Code	Subjects	Credits
ART 1001	Drawing	3 (2-2-5)
ART 1002	2 Dimensional Foundation	3 (2-2-5)
ART 1003	Color Theory	3 (2-2-5)
ART 2311	Photography	3 (2-2-5)
GE 1204	Physical Education	1 (1-0-2)
BG 1001	English I	3 (2-3-6)
MGT 1101	Introduction to Business	3 (3-0-6)
	Total	**19 (14-11-34)**

Second Semester

ART 1005	Painting	3 (2-2-5)
ART 1208	Computer Graphics Foundation	3 (2-2-5)
BG 1002	English II	3 (2-3-6)
MA 1200	Mathematics for Business	3 (3-0-6)
CGI 1201	Computer Graphics Design Studio I	3 (2-2-5)
CGI 2235	Introduction to Motion Picture	3 (2-2-5)
	Total	**18 (13-11-32)**

SECOND YEAR

First Semester

ART 1007	Figure Drawing	3 (2-2-5)
ART 2009	History of Art	3 (3-0-6)
ART 2021	Digital Type and Typography	3 (2-2-5)
CGI 2236	Introduction to Sound Design	3 (1-4-4)
BG 2000	English III	3 (2-3-6)
CGI 2203	Computer Graphics Design Studio II	3 (2-2-5)
MKT 2280	Principles of Marketing	3 (3-0-6)
	Total	**21 (15-13-37)**

Second Semester

CGI 2204	Introduction to 3D Modeling	3 (1-4-4)
CGI 3213	Digital Image for Digital Production	3 (1-4-4)
CGI 2207	Animation Concept and Storytelling	3 (2-2-5)
CGI 2208	Computer Graphics Design Studio III	3 (2-2-5)
GE 2101	World Civilization	3 (3-0-6)
BG 2001	English IV	3 (2-3-6)
	Total	**18 (11-15-30)**

THIRD YEAR

First Semester

ART 3022	Thai Inspirations	3 (2-2-5)
CGI 2205	Motion Graphics Design	3 (1-4-4)
CGI 3210	Computer Graphics Design Studio IV	3 (2-2-5)

Major Elective Courses : Animation

CGI 3209	3D Animation	3 (1-4-4)
CGI 3228	Introduction to Rigging	3 (1-4-4)

Major Elective Courses Course : Visual Effects

CGI 3226	Digital Material for Texturing	3 (1-4-4)
CGI 3230	Cinematography for Visual Effects	3 (1-4-4)
	Total	**15 (7-16-22)**

Second Semester

CGI 3211	Cinematic Lighting and Rendering	3 (1-4-4)
CGI 3212	Computer Graphics Design Studio V	3 (2-2-5)
MGT 2404	Managerial Psychology	3 (3-0-6)

Major Elective Courses : Animation

CGI 3227	Lip Sync and Facial Expressions for Animation	3 (1-4-4)
CGI 3214	Movement Analysis and Integration	3 (1-4-4)

Major Elective Courses Course : Visual Effects

CGI 3220	Digital Compositing	3 (1-4-4)
CGI 3236	Visual Effects	3 (1-4-4)
	Total	**15 (8-14-23)**

Summer Session

CGI 3025	CGI Internship	1 (120 hours)
	Total	**1 (120 hours)**

FOURTH YEAR

First Semester

ART 4019	Aesthetics	3 (3-0-6)
GE 2202	Ethics	3 (3-0-6)
CGI 4223	Art Thesis I	3 (2-2-5)
	Free Elective Course	3 (x-x-x)

Major Elective Courses : Animation

CGI 4229	Advanced 3D Character Animation	3 (1-4-4)

Major Elective Courses Course : Visual Effects

CGI 4232	Matte Painting for Visual Effects	3 (1-4-4)
	Total	**15 (x-x-x)**

Second Semester

CGI 4224	Computer Graphics Design Portfolio	3 (2-2-5)
CGI 4225	Art Thesis II	6 (1-10-7)
	Free Elective Course	3 (x-x-x)
	Total	**12 (x-x-x)**

BACHELOR OF FINE AND APPLIED ARTS

PROGRAM IN VISUAL COMMUNICATION DESIGN

GRADUATION REQUIREMENTS

Assumption University confers the degree of Bachelor of Fine and Applied Arts in Visual Communication Design upon students who meet all of the following requirements:

- Have completed the total number of credits of the curriculum
- Have obtained accumulative grade point average of at least 2.00
- Have participated in 16 sessions of the Professional Ethics Seminar
- Have obtained library and financial clearance f om the University
- Have demonstrated good behavior and discipline
- Are obligated to meet the minimum English proficiency equirement specified in one of th following criteria:

Test Instruments	Required Passing Score
AU English Proficienc Assessment or	70%*
TOEFL (iBT) or	90
TOEFL (P) or	575
IELTS	6.5

**70% = Level B2 of Common European Framework of Reference for Language (CEFR)*

OBJECTIVES OF CURRICULUM

To produce graduates who have the characteristics, knowledge and skills as follows:

We are committed to provide the local and global community with visual communication designers who are aware of their role in society. An individual must carry out design conforming to business convention, realizing the sustainable approaches and uplifting social and cultural practice as well as personal visual exploration.

CURRICULUM STRUCTURE

Total number of credits	133 Credits
A. General Education Courses	**34 Credits**
Language Courses	12 Credits
Social Science Courses	7 Credits
Humanities Courses	12 Credits
Science and Mathematics Course	3 Credits
B. Specialized Courses	**93 Credits**
Core Courses	39 Credits
Major Required Courses	45 Credits
Major Elective Courses	9 Credits
C. Free Elective Courses	**6 Credits**

COURSES

A. General Education Courses

Language Courses		**12 Credits**
BG 1001	English I	3 (2-3-6)
BG 1002	English II	3 (2-3-6)
BG 2000	English III	3 (2-3-6)
BG 2001	English IV	3 (2-3-6)

Social Science Courses		**7 Credits**
GE 1204	Physical Education	1 (1-0-2)
GE 2202	Ethics	3 (3-0-6)
MGT 1101	Introduction to Business	3 (3-0-6)

Humanities Courses		**12 Credits**
ART 3014	Thai Art	3 (3-0-6)
GE 2101	World Civilization	3 (3-0-6)
ART 1507	History of Western Art I	3 (3-0-6)
ART 2513	History of Western Art II	3 (3-0-6)

Science and Mathematics Course		**3 Credits**
MA 1200	Mathematics for Business	3 (3-0-6)

B. Specialized Courses

Core Courses		39 Credits
ART 0011	Intensive Drawing	Non-credit
ART 1002	2 Dimensional Foundation	3 (2-2-5)
ART 1003	Color Theory	3 (2-2-5)
ART 1006	3 Dimensional Foundation	3 (2-2-5)
ART 1608	Computer Graphic	3 (2-2-5)
ART 1604	Visual Art Media I	3 (2-2-5)
ART 1605	Visual Art Media II	3 (2-2-5)
ART 2010	Typography	3 (2-2-5)
ART 2112	Illustration	3 (2-2-5)
MKT 2280	Principles of Marketing	3 (3-0-6)
ART 2311	Photography	3 (2-2-5)
ART 2615	Visualization	3 (2-2-5)
ART 3016	History of Modern Design	3 (3-0-6)
ART 4019	Aesthetics	3 (3-0-6)

Major Required Courses		45 credits
ART 1709	Digital Production	3 (2-2-5)
VIS 2104	Advance Typography	3 (2-2-5)
ART 3117	Internship	3 (160 hours)
ART 3718	Folk Art in South East Asia	3 (3-0-6)
ART 3720	Time Base Media	3 (2-2-5)
ART 3721	Interactive Media	3 (2-2-5)
VIS 1701	Visual Literacy	3 (2-2-5)
VIS 2702	Composition	3 (2-2-5)
VIS 2703	Mark & Symbol	3 (2-2-5)
VIS 2705	Visual Marketing & Design	3 (2-2-5)
VIS 3706	Information Graphic Design	3 (2-2-5)
VIS 4115	Design Management	3 (3-0-6)
VIS 4116	Art Thesis I	3 (3-0-6)
VIS 4122	Art Thesis II	6 (1-10-11)

Major Elective Courses **9 credits**

Students must take major elective courses of at least 9 credits from the list.

VIS 3111	Package Design	3 (2-2-5)
VIS 3112	Typeface Design	3 (2-2-5)
VIS 3807	Text in Space	3 (2-2-5)
VIS 3808	Image Manipulation	3 (2-2-5)
VIS 3809	Graphic Design System	3 (2-2-5)
VIS 3810	Art Direction	3 (2-2-5)
VIS 3813	Visual Merchandising Design	3 (2-2-5)
VIS 4117	Signage System and Wayfinding Design	3 (2-2-5)
VIS 4814	Exhibition Design	3 (2-2-5)
VIS 4818	Campaign Design	3 (2-2-5)
VIS 4819	Experimental Design	3 (2-2-5)

C. Free Elective Course 6 Credits

Students can take free elective courses of 6 credits from any faculty in Assumption University upon completion of the prerequisites (if any).

ART 3922	Basic Drawing	3 (2-2-5)
ART 3923	Thai Painting	3 (2-2-5)
ART 3924	Print Making	3 (2-2-5)
ART 3925	Creative Photography	3 (2-2-5)
ART 4926	History of Asian Art	3 (3-0-6)
VIS 4124	Book Binding	3 (2-2-5)
VIS 4920	Art Exposure	3 (3-0-6)
VIS 4921	Sustainable Graphic Design	3 (2-2-5)
VIS 4923	Design Discourse	3 (3-0-6)

STUDY PLAN

FIRST YEAR
First Semester

Code	Subjects	Credits
ART 1002	2 Dimensional Foundation	3 (2-2-5)
ART 1003	Color Theory	3 (2-2-5)
ART 1608	Computer Graphic	3 (2-2-5)
ART 1604	Visual Art Media I	3 (2-2-5)
BG 1001	English I	3 (2-3-6)
GE 2101	World Civilization	3 (3-0-6)
	Total	**18 (13-11-32)**

Second Semester

ART 1605	Visual Art Media II	3 (2-2-5)
ART 1507	History of Western Art I	3 (3-0-6)
ART 1709	Digital Production	3 (2-2-5)
ART 2010	Typography	3 (2-2-5)
BG 1002	English II	3 (2-3-6)
VIS 1701	Visual Literacy	3 (2-2-5)
	Total	**18 (13-11-32)**

SECOND YEAR
First Semester

ART 1006	3 Dimensional Foundation	3 (2-2-5)
ART 2112	Illustration	3 (2-2-5)
ART 2513	History of Western Art II	3 (3-0-6)
BG 2000	English III	3 (2-3-6)
MGT 1101	Introduction to Business	3 (3-0-6)
VIS 2702	Composition	3 (2-2-5)
	Total	**18 (14-9-33)**

Second Semester

ART 2311	Photography	3 (2-2-5)
ART 2615	Visualization	3 (2-2-5)
ART 3016	History of Modern Design	3 (3-0-6)
BG 2001	English IV	3 (2-3-6)
VIS 2703	Mark & Symbol	3 (2-2-5)
VIS 2705	Visual Marketing & Design	3 (2-2-5)
	Total	**18 (13-11-32)**

THIRD YEAR
First Semester

ART 3014	Thai Art	3 (3-0-6)
ART 3720	Time Base Media	3 (2-2-5)
MKT 2280	Principles of Marketing	3 (3-0-6)
VIS 2104	Advance Typography	3 (2-2-5)
VIS 3706	Information Graphic Design	3 (2-2-5)
	Major Elective Course	3 (2-2-5)
	Total	**18 (- -)**

Second Semester

ART 3718	Folk Art in South East Asia	3 (3-0-6)
ART 3721	Interactive Media	3 (2-2-5)
MA 1200	Mathematics for Business	3 (3-0-6)
VIS 4115	Design Management	3 (3-0-6)
	Major Elective Course	3 (2-2-5)
	Free Elective Course	3 (- -)
	Total	**18 (- -)**

Summer Session

ART 3117	Internship	3 (160 hrs)
	Total	**3 (160 hrs)**

FOURTH YEAR
First Semester

ART 4019	Aesthetics	3 (3-0-6)
VIS 4116	Art Thesis I	3 (3-0-6)
	Major Elective Course	3 (2-2-5)
	Free Elective Course	3 (- -)
	Total	**12 (- -)**

Second Semester

GE 2202	Ethics	3 (3-0-6)
GE 1204	Physical Education	1 (1-0-2)
VIS 4122	Art Thesis II	6 (1-10-11)
	Total	**10 (- -)**

MONTFORT DEL ROSARIO SCHOOL OF **ARCHITECTURE AND DESIGN**

BACHELOR OF ARCHITECTURE

PROGRAM IN ARCHITECTURE

GRADUATION REQUIREMENTS

Assumption University confers the degree of Bachelor of Architecture in Architecture upon students who meet all of the following requirements:

- Have completed of the total number of credits of the curriculum
- Have obtained a cumulative grade point average of at least 2.00
- Have participated in 16 sessions of the Professional Ethics Seminar
- Have obtained library and financial clearance f om the University
- Have demonstrated good behavior and discipline
- Have to meet the minimum English Proficienc requirement specified in one of the following criteri

Test Instruments	Required Passing Score
AU English Proficienc Assessment or	70%*
TOEFL (iBT) or	90
TOEFL (P) or	575
IELTS	6.5

**70% = Level B2 of Common European Framework of Reference for Language (CEFR)*

OBJECTIVES OF CURRICULUM

To produce graduates who have the characteristics, knowledge and skills as follows:

1. Possess professional ethics that will lead to architectural enhancement and approval of the society.
2. Possess architectural knowledge and skills sufficient to assume architectural leadership position in developing the society and the country, with professional responsibility.
3. Initiate research, analyze and critically evaluate solutions to formulate conclusions relating to architectural design.
4. To nurture a spirit of innovation and entrepreneurship in design-related field
5. Able to take their leading roles in rendering architectural services and work constructively and productively within an interdisciplinary environment.
6. Effectively communicate by using a variety of oral, written and IT skills.
7. Equip with broader knowledge of built environment.

CURRICULUM STRUCTURE

Total number of credits	171 Credits
A. General Education Courses	**30 Credits**
Language Courses	15 Credits
Social Science Course	3 Credits
Humanities Courses	6 Credits
Science and Mathematics Courses	6 Credits
B. Specialized Courses	**135 Credits**
Core Courses	30 Credits
Major Required Courses	57 Credits
Major Elective Courses	12 Credits
Minor Required Courses	36 Credits
C. Free Elective Courses	**6 Credits**

COURSES

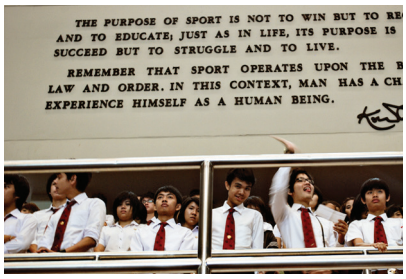
A. General Education Courses

Language Courses		**15 Credits**
GE 1403	Communication in Thai	3 (3-0-6)
or		
GE 1405	Thai Language and Culture	3 (3-0-6)
BG 1001	English I	3 (2-3-6)
BG 1002	English II	3 (2-3-6)
BG 2000	English III	3 (2-3-6)
BG 2001	English IV	3 (2-3-6)

Social Science Course		**3 Credits**
MGT 1101	Introduction to Business	3 (3-0-6)

Humanities Courses		**6 Credits**
GS 1004	Art of Delineation	3 (2-2-5)
GS 1005	Graphic Presentation	3 (2-2-5)

Science and Mathematics Courses		**6 Credits**
GS 1008	Applied Mathematics	3 (3-0-6)
GE 1301	Environmental Science	3 (3-0-6)



B. Specialized Courses

Core Courses		30 Credits
AR 1102	Visual Studies and Communication	3 (2-2-5)
AR 1104	Fundamental of Architectural Design	3 (2-2-5)
AR 1106	Architectural Drawing	3 (2-2-5)
AR 1108	History of Art and Architecture	3 (3-0-6)
AR 2109	Building Technology and Construction I	3 (2-2-5)
AR 2110	Building Technology and Construction II	3 (2-2-5)
AR 2111	Introduction to Computer - Aided Design	3 (2-2-5)
AR 3108	Building Equipment and Systems	3 (2-2-5)
AR 3109	History of Thai Architecture	3 (3-0-6)
AR 4106	Methods of Research and Data Processing	3 (3-0-6)

Major Required Courses		57 credits
AR 2202	Architectural Design I	6 (2-8-8)
AR 2204	Architectural Design II	6 (2-8-8)
AR 3200	Theory and Concept in Architecture	3 (3-0-6)
AR 3203	Architectural Design III	6 (2-8-8)
AR 3207	Architectural Design IV	6 (2-8-8)
AR 4207	Integrated Architectural Design I	6 (2-8-8)
AR 4208	Integrated Architectural Design II	6 (2-8-8)
AR 5206	Integrated Architectural Design III	6 (2-8-8)
AR 5200	Pre-Thesis in Architecture	3 (0-6-3)
AR 5205	Thesis in Architecture	9 (0-18-9)

Major Elective Courses **12 credits**

Select courses according to concentration

A.) Concentration in Architectural Design

AR 5402	Fundamentals of Architecture and Urban Conservation	3 (3-0-6)
AR 5403	Advanced Computer - Aided Design	3 (2-2-5)
AR 5405	Individual Study in Architecture	3 (3-0-6)
AR 5409	Architectural Psychology	3 (3-0-6)
AR 5410	Thai Architecture	3 (2-2-5)
AR 5414	Energy Saving	3 (3-0-6)
AR 5415	Interactive Features Design	3 (2-2-5)
AR 5416	Façade Design in Architecture	3 (2-2-5)
AR 5417	Interior Design by Architects	3 (2-2-5)
AR 5418	Introduction to Exhibition Design	3 (2-2-5)
AR 5419	Special Topics in History, Theory and Technology in Architecture	3 (3-0-6)
AR 5420	Lighting, Perception and Culture	3 (3-0-6)
AR 5421	Landscape Architectural Design	3 (2-2-5)
AR 5422	Contemporary Theory and Concept in Architecture	3 (3-0-6)
AR 5423	Sustainable Building Design	3 (2-2-5)
AR 5424	Introduction to Design-Build	3 (2-2-5)

B.) Concentration in Design Business

AR 5401	Building Cost Estimation and Control	3 (3-0-6)
AR 5404	Construction Management	3 (1-4-4)
AR 5405	Individual Study in Architecture	3 (3-0-6)
AR 5407	Real Estate Development	3 (3-0-6)
AR 5413	Project Management	3 (3-0-6)
AR 5425	Project Feasibility Study	3 (3-0-6)

Minor Required Courses		36 Credits
AR 1300	Preparation for Architectural and Design Studies	Non-Credit
AR 2307	Structural Design Principle	3 (3-0-6)
AR 2308	History of Modern Architecture and Later	3 (3-0-6)
AR 2309	Architectural Design Methods	3 (3-0-6)
AR 3307	Building Technology and Construction III	3 (2-2-5)
AR 3308	Building Technology and Construction IV	3 (2-2-5)
AR 3310	Fundamentals of Site and Landscape Planning	3 (2-2-5)
AR 3311	Fundamental of Building Information Modeling Management	3 (2-2-5)
AR 3312	Architectural Programming	3 (3-0-6)
AR 4301	Fundamentals of Urban and Regional Planning	3 (2-2-5)
AR 4302	Seminar in Architecture	3 (3-0-6)
AR 4303	Practicum in Architecture	Non-Credit
AR 4304	Building Technology and Construction V	3 (2-2-5)
AR 5300	Professional Ethics and Practices	3 (3-0-6)

C. Free Elective Course — 6 Credits

Students can take free elective courses of 6 credits from any faculty in Assumption University upon completion of the prerequisites (if any).

STUDY PLAN

FIRST YEAR
First Semester

Code	Subjects	Credits
GE 1403	Communication in Thai	3 (3-0-6)
or		
GE 1405	Thai Language and Culture	3 (3-0-6)
BG 1001	English I	3 (2-3-6)
GS 1004	Arts of Delineation	3 (2-2-5)
GS 1008	Applied Mathematics	3 (3-0-6)
AR 1102	Visual Studies and Communication	3 (2-2-5)
AR 1106	Architectural Drawing	3 (2-2-5)
AR 1300	Preparation for Architectural and Design Studies	Non-credit
	Total	**18 (14-9-33)**

Second Semester

BG 1002	English II	3 (2-3-6)
MGT1101	Introduction to Business	3 (3-0-6)
GS 1005	Graphic Presentation	3 (2-2-5)
GE 1301	Environmental Science	3 (3-0-6)
AR 1104	Fundamentals of Architectural Design	3 (2-2-5)
AR 1108	History of Art and Architecture	3 (3-0-6)
	Total	**18 (15-7-34)**

SECOND YEAR
First Semester

BG 2000	English III	3 (2-3-6)
AR 2109	Building Technology and Construction I	3 (2-2-5)
AR 2202	Architectural Design I	6 (2-8-8)
AR 2307	Structural Design Principle	3 (3-0-6)
AR 2308	History of Modern Architecture and Later	3 (3-0-6)
	Total	**18 (12-13-31)**

Second Semester

BG 2001	English IV	3 (2-3-6)
AR 2110	Building Technology and Construction II	3 (2-2-5)
AR 2204	Architectural Design II	6 (2-8-8)
AR 2111	Introduction to Computer - Aided Design	3 (2-2-5)
AR 2309	Architectural Design Methods	3 (3-0-6)
	Total	**18 (11-15-30)**

THIRD YEAR
First Semester

AR 3203	Architectural Design III	6 (2-8-8)
AR 3307	Building Technology and Construction III	3 (2-2-5)
AR 3310	Fundamental of Site and Landscape Planning	3 (2-2-5)
AR 3108	Building Equipment and Systems	3 (2-2-5)
AR 3311	Fundamental of Building Information Modeling Management	3 (2-2-5)
	Total	**18 (10-16-28)**

Second Semester

AR 3200	Theory and Concept in Architecture	3 (3-0-6)
AR 3207	Architectural Design IV	6 (2-8-8)
AR 3308	Building Technology and Construction IV	3 (2-2-5)
AR 3109	History of Thai Architecture	3 (3-0-6)
AR 3312	Architectural Programming	3 (3-0-6)
	Total	**18 (13-10-31)**

FOURTH YEAR
First Semester

AR 4301	Fundamentals of Urban Planning and Design	3 (2-2-5)
AR 4302	Seminar in Architecture	3 (3-0-6)
AR 4207	Integrated Architectural Design I	6 (2-8-8)
AR 4304	Building Technology and Construction V	3 (2-2-5)
	Major Elective I	3 (3-0-6) /(2-2-5)
	Total	**18 (10-12-30) / (11-14-29)**

Second Semester

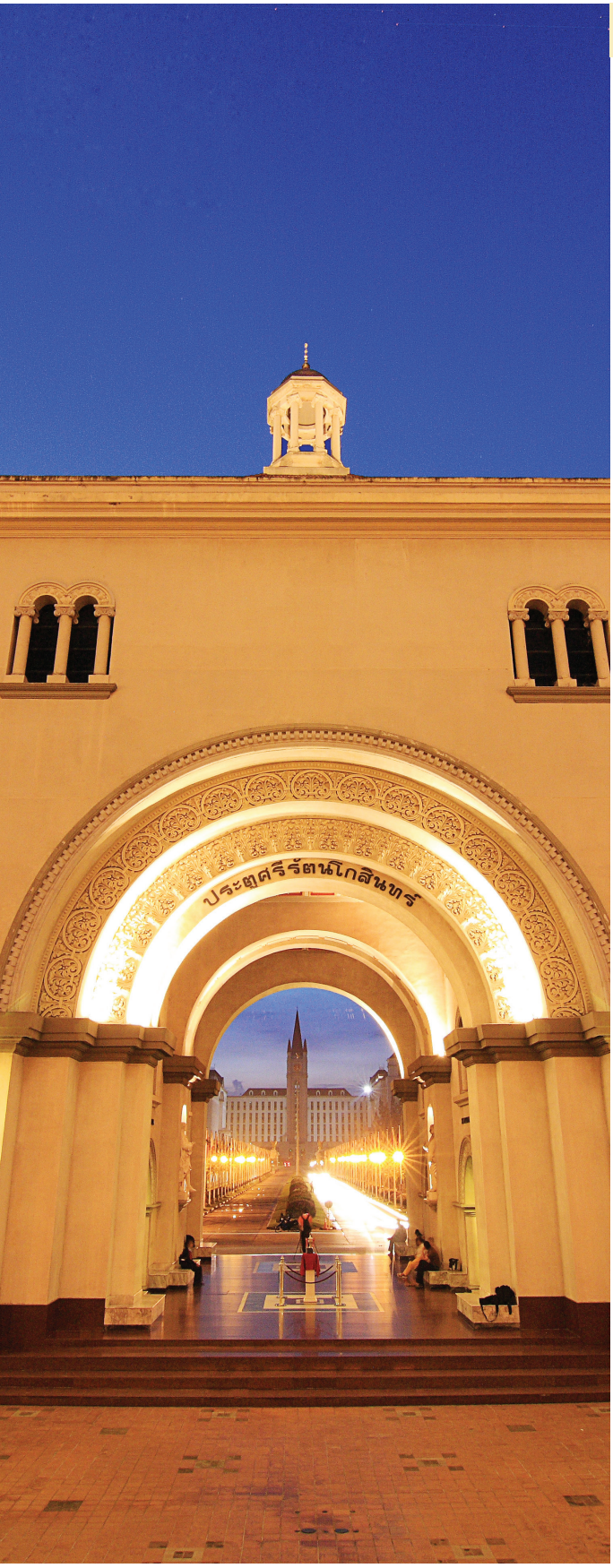
AR 4106	Methods of Research and Data Processing	3 (3-0-6)
AR 4303	Practicum in Architecture	Non-credit (320 Hours)
AR 4208	Integrated Architectural Design II	6 (2-8-8)
	Major Elective II	3 (3-0-6) / (2-2- 5)
	Major Elective III	3 (3-0-6) / (2-2-5)
	Free Elective	3 (3-0-6)
	Total	**18 (14-8-32) / (12-12-30)**

FIFTH YEAR
First Semester

AR 5200	Pre-Thesis in Architecture	3 (0-6-3)
AR 5206	Integrated Architectural Design III	6 (2-8-8)
	Major Elective IV	3 (3-0-6) / (2-2-5)
	Free Elective	3 (3-0-6)
	Total	**15 (8-14-23) / (7-16-22)**

Second Semester

AR 5205	Thesis in Architecture	9 (0-18-9)
AR 5300	Professional Ethics and Practices	3 (3-0-6)
	Total	**12 (3-18-15)**



BACHELOR OF ARCHITECTURE

PROGRAM IN INTERIOR ARCHITECTURE

GRADUATION REQUIREMENTS

Assumption University confers the degree of Bachelor of Bachelor of Architecture in Interior Architecture upon students who meet all of the following requirements:

- Have completed the total number of credits of the curriculum
- Have obtained a cumulative grade point average of at least 2.00
- Have participated in 16 sessions of the Professional Ethics Seminar
- Have obtained library and financial clearance f om the University
- Have demonstrated good behavior and discipline
- Have to meet the minimum English Proficienc requirement specified in one of the followin

Test Instruments	Required Passing Score
AU English Proficienc Assessment or	70%*
TOEFL (iBT) or	90
TOEFL (P) or	575
IELTS	6.5

**70% = Level B2 of Common European Framework of Reference for Language (CEFR)*

CURRICULUM STRUCTURE

Total number of credits	165 Credits
A. General Education Courses	**30 Credits**
Language Courses	15 Credits
Social Science Course	3 Credits
Humanities Courses	6 Credits
Science and Mathematics Courses	6 Credits
B. Specialized Courses	**129 Credits**
Core Courses	36 Credits
Major Required Courses	57 Credits
Major Elective Courses	6 Credits
Minor Required Courses	30 Credits
C. Free Elective Courses	**6 Credits**

OBJECTIVES OF CURRICULUM

(1) Develop moral character and possess professional ethics accepted and approved by the society.

(2) Understand interior architecture theories and possess techniques developed through the systematic and efficient creative thinking process as well as professional responsibility sufficient to assume the role of interior architects in the development of industry, society and the country.

(3) Able to innovate and transform creative concepts through systematic analysis and considerations of related theories to the spatial visualization.

(4) Able to render interior architecture services in the milieu of science and technology while adhering to preservation of arts and culture.

(5) Able to contribute to a team work among designers and others with the same level of competency and aspiration in order to function creatively while maintaining a healthy competitive environment.

(6) Have creativity and presentation skills via computer applications and logical schema.

(7) Have dexterity in freehand drawing, interior architecture drafting, delineation and three dimensional model making.

COURSES

A. General Education Courses

Language Courses		**15 Credits**
BG 1001	English I	3 (2-3-6)
BG 1002	English II	3 (2-3-6)
BG 2000	English III	3 (2-3-6)
BG 2001	English IV	3 (2-3-6)
GE 1403	Communication in Thai	3 (3-0-6)
or		
GE 1405	Thai Language and Culture	3 (3-0-6)

Social Science Course		**3 Credits**
MGT 1101	Introduction to Business	3 (3-0-6)

Humanities Courses		**6 Credits**
GS 1004	Art of Delineation	3 (2-2-5)
GS 1005	Graphic Presentation	3 (2-2-5)

Science and Mathematics Courses		**6 Credits**
GS 1008	Applied Mathematics	3 (3-0-6)
GE 1301	Environmental Science	3 (3-0-6)

B. Specialized Courses

Core Courses		**36 Credits**
AR 1102	Visual Studies and Communication	3 (2-2-5)
AR 1104	Fundamental of Architectural Design	3 (2-2-5)
AR 1106	Architectural Drawing	3 (2-2-5)
AR 1108	History of Art and Architecture	3 (3-0-6)
AR 2109	Building Technology and Construction I	3 (2-2-5)
AR 2110	Building Technology and Construction II	3 (2-2-5)
AR 2111	Introduction to Computer - Aided Design	3 (2-2-5)
AR 3108	Building Equipment and Systems	3 (2-2-5)
AR 4101	History of Thai Architecture	3 (3-0-6)
IN 3102	Advanced Computer – Aided Design	3 (3-0-6)
IN 2106	Contemporary Issues in Design	3 (3-0-6)
IN 4102	Methods of Research and Data Processing	3 (3-0-6)

Major Required Courses		**57 credits**
IN 2202	Interior Architectural Design I	6 (2-8-8)
IN 2204	Interior Architectural Design II	6 (2-8-8)
IN 3200	Theory and Concept in Interior Architecture	3 (3-0-6)
IN 3203	Interior Architectural Design III	6 (2-8-8)
IN 3207	Interior Architectural Design IV	6 (2-8-8)
IN 4203	Interior Architectural Design V	6 (2-8-8)
IN 4205	Interior Architectural Design VI	6 (2-8-8)
IN 5200	Pre-Thesis in Interior Architecture	3 (0-6-3)
IN 5203	Interior Architectural Design VII	6 (2-8-8)
IN 5205	Thesis in Interior Architecture	9 (0-18-9)

Major Elective Courses		**6 credits**
IN 5400	Elements of Thai Architecture	3 (2-2-5)
IN 5401	Interior Architecture Cost Estimation and Control	3 (3-0-6)
IN 5404	Individual Study in Interior Architecture	3 (3-0-6)
IN 5411	Advanced Lighting	3 (2-2-5)
IN 5416	Introduction to Exhibition Design	3 (2-2-5)
IN 5417	Arts Appreciation	3 (3-0-6)
IN 5418	Advance Visualization Technique	3 (2-2-5)
IN 5419	Advance Construction Document for Interior Architecture	3 (2-2-5)

Minor Required Courses		**30 Credits**
AR 1300	Preparation for Architectural and Design	Non-credits
IN 2305	Interior Architectural Design Methods	3 (3-0-6)
IN 2306	History of Interior Architecture	3 (3-0-6)
IN 3301	Interior Construction Technology I	3 (2-2-5)
IN 3303	Interior Construction Technology II	3 (2-2-5)
IN 3304	Lighting Design	3 (2-2-5)
IN 3305	Furniture Design	3 (2-2-5)
IN 3306	Interior Material Application	3 (2-2-5)
IN 4304	Practicum in Interior Architecture	(320 Hours) Non-credit
IN 4305	Seminar in Interior Architecture	3 (3-0-6)
IN 4306	Furniture Production Method	3 (2-2-5)
IN 5300	Professional Ethics and Practices	3 (3-0-6)

C. Free Elective Course — 6 Credits

Students can take free elective courses of 6 credits which are offered by their faculty or by different faculties upon completion of the prerequisites.

STUDY PLAN

FIRST YEAR
First Semester

Code	Subjects	Credits
GE 1403	Communication in Thai (for Thai students)	3 (3-0-6)
or		
GE 1405	Thai Language and Culture (For non-Thai Students)	3 (3-0-6)
BG 1001	English I	3 (2-3-6)
GS 1004	Arts of Delineation	3 (2-2-5)
GS 1008	Applied Mathematics	3 (3-0-6)
AR 1102	Visual Studies and Communication	3 (2-2-5)
AR 1106	Architectural Drawing	3 (2-2-5)
	Total	**18 (14-9-33)**

Second Semester

BG 1002	English II	3 (2-3-6)
MGT 1101	Introduction to Business	3 (3-0-6)
GS 1005	Graphic Presentation	3 (2-2-5)
GE 1301	Environmental Science	3 (3-0-6)
AR 1104	Fundamentals of Architectural Design	3 (2-2-5)
AR 1108	History of Art and Architecture	3 (3-0-6)
	Total	**18 (15-7-34)**

SECOND YEAR
First Semester

BG 2000	English III	3 (2-3-6)
IN 2106	Contemporary Issues in Design	3 (3-0-6)
AR 2109	Building Technology and Construction I	3 (2-2-5)
IN 2202	Interior Architectural Design I	6 (2-8-8)
IN 2305	Interior Architectural Design Method	3 (3-0-6)
	Total	**18 (12-13-31)**

Second Semester

BG 2001	English IV	3 (2-3-6)
AR 2110	Building Technology and Construction II	3 (2-2-5)
AR 2111	Introduction to Computer - Aided Design I	3 (2-2-5)
IN 2204	Interior Architectural Design II	6 (2-8-8)
IN 2306	History of Interior Architecture	3 (3-0-6)
	Total	**18 (11-15-30)**

THIRD YEAR
First Semester

AR 3108	Building Equipment and System	3 (3-0-6)
IN 3200	Theory and Concept in Interior Architecture	3 (3-0-6)
IN 3203	Interior Architectural Design III	6 (2-8-8)
IN 3301	Interior Construction Technology I	3 (2-2-5)
IN 3306	Interior Material Application	3 (2-2-5)
	Total	**18 (12-12-30)**

Second Semester

IN 3102	Advanced Computer - Aided Design	3 (3-0-6)
IN 3207	Interior Architectural Design IV	6 (2-8-8)
IN 3303	Interior Construction Technology II	3 (2-2-5)
IN 3304	Lighting Design	3 (2-2-5)
IN 3305	Furniture Design	3 (2-2-5)
	Total	**18 (11-14-29)**

FOURTH YEAR
First Semester

AR 4101	History of Thai Architecture	3 (3-0-6)
IN 4203	Interior Architectural Design V	6 (2-8-8)
IN 4305	Seminar in Interior Architecture	3 (3-0-6)
IN 4306	Furniture Production Methods	3 (3-0-6)
	Total	**15 (10-10-25)**

Second Semester

IN 4102	Methods of Research and Data Processing	3 (3-0-6)
IN 4205	Interior Architectural Design VI	6 (2-8-8)
IN 4304	Practicum in Interior Architecture	(240 Hours) Non-Credit
	Free Elective Course	3 (x-x-x)
	Major Elective Course	3 (x-x-x)
	Total	**15 (x-x-x)**

FIFTH YEAR
First Semester

IN 5200	Pre-Thesis in Interior Architecture	3 (0-6-3)
IN 5203	Interior Architectural Design VII	6 (2-8-8)
	Free Elective Course	3 (x-x-x)
	Major Elective Course	3 (x-x-x)
	Total	**15 (x-x-x)**

Second Semester

AR 5205	Thesis in Interior Architecture	9 (0-18-9)
AR 5300	Professional Ethics and Practices	3 (3-0-6)
	Total	**12 (3-18-15)**

BACHELOR OF FINE AND APPLIED ARTS

PROGRAM IN INTERIOR DESIGN

GRADUATION REQUIREMENTS

Assumption University confers the degree of Bachelor of Fine and Arts in Product Design upon students who meet all of the following requirements specified in the Graduate Program Standard Criteria B.E. 2548 and Assumption University Bylaw B.E. 2548 as follows:

- Have completed the total number of credits of the curriculum.
- Have obtained a cumulative grade point average of at least 2.00.
- Have participated in 16 sessions of the Professional Ethics Seminar.
- Have obtained library and financial clearance wit the University.
- Have demonstrated good behavior and discipline.

OBJECTIVES

To produce graduates who have the characteristics, knowledge and skills as follows:

1. Possess personal, professional, and environmental ethics accepted and approved by the society.
2. Possess product design knowledge, technical skills, entrepreneurial and enterprising skills, and professional responsibility sufficient to assume leadership positions in the industry, society and the country.
3. Confident in endering product design services achieved through design thinking, problem solving, numerical analysis, and appropriate psychomotor skills in the milieu of science and technology while adhering to preservation of arts and culture.
4. Possess the 21st century skills, which includes social skills, communication skills, and digital literacy skills within collaborative environments

CURRICULUM STRUCTURE

Total number of credits	139 Credits
A. General Education Courses	**30 Credits**
Language Courses	15 Credits
Social Science Course	6 Credits
Humanities Courses	6 Credits
Science and Mathematics Courses	3 Credits
B. Specialized Courses	**135 Credits**
Foundation Courses	25 Credits
Major Required Courses	38 Credits
Technology Courses	15 Credits
Supporting Courses	22 Credits
Major Elective Courses	3 Credits
C. Free Elective Courses	**6 Credits**

OBJECTIVES OF CURRICULUM

To produce graduates who have the characteristics, knowledge and skills as follows:

1. Develop moral character and possess professional ethics accepted and approved by the society.
2. Understand interior architecture theories and possess techniques developed through the systematic and efficient creative thinking process as well as professional responsibility sufficient to assume the role of interior architects in the development of industry, society and the country.
3. Able to innovate and transform creative concepts through systematic analysis and considerations of related theories to the spatial visualization.
4. Able to render interior architecture services in the milieu of science and technology while adhering to preservation of arts and culture.
5. Able to contribute to a team work among designers and others with the same level of competency and aspiration in order to function creatively while maintaining a healthy competitive environment.
6. Have creativity and presentation skills via computer applications and logical schema.
7. Have dexterity in freehand drawing, interior architecture drafting, delineation and three dimensional model making.

COURSES

A. General Education Courses

Language Courses		**15 Credits**
BG 1001	English I	3 (2-3-6)
BG 1002	English II	3 (2-3-6)
BG 2000	English III	3 (2-3-6)
BG 2001	English IV	3 (2-3-6)
GE 1403	Communication in Thai	3 (3-0-6)
or		
GE 1405	Thai Language and Culture	3 (3-0-6)

Social Science Course		**6 Credits**
BEN 3201	Innovation and Design Thinking	3 (3-0-6)
GE 1205	ASEAN Ways	3 (3-0-6)

Humanities Courses		**6 Credits**
GS 1004	Art of Delineation	3 (2-2-5)
GS 1005	Graphic Presentation	3 (2-2-5)

Science and Mathematics Courses		**6 Credits**
GS 1004	Art of Delineation	3 (2-2-5)
GS 1006	Creative Culture and trends in Design	3 (2-2-5)

B. Specialized Courses

Foundation Courses		**25 Credits**
IND 1101	Visual Design	3 (2-2-5)
IND 1103	Interior Design Rendering	3 (2-2-5)
IND 1104	Human Factors for Design	3 (3-0-6)
IND 1301	Basic Drawing	3 (2-2-5)
IND 1302	Design Fundamentals I	3 (2-2-5)
IND 1305	Design Fundamentals II	3 (2-2-5)
IND 2103	Interior Design Theory and Practice	4 (3-2-5)
IND 2301	History of Interior Design	3 (3-0-6)

Major Required Courses		**57 credits**
IND 2201	Interior Design I	6 (2-8-8)
IND 2202	Interior Design II	6 (2-8-8)
IND 3201	Interior Design III	7 (2-10-8)
IND 3202	Interior Design IV	7 (2-10-8)
IND 3203	Pre-Senior Project I	3 (3-0-6)
IND 3204	Pre-Senior Project II	3 (3-0-6)
IND 4202	Senior Project	6 (0-12-6)

Major Elective Courses		**12 credits**
IND 2201	Interior Design I	6 (2-8-8)
IND 2202	Interior Design II	6 (2-8-8)
IND 3201	Interior Design III	7 (2-10-8)
IND 3202	Interior Design IV	7 (2-10-8)
IND 3203	Pre-Senior Project I	3 (3-0-6)
IND 3204	Pre-Senior Project II	3 (3-0-6)
IND 4202	Senior Project	6 (0-12-6)

Technology Courses		**15 Credits**
IND 1304	Principles of Building Construction	3 (2-2-5)
IND 2305	Interior Construction and Technical Drawing	3 (2-2-5)
IND 2306	Material and Applications for Interior Design	3 (2-2-5)
IND 3303	Building System Study	3 (3-0-6)
IND 3306	Lighting Design	3 (2-2-5)

Supporting Courses		**22 Credits**
IND 2304	Basic Computer-Aided Design	4 (3-2-5)
IND 3308	Branding and Marketing in Interior Design	3 (2-2-5)
IND 4301	Design Management	3 (3-0-6)
IND 4303	Professional Ethics and Practice	3 (3-0-6)
IND 4409	Branding Experience in Art and Design	3 (3-0-6)

Selected Courses 6 credits from following list		
IND 4305	Internship in Interior Design	6 (480 Hrs.)
Or		
IND 4306	Advanced Lighting Design	3 (2-2-5)
IND 4307	Interaction Design	3 (2-2-5)
Or		
BEN 3001	Entrepreneur and Innovation	3 (3-0-6)
BEN 3202	Entrepreneurial Commercialization	3 (3-0-6)

Major Elective Courses		**3 Credits**
IND 4401	Seminar in Interior Design	3 (3-0-6)
IND 4402	Advanced Computer-Aided Design	3 (2-2-5)
IND 4405	Thai Architecture Study	3 (3-0-6)
IND 4408	Decorative Art	3 (3-0-6)
IND 4410	Furniture Design and Production	3 (2-2-5)

C. Free Elective Course — 6 Credits

-Students can take free elective courses of 6 credits from any faculty in Assumption University upon completion of the prerequisites (if any).

STUDY PLAN

FIRST YEAR

First Semester

Code	Subjects	Credits
BG 1001	English I	3 (2-3-6)
GE 1403	Communication in Thai	3 (3-0-6)
GS 1004	Art of Delineation	3 (2-2-5)
GS 1106	Creative Culture and Trends in Design	3 (3-0-6)
IND 1101	Visual Design	3 (2-2-5)
IND 1301	Basic Drawing	3 (2-2-5)
	Total	**18 (14-9-33)**

Second Semester

BG 1002	English II	3 (2-3-6)
GE 1205	ASEAN Ways	3 (3-0-6)
IND 1103	Interior Design Rendering	3 (2-2-5)
IND 1104	Human Factors for Design	3 (3-0-6)
IND 1302	Design Fundamentals I	3 (2-2-5)
IND 1304	Principles of Building Construction	3 (2-2-5)
IND 1305	Design Fundamentals II	3 (2-2-5)
	Total	**21 (16-11-38)**

SECOND YEAR

First Semester

BG 2000	English III	3 (2-3-6)
IND 2103	Interior Design Theory and Practice	4 (3-2-5)
IND 2201	Interior Design I	6 (2-8-8)
IND 2301	History of Interior Design	3 (3-0-6)
IND 2304	Basic Computer-Aided Design	4 (3-2-5)
	Total	**20 (12-17-30)**

Second Semester

BG 2001	English IV	3 (2-3-6)
BEN 3201	Innovation and Design Thinking	3 (3-0-6)
IND 2202	Interior Design II	6 (2-8-8)
IND 2305	Interior Construction and Technical Drawing	3 (2-2-5)
IND 2306	Material and Applications for Interior Design	3 (2-2-5)
	Total	**18 (10-17-30)**

THIRD YEAR

First Semester

GE 2301	Lifestyles in Dynamic World	3 (3-0-6)
IND 3201	Interior Design III	7 (2-10-8)
IND 3203	Pre-Senior Project I	3 (3-0-6)
IND 3303	Building System Study	3 (3-0-6)
IND 3308	Branding and Marketing in Interior Design	3 (3-0-6)
	Total	**19 (14-10-32)**

Second Semester

IND 3202	Interior Design IV	7 (2-10-8)
IND 3204	Pre-Senior Project II	3 (3-0-6)
IND 3306	Lighting Design	3 (2-2-5)
	Major Elective Course I	3 (x-x-x)
	Free Elective Course I	3 (x-x-x)
	Total	**19 (x-x-x)**

FOURTH YEAR

First Semester

IND 4202	Senior Project	6 (0-12-6)
IND 4301	Design Management	3 (3-0-6)
IND 4303	Professional Ethics and Practice	3 (3-0-6)
IND 4409	Branding Experience in Art and Design	3 (3-0-6)
	Free Elective Course II	3 (x-x-x)
	Total	**18 (x-x-x)**

Second Semester

IND 4305	Internship in Interior Design	6 (480 Hrs)
OR		
IND 4306	Advanced Lighting Design	3 (2-2-5)
IND 4307	Interaction Design	3 (2-2-5)
OR		
BEN 3202	Entrepreneurial Commercialization	3 (3-0-6)
BEN 3001	Entrepreneur and Innovation	3 (3-0-6)
	Total	**6 (x-x-x)**

BACHELOR OF FINE AND APPLIED ARTS

PROGRAM IN PRODUCT DESIGN

GRADUATION REQUIREMENTS

Assumption University confers the degree of Bachelor of Fine and Arts in Product Design upon students who meet all of the following requirements specified in the Graduate Program Standard Criteria B.E. 2548 and Assumption University Bylaw B.E. 2548 as follows:

- Have completed the total number of credits of the curriculum.
- Have obtained a cumulative grade point average of at least 2.00.
- Have participated in 16 sessions of the Professional Ethics Seminar.
- Have obtained library and financial clearance wit the University.
- Have demonstrated good behavior and discipline.

OBJECTIVES OF CURRICULUM

To produce graduates who have the characteristics, knowledge and skills as follows:

1. Possess personal, professional, and environmental ethics accepted and approved by the society.
2. Possess product design knowledge, technical skills, entrepreneurial and enterprising skills, and professional responsibility sufficient to assume leadership positions in the industry, society and the country.
3. Confident in endering product design services achieved through design thinking, problem solving, numerical analysis, and appropriate psychomotor skills in the milieu of science and technology while adhering to preservation of arts and culture.
4. Possess the 21st century skills, which includes social skills, communication skills, and digital literacy skills within collaborative environments

CURRICULUM STRUCTURE

Total number of credits	141 Credits
A. General Education Courses	**30 Credits**
Language Courses	15 Credits
Social Science Course	3 Credits
Humanities Courses	6 Credits
Science and Mathematics Courses	6 Credits
B. Specialized Courses	**105 Credits**
Core Courses	9 Credits
Professional Courses	45 Credits
Major Courses	51 Credits
- Major Required Courses	30 Credits
- Thesis	12 Credits
- Practicum Courses	0 Credits
- Major Elective Courses	9 Credits
C. Free Elective Courses	**6 Credits**

COURSES

A. General Education Courses

Language Courses		**15 Credits**
BG 1001	English I	3 (2-3-6)
BG 1002	English II	3 (2-3-6)
BG 2000	English III	3 (2-3-6)
BG 2001	English IV	3 (2-3-6)
GE 1403	Communication in Thai (for Thai students)	3 (3-0-6)
or		
GE 1405	Thai Language and Culture (for non-Thai Students)	3 (3-0-6)

Social Science Course		**3 Credits**
BBA 1001	Business Exploration	3 (3-0-6)

Humanities Courses		**6 Credits**
GS 1004	Art of Delineation	3 (2-2-5)
GS 1005	Graphic Presentation	3 (2-2-5)

Science and Mathematics Courses		**6 Credits**
GE 1302	Ecology and Sustainability	3 (3-0-6)
MA 1200	Mathematics for Business	3 (3-0-6)

B. Specialized Courses

Core Courses		**9 Credits**
PD 1102	Introduction to Design Culture and Trend	3 (3-0-6)
PD 2303	History of Product Design	3 (3-0-6)
PD 2304	Art and Design Appreciation	3 (3-0-6)

Professional Courses		**45 credits**
PD 1103	Visual Design	3 (2-2-5)
PD 1305	Technical Drawing for Product Design	3 (2-2-5)
PD 1302	Design Priciples	3 (2-2-5)
PD 1304	Digital Design and Fabrication	3 (2-2-5)
PD 2103	Design Thinking and Rational	3 (2-2-5)
PD 2104	User Experience and Universal Design	3 (2-2-5)
PD 2305	Model Making and Digital Fabrication	3 (3-0-6)
PD 3101	Theory and Concept in Design	3 (3-0-6)
PD 3102	Design Research and Development	3 (3-0-6)
PD 3311	Art and Science of Materials	3 (2-2-5)
PD 3312	Production and Manufacturing Processes	3 (2-2-5)
PD 3309	Marketing for Product Design	3 (3-0-6)
PD 3310	Professional Ethics	3 (3-0-6)
PD 4307	Social Engagement and Product Design	3 (3-0-6)
PD 4308	Seminar in Design Enterprising	3 (3-0-6)

Major Courses		**51 credits**
Major Required Courses		**30 credits**
PD 2203	Product Design Studio I	6 (2-8-8)
PD 2204	Product Design Studio II	6 (2-8-8)
PD 3203	Product Design Studio III	6 (2-8-8)
PD 3204	Product Design Studio IV	6 (2-8-8)
PD 4205	Product Design Studio V	6 (2-8-8)
Thesis		**30 credits**
PD 4206	Thesis in Product Design	9 (0-18-9)
PD 4309	Special Problem in Product Design	3 (0-6-3)
Practicum Courses		**0 credits**
PD 3308	Practicum in Product Design	0 (0-4-2) (320 hrs.)
Major Elective Courses		**9 credits**
PD 3401	User Interface Design	3 (2-2-5)
PD 3402	Graphic and Packaging Design	3 (2-2-5)
PD 3403	Experience Design for Exhibitions	3 (2-2-5)
PD 3408	Fashion and Textile Design	3 (2-2-5)
PD 3405	Jewelry Design	3 (2-2-5)
PD 3406	Toy and Play Design	3 (2-2-5)
PD 3407	Furniture Design	3 (2-2-5)
PD 3409	Upcycling Fashion and Accessories	3 (2-2-5)
PD 3410	Ceramics Art and Design	3 (2-2-5)

C. Free Elective Course **6 Credits**

Students can take free elective courses of 6 credits from any faculty in Assumption University upon completion of the prerequisites (if any).

STUDY PLAN

FIRST YEAR

First Semester

Code	Subjects	Credits
BG 1001	English I	3 (2-3-6)
MA 1200	Mathematics for Business	3 (3-0-6)
GE 1403	Communication in Thai (for Thai students)	3 (3-0-6)
or		
GE 1405	Thai Language and Culture (For non-Thai Students)	3 (3-0-6)
GS 1004	Art of Delineation	3 (2-2-5)
PD 1103	Visual Design	3 (2-2-5)
PD 1305	Technical Drawing for Product Design	3 (2-2-5)
	Total	**18 (15-9-34)**

Second Semester

BG 1002	English II	3 (2-3-6)
GE 1302	Ecology and Sustainability	3 (3-0-6)
GS 1005	Graphic Presentation	3 (2-2-5)
PD 1102	Introduction to Design Culture and Trend	3 (3-0-6)
PD 1304	Digital Design and Fabrication	3 (2-2-5)
PD 1302	Design Principles	3 (2-2-5)
	Total	**18 (15-9-34)**

SECOND YEAR

First Semester

BG 2000	English III	3 (2-3-6)
PD 2103	Design Thinking and Rationale	3 (2-2-5)
PD 2203	Product Studio I	6 (2-8-8)
PD 2305	Model Making and Digital Fabrication	3 (0-6-3)
PD 2304	Art and Design Appreciation	3 (3-0-6)
	Total	**18 (11-17-30)**

Second Semester

BG 2001	English IV	3 (2-3-6)
PD 2104	User Experience Design and Universal Design	3 (2-2-5)
PD 2204	Product Design Studio II	6 (2-8-8)
PD 2303	History of Product Design	3 (3-0-6)
BBA 1001	Business Exploration	3 (3-0-6)
	Total	**18 (13-13-32)**

THIRD YEAR

First Semester

PD 3101	Theory and Concept in Design	3 (3-0-6)
PD 3203	Product Design Studio III	6 (2-8-8)
PD 3309	Marketing for Product Design	3 (3-0-6)
PD 3311	Art and Science of Materials	3 (2-2-5)
	Major Elective Course	3 (x-x-x)
	Total	**18 (x-x-x)**

Second Semester

PD 3102	Design Research and Development	3 (3-0-6)
PD 3204	Product Design Strudio IV	6 (2-8-8)
PD 3312	Production and Manufacturing Processes II	3 (2-2-5)
PD 3310	Professional Ethics	3 (3-0-6)
	Major Elective Course	3 (x-x-x)
	Total	**18 (x-x-x)**

FOURTH YEAR

First Semester

PD 4205	Product Design Studio V	6 (2-8-8)
PD 4309	Special Problem in Product Design	3 (0-6-3)
PD 4307	Social Engagement and Product Design	3 (3-0-6)
PD 3308	Practicum in Product Design	0 (0-4-2) (320 hrs.)
	Major Elective Course	3 (x-x-x)
	Free Elective Course	3 (x-x-x)
	Total	**18 (x-x-x)**

Second Semester

PD 4206	Thesis in Product Design	9 (0-18-9)
PD 4308	Seminar in Design Enterprising	3 (3-0-6)
	Free Elective Course	3 (x-x-x)
	Total	**15 (x-x-x)**

KING'S COURT

VINCENT MARY SCHOOL OF **ENGINEERING**

BACHELOR OF ENGINEERING

PROGRAM IN ELECTRICAL ENGINEERING

GRADUATION REQUIREMENTS

Assumption University confers the degree of Bachelor of Engineering in Electrical and Electronics Engineering upon students who meet all of the following requirements:

1. Have completed the total number of credits of the curriculum
2. Have obtained a cumulative grade point average of at least 2.00
3. Have met the minimum English proficienc requirement specified in one of the following criteria:

(1) AU English Proficiency Assessment	70%	or
(2) TOEFL (iBT)	90	or
(3) TOEFL (P)	575	or
(4) IELTS	6.5	

4. Have participated in 16 sessions of the Professional Ethics Seminar
5. Have obtained library and financial clearance f om the University
6. Have demonstrated good behavior and discipline

OBJECTIVES OF CURRICULUM

To produce graduates who have the characteristics, knowledge and skills as follows:

1. Have moral and professional ethics.
2. Have knowledge in electrical engineering and able to apply knowledge in the administration of building electrical systems, high-voltage systems, illumination systems, industrial electrical systems, and safety in electrical systems.
3. Capable of conducting research in both theoretical and practical aspects.
4. Have good personality, good social manners and able to appropriately work with people of all levels.
5. Have strong mathematical and computational skills.

CURRICULUM STRUCTURE

Total number of credits	141 Credits
A. General Education Courses	**31 Credits**
Language Courses	12 Credits
Social Science Courses	6 Credits
Humanities Course	3 Credits
Science and Mathematics Courses	10 Credits
B. Specialized Courses	**104 Credits**
Basic Engineering Courses	20 Credits
Core Courses	
Electrical and Electronics	17 Credits
Telecommunication and Electronics	17 Credits
Major Required Courses	
Electrical and Electronics	61 Credits
Telecommunication and Electronics	61 Credits
Major Elective Courses	
Electrical and Electronics	6 Credits
Telecommunication and Electronics	6 Credits
C. Free Elective Courses	**6 Credits**

COURSES

A. General Education Courses

Language Courses		**12 Credits**
BG 1001	English I	3 (2-3-6)
BG 1002	English II	3 (2-3-6)
BG 2000	English III	3 (2-3-6)
BG 2001	English IV	3 (2-3-6)
Social Science Courses		**6 Credits**
GE 2202	Ethics	3 (3-0-6)
MGT 1101	Introduction to Business	3 (3-0-6)
Humanities Course		**3 Credits**
GE 2101	World Civilization	3 (3-0-6)
Science and Mathematics Courses		**10 Credits**
BG 0008	General Chemistry Laboratory	1 (0-3-2)
BG 1108	General Chemistry	3 (3-0-6)
BG 2208	Discrete Mathematics	3 (3-0-6)
BG 2212	Applied Statistics	3 (3-0-6)

B. Specialized Courses

Basic Engineering Courses — 20 Credits

BG 1204	Calculus I	3 (3-0-6)
BG 1205	Calculus II	3 (3-0-6)
BG 1211	Physics I	3 (3-0-6)
BG 1212	Physics Laboratory I	1 (0-3-2)
BG 1213	Physics II	3 (3-0-6)
BG 1214	Physics Laboratory II	1 (0-3-2)
BG 1221	Computer Programming	3 (3-0-6)
BG 2207	Engineering Mathematics	3 (3-0-6)

Core Courses — 17 credits

Common Core Courses — 11 credits

IE 1110	Engineering Materials	3 (3-0-6)
ME 1113	Engineering Drawing	3 (2-3-6)
ME 1114	Engineering workshop	2 (0-4-2)
ME 2211	Engineering Mechanics I	3 (3-0-6)

Core Courses for Electrical and Electronics — 6 credits

EE 3301	Electromagnetic Fields	3 (3-0-6)
MCE 4102	Introduction to Industrial Automation	3 (3-0-6)

Core Courses for Telecommunication and Electronics — 6 credits

EE 3406	Control Systems	3 (3-0-6)
EE 4305	Digital Signal Processing	3 (3-0-6)

Major Required Courses — 61 credits

Common Major Required Courses — 28 credits

CE 2704	Digital Logic Design	3 (3-0-6)
CE 2705	Digital Logic Design Laboratory	1 (0-3-2)
EE 2201	Electric Circuits	3 (3-0-6)
EE 2202	Electric Circuits Laboratory	1 (0-3-2)
EE 2203	Signals and systems	3 (3-0-6)
EE 2605	Engineering Electronics	3 (3-0-6)
EE 2606	Engineering Electronics Laboratory	1 (0-3-2)
EE 3601	Electronic Circuit Design	3 (3-0-6)
EE 3602	Electronic Circuit Design Laboratory	1 (0-3-2)
EE 3606	Electrical Instruments and Measurements	3 (3-0-6)
EE 3705	Microprocessors and Microcontrollers	3 (3-0-6)
TE 3000	Principles of Communications	3 (3-0-6)

Major Courses for Electrical and Electronics — 33 credits

EE 2401	Electromechanical Energy Conversion	3 (3-0-6)
EE 2402	Electromechanical Energy Conversion Laboratory	1 (0-3-2)
EE 3402	Electrical Machines	3 (3-0-6)
EE 3403	Electrical Machines Laboratory	1 (0-3-2)
EE 3406	Control Systems	3 (3-0-6)
EE 4501	Power System Analysis	3 (3-0-6)
EE 4503	Electrical Systems Design	3 (3-0-6)
EE 4505	Power System Protection	3 (3-0-6)
EE 4506	High Voltage Engineering	3 (3-0-6)
EE 4518	Electrical Power Generation, Transmission and Distribution	3 (3-0-6)
EE 4705	Power Electronics	3 (3-0-6)
EE 4706	Power Electronics Laboratory	1 (0-3-2)
EE 4901	Electrical and Electronics Engineering Project I	1 (0-3-2)
EE 4902	Electrical and Electronics Engineering Project II	2 (0-6-3)

Major Courses for Telecommunication and Electronics **33 credits**

CE 4207	System and Network Programming	3 (3-0-6)
CE 4224	Telecommunication Networks Laboratory	1 (0-3-2)
CE 4228	Data Communication and Networking	3 (3-0-6)
EE 3301	Electromagnetic Fields	3 (3-0-6)
TE 3002	Communications Laboratory	1 (0-3-2)
TE 3102	Communication Networks and Transmission Lines	3 (3-0-6)
TE 3301	Radio Wave Propagation	3 (3-0-6)
TE 4108	Digital Communication	3 (3-0-6)
TE 4111	Antenna Engineering	3 (3-0-6)
TE 4112	Optical Communications	3 (3-0-6)
TE 4201	Communication Electronics	3 (3-0-6)
TE 4202	Communication Electronics Laboratory	
TE 4901	Telecommunication and Electronics Engineering Project I	1 (0-3-2)
TE 4902	Telecommunication and Electronics Engineering Project II	2 (0-6-3)

Major Elective Courses **6 credits**

Students can take major elective courses of 6 credits from the following courses.

CE 2102	Data Structures and Algorithms	3 (3-0-6)
CE 2103	Object-Oriented Programming	3 (3-0-6)
CE 4227	Mobile and Wireless Networks	3 (3-0-6)
CE 4229	Introduction to Cloud Computing	3 (3-0-6)
EE 3704	Embedded Systems	3 (3-0-6)
EE 4201	Network Theory	3 (3-0-6)
EE 4301	Introduction to Electromagnetic Compatibility	3 (3-0-6)
EE 4305	Digital Signal Processing (Only for major Electrical and Electronics)	3 (3-0-6)
EE 4401	Electric Drive	3 (3-0-6)
EE 4403	Basic Mechatronics	3 (3-0-6)
EE 4504	Illumination Engineering	3 (3-0-6)
EE 4600	IC Technology	3 (3-0-6)
EE 4601	Industrial Electronics	3 (3-0-6)
EE 4602	Industrial Instrumentation and Control	3 (3-0-6)
EE 4903	Advanced Topics in Electrical and/or Electronic Engineering	3 (3-0-6)
EE 4904	Special Problems in Electrical and/or Electronic Engineering	3 (3-0-6)
EE 4907	Electrical Engineering Industrial Training	3 (0-9-6)
IE 4201	Engineering Management	3 (3-0-6)
MCE 4801	Instrument for Aviation	6 (6-0-12)
ME 3310	Thermofluid	3 (3-0-6)
TE 4105	Microwave Engineering	3 (3-0-6)
TE 4204	Optoelectronics	3 (3-0-6)
TE 4301	Principle of Telecommunications Policies	3 (3-0-6)
TE 4903	Advanced Topics in Telecommunication and/or Electronic Engineering	3 (3-0-6)
TE 4904	Special Problems in Telecommunication and/or Electronic Engineering	3 (3-0-6)

C. Free Elective Course

Students can take free elective courses of 6 credits from any faculty in Assumption University upon completion of the prerequisites (if any).

STUDY PLAN

(1) ELECTRICAL AND ELECTRONICS ENGINEERING

FIRST YEAR

First Semester

Code	Subjects	Credits
BG 0008	General Chemistry Laboratory	1 (0-3-2)
BG 1001	English I	3 (2-3-6)
BG 1108	General Chemistry	3 (3-0-6)
BG 1204	Calculus I	3 (3-0-6)
BG 1211	Physics I	3 (3-0-6)
BG 1212	Physics Laboratory I	1 (0-3-2)
IE 1110	Engineering Materials	3 (3-0-6)
	Total	**17 (14-9-34)**

Second Semester

BG 1002	English II	3 (2-3-6)
BG 1205	Calculus II	3 (3-0-6)
BG 1213	Physics II	3 (3-0-6)
BG 1214	Physics Laboratory II	1 (0-3-2)
BG 1221	Computer Programming	3 (3-0-6)
ME 1113	Engineering Drawing	3 (2-3-6)
ME 1114	Engineering Workshop	2 (0-4-2)
	Total	**18 (13-13-34)**

SECOND YEAR

First Semester

BG 2000	English III	3 (2-3-6)
BG 2207	Engineering Mathematics	3 (3-0-6)
BG 2208	Discrete Mathematics	3 (3-0-6)
EE 2201	Electric Circuits	3 (3-0-6)
EE 2202	Electric Circuits Laboratory	1 (0-3-2)
EE 2605	Engineering Electronics	3 (3-0-6)
EE 2606	Engineering Electronics Laboratory	1 (0-3-2)
ME 2211	Engineering Mechanics I	3 (3-0-6)
	Total	**20 (17-9-40)**

Second Semester

BG 2001	English IV	3 (2-3-6)
BG 2212	Applied Statistics	3 (3-0-6)
CE 2704	Digital Logic Design	3 (3-0-6)
CE 2705	Digital Logic Design Laboratory	1 (0-3-2)
EE 2203	Signals and systems	3 (3-0-6)
EE 2401	Electromechanical Energy Conversion	3 (3-0-6)
EE 2402	Electromechanical Energy Conversion Laboratory	1 (0-3-2)
GE 2101	World Civilization	3 (3-0-6)
	Total	**20 (17-9-40)**

THIRD YEAR

First Semester

EE 3301	Electromagnetic Fields	3 (3-0-6)
EE 3402	Electrical Machines	3 (3-0-6)
EE 3403	Electrical Machines Laboratory	1 (0-3-2)
EE 3601	Electronic Circuit Design	3 (3-0-6)
EE 3602	Electronic Circuit Design Laboratory	1 (0-3-2)
EE 3606	Electrical Instruments and Measurements	3 (3-0-6)
MGT 1101	Introduction to Business	3 (3-0-6)
	Total	**17 (15-6-34)**

Second Semester

EE 3406	Control Systems	3 (3-0-6)
EE 3705	Microprocessors & Microcontrollers	3 (3-0-6)
GE 2202	Ethics	3 (3-0-6)
TE 3000	Principles of Communications	3 (3-0-6)
	One Major Elective Course	3 (3-0-6)
	One Free Elective Course	3 (3-0-6)
	Total	**18 (18-0-36)**

FOURTH YEAR

First Semester

EE 4501	Power System Analysis	3 (3-0-6)
EE 4503	Electrical Systems Design	3 (3-0-6)
EE 4506	High Voltage Engineering	3 (3-0-6)
EE 4901	Electrical and Electronic Engineering Project I	1 (0-3-2)
MCE 4102	Introduction to Industrial Automation	3 (3-0-6)
	One Major Elective Course	3 (3-0-6)
	Total	**16 (15-3-32)**

Second Semester

EE 4505	Power System Protection	3 (3-0-6)
EE 4518	Electrical Power Generation, Transmission and Distribution	3 (3-0-6)
EE 4705	Power Electronics	3 (3-0-6)
EE 4706	Power Electronics Laboratory	1 (0-3-2)
EE 4902	Electrical and Electronic Engineering Project II	2 (0-6-3)
	One Free Elective Course	3 (3-0-6)
	Total	**15 (12-9-29)**

STUDY PLAN

(2) TELECOMMUNICATION AND ELECTRONICS ENGINEERING

FIRST YEAR

First Semester

Code	Subjects	Credits
BG 0008	General Chemistry Laboratory	1 (0-3-2)
BG 1001	English I	3 (2-3-6)
BG 1108	General Chemistry	3 (3-0-6)
BG 1204	Calculus I	3 (3-0-6)
BG 1211	Physics I	3 (3-0-6)
BG 1212	Physics Laboratory I	1 (0-3-2)
IE 1110	Engineering Materials	3 (3-0-6)
	Total	**17 (14-9-34)**

Second Semester

BG 1002	English II	3 (2-3-6)
BG 1205	Calculus II	3 (3-0-6)
BG 1213	Physics II	3 (3-0-6)
BG 1214	Physics Laboratory II	1 (0-3-2)
BG 1221	Computer Programming	3 (3-0-6)
ME 1113	Engineering Drawing	3 (2-3-6)
ME 1114	Engineering Workshop	2 (0-4-2)
	Total	**18 (13-13-34)**

SECOND YEAR

First Semester

BG 2000	English III	3 (2-3-6)
BG 2207	Engineering Mathematics	3 (3-0-6)
BG 2208	Discrete Mathematics	3 (3-0-6)
EE 2201	Electric Circuits	3 (3-0-6)
EE 2202	Electric Circuits Laboratory	1 (0-3-2)
EE 2605	Engineering Electronics	3 (3-0-6)
EE 2606	Engineering Electronics Laboratory	1 (0-3-2)
ME 2211	Engineering Mechanics I	3 (3-0-6)
	Total	**20 (17-9-40)**

Second Semester

BG 2001	English IV	3 (2-3-6)
BG 2212	Applied Statistics	3 (3-0-6)
CE 2704	Digital Logic Design	3 (3-0-6)
CE 2705	Digital Logic Design Laboratory	1 (0-3-2)
EE 2203	Signals and systems	3 (3-0-6)
GE 2101	World Civilization	3 (3-0-6)
	Total	**16 (14-6-32)**

THIRD YEAR

First Semester

EE 3301	Electromagnetic Fields	3 (3-0-6)
EE 3601	Electronic Circuit Design	3 (3-0-6)
EE 3602	Electronic Circuit Design Laboratory	1 (0-3-2)
EE 3606	Electrical Instruments and Measurements	3 (3-0-6)
GE 2202	Ethics	3 (3-0-6)
MGT 1101	Introduction to Business	3 (3-0-6)
	One Free Elective Course	3 (3-0-6)
	Total	**19 (18-3-38)**

Second Semester

EE 3406	Control Systems	3 (3-0-6)
EE 3705	Microprocessors and Microcontrollers	3 (3-0-6)
TE 3000	Principles of Communications	3 (3-0-6)
TE 3002	Communications Laboratory	1 (0-3-2)
TE 3102	Communication Networks and Transmission Lines	3 (3-0-6)
TE 3301	Radio Wave Propagation	3 (3-0-6)
	One Free Elective Course	3 (3-0-6)
	Total	**19 (18-3-38)**

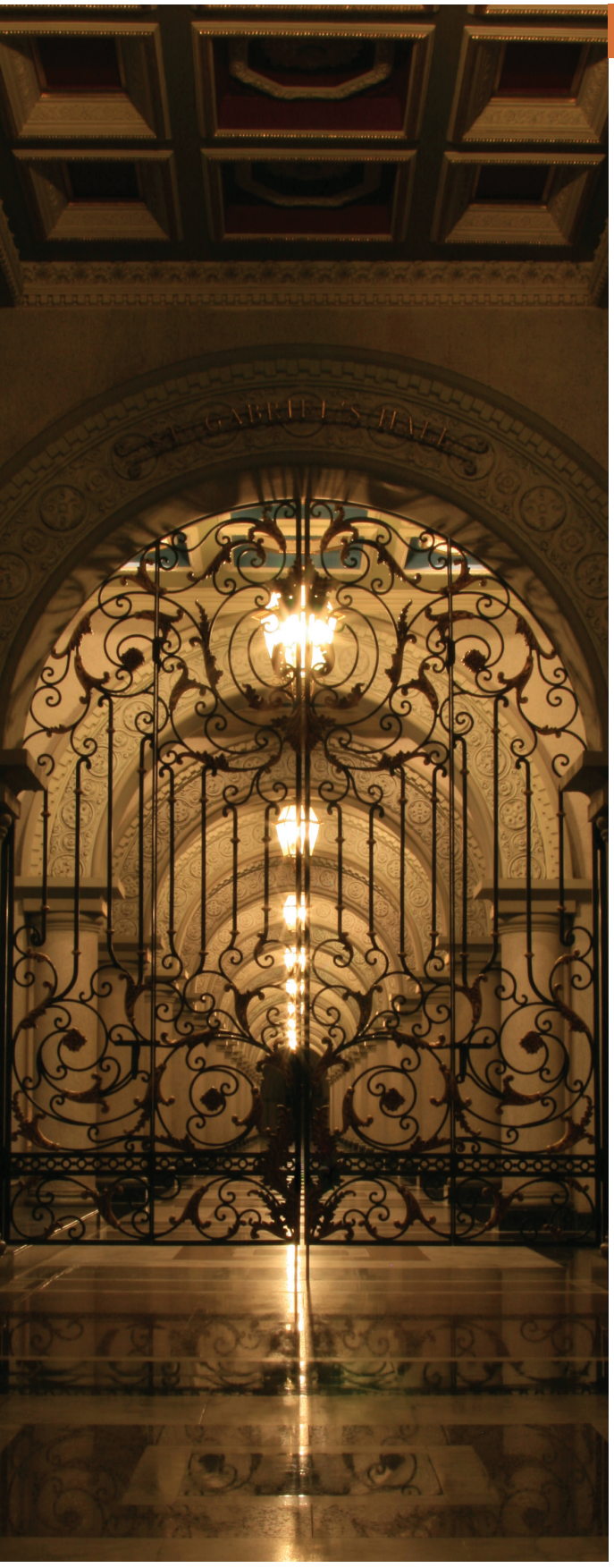
FOURTH YEAR

First Semester

CE 4207	System and Network Programming	3 (3-0-6)
CE 4224	Telecommunication Networks Laboratory	1 (0-3-2)
CE 4228	Data Communication and Networking	3 (3-0-6)
EE 4305	Digital Signal Processing	3 (3-0-6)
TE 4108	Digital Communication	3 (3-0-6)
TE 4901	Telecommunication and Electronic Engineering Project I	1 (0-3-2)
	One Major Elective Course	3 (3-0-6)
	Total	**17 (15-6-34)**

Second Semester

TE 4111	Antenna Engineering	3 (3-0-6)
TE 4112	Optical Communication	3 (3-0-6)
TE 4201	Communication Electronics	3 (3-0-6)
TE 4202	Communication Electronics Laboratory	1 (0-3-2)
TE 4902	Telecommunication and Electronic Engineering Project II	2 (0-6-3)
	One Major Elective Course	3 (3-0-6)
	Total	**15 (12-9-29)**



BACHELOR OF ENGINEERING

PROGRAM IN COMPUTER ENGINEERING

GRADUATION REQUIREMENTS

Assumption University confers the degree of Bachelor of Engineering in Computer Engineering upon students who meet all of the following requirements:

1. Have completed the total number of credits of the curriculum
2. Have obtained a cumulative grade point average of at least 2.00
3. Have met the minimum English proficienc requirement specified in one of the following criteria:

(1) AU English Proficiency Assessment	70%	or
(2) TOEFL (iBT)	90	or
(3) TOEFL (P)	575	or
(4) IELTS	6.5	

4. Have participated in 16 sessions of the Professional Ethics Seminar
5. Have obtained library and financial clearance f om the University
6. Have demonstrated good behavior and discipline

OBJECTIVES OF CURRICULUM

To produce graduates who have the characteristics, knowledge and skills as follows:

1. Have moral and professional ethics.
2. Have knowledge in Computer Engineering and able to apply knowledge.
3. Capable of conducting research in both theoretical and practical aspects.
4. Have good personality, good social manners and able to appropriately work with people at all levels.
5. Have strong mathematical, computational and information technology skills.

CURRICULUM STRUCTURE

Total number of credits	**140 Credits**
A. General Education Courses	**30 Credits**
Language Courses	12 Credits
Social Science Courses	6 Credits
Humanities Course	3 Credits
Science and Mathematics Courses	9 Credits
B. Specialized Courses	**104 Credits**
Basic Engineering Courses	32 Credits
Major Required Courses	51 Credits
Major Elective Courses	21 Credits
(3) Free Elective Courses	**6 Credits**

COURSES

A. General Education Courses

Language Courses		**12 Credits**
BG 1001	English I	3 (2-3-6)
BG 1002	English II	3 (2-3-6)
BG 2000	English III	3 (2-3-6)
BG 2001	English IV	3 (2-3-6)

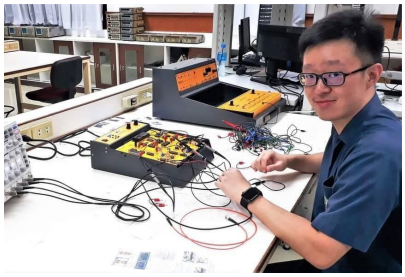
Social Science Courses		**6 Credits**
GE 2202	Ethics	3 (3-0-6)
MGT 1101	Introduction to Business	3 (3-0-6)

Humanities Course		**3 Credits**
GE 2101	World Civilization	3 (3-0-6)

Science and Mathematics Courses		**9 Credits**
BG 1221	Computer Programming	3 (3-0-6)
BG 2208	Discrete Mathematics	3 (3-0-6)
BG 2212	Applied Statistics	3 (3-0-6)

B. Specialized Courses

Basic Engineering Courses		**32 Credits**
BG 1204	Calculus I	3 (3-0-6)
BG 1205	Calculus II	3 (3-0-6)
BG 1211	Physics I	3 (3-0-6)
BG 1212	Physics Laboratory I	1 (0-3-2)
BG 1213	Physics II	3 (3-0-6)
BG 1214	Physics Laboratory II	1 (0-3-2)
BG 2207	Engineering Mathematics	3 (3-0-6)
EE 2201	Electric Circuits	3 (3-0-6)
EE 2202	Electric Circuits Laboratory	1 (0-3-2)
EE 2203	Signals and Systems	3 (3-0-6)
ME 1113	Engineering Drawing	3 (2-3-6)
ME 1114	Engineering Workshop	2 (0-4-2)
TE 3000	Principles of Communications	3 (3-0-6)



Major Required Courses **51 credits**

Applications

CE 3109	Database Management Systems	3 (3-0-6)
CE 4221	Network Applications and Technology	3 (3-0-6)
CE 4901	Computer Engineering Project I	1 (0-3-2)
CE 4902	Computer Engineering Project II	2 (0-6-3)

Software Technology

CE 2103	Object-Oriented Programming	3 (3-0-6)
CE 2104	Software Design and Development	3 (3-0-6)
CE 3104	Software Engineering	3 (3-0-6)

System Fundamentals

CE 2102	Data Structures and Algorithms	3 (3-0-6)
CE 3103	Computer Operating Systems	3 (3-0-6)
CE 4224	Telecommunication Networks Laboratory	1 (0-3-2)
CE 4225	Computer and Network Security	3 (3-0-6)
CE 4228	Data Communication and Networking	3 (3-0-6)
CE 4715	Artificial Intelligenc	3 (3-0-6)

Computer Architectures and Hardware

CE 2703	Introduction to Computer Systems	3 (3-0-6)
CE 2704	Digital Logic Design	3 (3-0-6)
CE 2705	Digital Logic Design Laboratory	1 (0-3-2)
CE 2709	Computer Architecture	3 (3-0-6)
EE 2605	Engineering Electronics	3 (3-0-6)
EE 2606	Engineering Electronics Laboratory	1 (0-3-2)
EE 3705	Microprocessors and Microcontrollers	3 (3-0-6)

Major Elective Courses **21 credits**

Track1: Computer Systems

CE 3003	Mobile Application Development	3 (3-0-6)
CE 3105	Microprocessor Programming Using Assembly & C	3 (3-0-6)
CE 3106	Programming Languages	3 (3-0-6)
CE 3111	Design and Analysis of Algorithms	3 (3-0-6)
CE 3707	Microprocessor Systems Design	3 (3-0-6)
CE 4110	Compilers	3 (3-0-6)
CE 4201	Image Processing and Computer Vision	3 (3-0-6)
CE 4713	Advanced Computer Architecture	3 (3-0-6)
CE 4714	Fault-Tolerant Computer	3 (3-0-6)
CE 4903	Advanced Topics in Computer Engineering	3 (3-0-6)
CE 4904	Special Problems in Computer Engineering	3 (3-0-6)
EE 4305	Digital Signal Processing	3 (3-0-6)

Track2: Network Technology

CE 3901	Digital Audio/Video Coding Technique	3 (3-0-6)
CE 4002	Introduction to Broadcasting Technology	3 (3-0-6)
CE 4207	System and Network Programming	3 (3-0-6)
CE 4223	Advanced Computer Networks	3 (3-0-6)
CE 4226	Network Systems Analysis and Design	3 (3-0-6)
CE 4227	Mobile and Wireless Networks	3 (3-0-6)
TE 4112	Optical Communications	3 (3-0-6)
TE 4204	Optoelectronics	3 (3-0-6)
TE 4301	Principle of Telecommunications Policies	3 (3-0-6)

Track3: Internet of Things and Cloud Computing

CE 4114	Data Mining	3 (3-0-6)
CE 4229	Introduction to Cloud Computing	3 (3-0-6)
CE 4301	Fundamental of Internet of Things	3 (2-3-6)
CE 4302	Introduction to Big-Data	3 (3-0-6)
EE 3704	Embedded Systems	3 (3-0-6)
EE 4403	Basic Mechatronics	3 (3-0-6)
EE 4602	Industrial Instrumentation and Control	3 (3-0-6)
MCE 4102	Introduction to Industrial Automation	3 (3-0-6)

Track4: Engineering Management and Entrepreneurship

CE 4108	Operations Research	3 (3-0-6)
CE 4109	Information Systems Analysis and Design	3 (3-0-6)
CE 4907	Computer Engineering Industrial Training	3 (0-9-6)
IE 4201	Engineering Management	3 (3-0-6)
IE 4203	Engineering Economics	3 (3-0-6)

C. Free Elective Course

Students can take free elective courses of 6 credits from any faculty in Assumption University upon completion of the prerequisites (if any).

STUDY PLAN

FIRST YEAR

First Semester

Code	Subjects	Credits
BG 1001	English I	3 (2-3-6)
BG 1204	Calculus I	3 (3-0-6)
BG 1211	Physics I	3 (3-0-6)
BG 1212	Physics Laboratory I	1 (0-3-2)
BG 1221	Computer Programming	3 (3-0-6)
BG 2208	Discrete Mathematics	3 (3-0-6)
ME 1114	Engineering Workshop	2 (0-4-2)
	Total	**18 (14-10-34)**

Second Semester

BG 1002	English II	3 (2-3-6)
BG 1205	Calculus II	3 (3-0-6)
BG 1213	Physics II	3 (3-0-6)
BG 1214	Physics Laboratory II	1 (0-3-2)
CE 2102	Data Structures and Algorithms	3 (3-0-6)
CE 2703	Introduction to Computer Systems	3 (3-0-6)
ME 1113	Engineering Drawing	3 (2-3-6)
	Total	**19 (16-9-38)**

SECOND YEAR

First Semester

BG 2000	English III	3 (2-3-6)
BG 2207	Engineering Mathematics	3 (3-0-6)
CE 2103	Object-Oriented Programming	3 (3-0-6)
CE 2704	Digital Logic Design	3 (3-0-6)
CE 2705	Digital Logic Design Laboratory	1 (0-3-2)
EE 2201	Electric Circuits	3 (3-0-6)
EE 2202	Electric Circuits Laboratory	1 (0-3-2)
	Total	**17 (14-9-34)**

Second Semester

BG 2001	English IV	3 (2-3-6)
BG 2212	Applied Statistics	3 (3-0-6)
CE 2104	Software Design and Development	3 (3-0-6)
EE 2203	Signals and systems	3 (3-0-6)
EE 2605	Engineering Electronics	3 (3-0-6)
EE 2606	Engineering Electronics Laboratory	1 (0-3-2)
	Total	**16 (14-6-32)**

THIRD YEAR

First Semester

CE 2709	Computer Architecture	3 (3-0-6)
CE 3103	Computer Operating Systems	3 (3-0-6)
CE 3109	Database Management Systems	3 (3-0-6)
CE 4221	Network Applications and Technology	3 (3-0-6)
EE 3705	Microprocessors and Microcontrollers	3 (3-0-6)
TE 3000	Principles of Communications	3 (3-0-6)
	Total	**18 (18-0-36)**

Second Semester

CE 3104	Software Engineering	3 (2-3-6)
CE 4224	Telecommunication Networks Laboratory	1 (0-3-2)
CE 4228	Data Communication and Networking	3 (3-0-6)
GE 2101	World Civilization	3 (3-0-6)
MGT 1101	Introduction to Business	3 (3-0-6)
	One Major Elective Course	3 (3-0-6)
	One Major Elective Course	3 (3-0-6)
	Total	**19 (17-6-38)**

FOURTH YEAR

First Semester

CE 4225	Computer and Network Security	3 (3-0-6)
CE 4715	Artificial Intelligenc	3 (3-0-6)
CE 4901	Computer Engineering Project I	1 (0-3-2)
	One Major Elective Course	3 (3-0-6)
	One Major Elective Course	3 (3-0-6)
	One Free Elective Course	3 (3-0-6)
	Total	**16 (15-3-32)**

Second Semester

CE 4902	Computer Engineering Project II	2 (0-6-3)
GE 2202	Ethics	3 (3-0-6)
	One Major Elective Course	3 (3-0-6)
	One Major Elective Course	3 (3-0-6)
	One Major Elective Course	3 (3-0-6)
	One Free Elective Course	3 (3-0-6)
	Total	**17 (15-6-33)**

BACHELOR OF ENGINEERING

PROGRAM IN MECHATRONICS ENGINEERING

GRADUATION REQUIREMENTS

Assumption University confers the degree of Bachelor of Engineering in Mechatronics Engineering upon students who meet all of the following requirements:

1. Have completed the total number of credits of the curriculum
2. Have obtained a cumulative grade point average of at least 2.00
3. Have met the minimum English proficienc requirement specified in one of the following criteria:

(1) AU English Proficiency Assessment	70%	or
(2) TOEFL (iBT)	90	or
(3) TOEFL (P)	575	or
(4) IELTS	6.5	

4. Have participated in 16 sessions of the Professional Ethics Seminar
5. Have obtained library and financial clearance f om the University
6. Have demonstrated good behavior and discipline

OBJECTIVES OF CURRICULUM

To produce graduates who have the characteristics, knowledge and skills as follows:

1. Have moral and professional ethics.
2. Have knowledge in Mechatronics Engineering and able to apply knowledge.
3. Capable of conducting research in both theoretical and practical aspects.
4. Have good personality, good social manners and able to appropriately work with people of all levels.
5. Have strong mathematical, computational and information technology skills

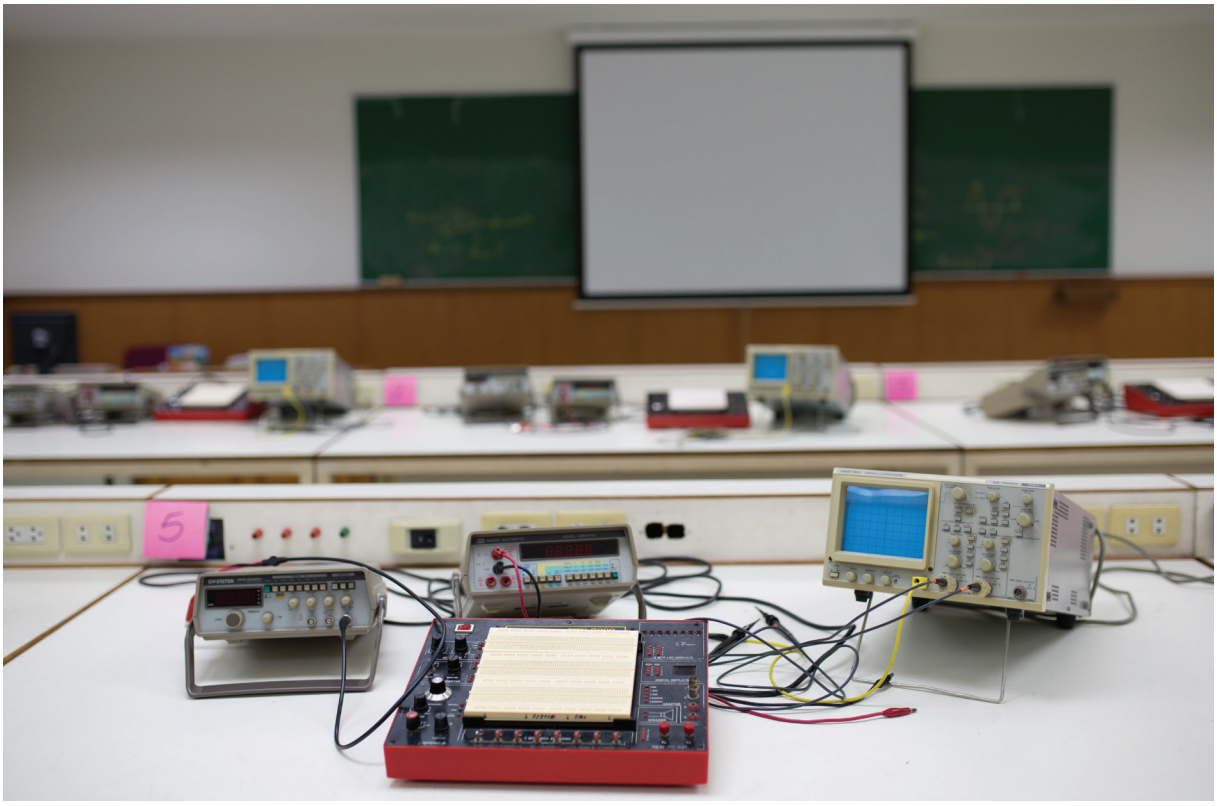
CURRICULUM STRUCTURE

Total number of credits	146 Credits
A. General Education Courses	**31 Credits**
Language Courses	12 Credits
Social Science Courses	6 Credits
Humanities Course	3 Credits
Science and Mathematics Courses	10 Credits
B. Specialized Courses	**109 Credits**
Basic Engineering Courses	20 Credits
Core Courses	21 Credits
Major Required Courses	62 Credits
Major Elective Courses	6 Credits
C. Free Elective Courses	**6 Credits**

COURSES

A. General Education Courses

Language Courses		**12 Credits**
BG 1001	English I	3 (2-3-6)
BG 1002	English II	3 (2-3-6)
BG 2000	English III	3 (2-3-6)
BG 2001	English IV	3 (2-3-6)
Social Science Courses		**6 Credits**
GE 2202	Ethics	3 (3-0-6)
MGT 1101	Introduction to Business	3 (3-0-6)
Humanities Course		**3 Credits**
GE 2101	World Civilization	3 (3-0-6)
Science and Mathematics Courses		**10 Credits**
BG 0008	General Chemistry Laboratory	1 (0-3-2)
BG 1108	General Chemistry	3 (3-0-6)
BG 1221	Computer Programming	3 (3-0-6)
BG 2208	Discrete Mathematics	3 (3-0-6)



B. Specialized Courses

Basic Engineering Courses — 20 Credits

BG 1204	Calculus I	3 (3-0-6)
BG 1205	Calculus II	3 (3-0-6)
BG 1211	Physics I	3 (3-0-6)
BG 1212	Physics Laboratory I	1 (0-3-2)
BG 1213	Physics II	3 (3-0-6)
BG 1214	Physics Laboratory II	1 (0-3-2)
BG 2207	Engineering Mathematics	3 (3-0-6)
BG 2212	Applied Statistics	3 (3-0-6)

Core Courses — 21 credits

Core Courses for All Concentrations — 17 credits

EE 2203	Signals and Systems	3 (3-0-6)
IE 1110	Engineering Materials	3 (3-0-6)
ME 1113	Engineering Drawing	3 (3-0-6)
ME 1114	Engineering Workshop	2 (0-4-2)
ME 2211	Engineering Mechanics I	3 (3-0-6)
ME 2220	Engineering Mechanics II	3 (3-0-6)

Core Courses for Concentration in Automation Engineering — 4 credits

EE 3402	Electrical Machines	3 (3-0-6)
EE 3403	Electrical Machines Laboratory	1 (3-0-6)

Core Courses for Concentration in Marine Engineering — 4 credits

ME 3501	Naval Architecture and Ship Construction	4 (4-0-8)

Major Required Courses — 62 credits

Major Required Courses for All Concentrations — 41credits

CE 2704	Digital Logic Design	3 (3-0-6)
CE 2705	Digital Logic Design Laboratory	1 (0-3-2)
EE 2201	Electric Circuits	3 (3-0-6)
EE 2202	Electric Circuits Laboratory	1 (0-3-2)
EE 2401	Electromechanical Energy Conversion	3 (3-0-6)
EE 2402	Electromechanical Energy Conversion Laboratory	1 (0-3-2)
EE 2605	Engineering Electronics	3 (3-0-6)
EE 2606	Engineering Electronics Laboratory	1 (0-3-2)
EE 3406	Control Systems	3 (3-0-6)
EE 4705	Power Electronics	3 (3-0-6)
EE 4706	Power Electronics Laboratory	1 (0-3-2)
IE 3100	Manufacturing Processes	3 (3-0-6)
MCE 2101	Fundamentals of Mechatronics Engineering	3 (3-0-6)
MCE 2102	Mechatronics Engineering Laboratory I	1 (0-3-2)
MCE 4103	Mechatronics Engineering Laboratory II	1 (0-3-2)
MCE 4901	Mechatronics Engineering Project I	1 (0-3-2)
MCE 4902	Mechatronics Engineering Project II	2 (0-6-3)
ME 3110	Mechanics of Materials	3 (3-0-6)
ME 3311	Pneumatic and Hydraulic Systems	3 (3-0-6)
ME 3312	Pneumatic and Hydraulic Systems Laboratory	1 (0-3-2)

Major Required Courses for Concentration in Automation Engineering — **21 credits**

CE 4201	Image Processing and Computer Vision	3 (3-0-6)
EE 3405	Digital Control Systems	3 (3-0-6)
EE 3606	Electrical Instruments and Measurements	3 (3-0-6)
EE 3705	Microprocessors and Microcontrollers	3 (3-0-6)
MCE 4101	Introduction to Robotics	3 (3-0-6)
MCE 4102	Introduction to Industrial Automation	3 (3-0-6)
ME 3120	Mechanics of Machinery	3 (3-0-6)

Major Required Courses for Concentration in Marine Engineering — **21 credits**

ME 3204	Marine Electrical Powering and Systems	3 (3-0-6)
ME 3410	Thermodynamics	3 (3-0-6)
ME 3414	Fluid Mechanics	3 (3-0-6)
ME 3418	Heat Transfer	3 (3-0-6)
ME 4502	Marine Propulsion and Machinery Systems	3 (3-0-6)
ME 4506	Ship Dynamics	3 (3-0-6)
ME 4512	Ship Operation and Maintenance	3 (3-0-6)

Major Elective Courses — **6 credits**

Students can take major elective courses of 6 credits from the following courses.

CE 3001	Commercial Application Programming	3 (3-0-6)
CE 3003	Mobile Applications Development	3 (3-0-6)
CE 4221	Network Applications and Technology	3 (3-0-6)
CE 4224	Telecommunication Network Laboratory	1 (0-3-2)
CE 4225	Computer and Network security	3 (3-0-6)
CE 4301	Fundamental of Internet of Things	3 (3-0-6)
EE 3301	Electromagnetic Fields	3 (3-0-6)
EE 3704	Embedded Systems	3 (3-0-6)
EE 4305	Digital Signal Processing	3 (3-0-6)
EE 4501	Power System Analysis	3 (3-0-6)
EE 4503	Electrical System Design	3 (3-0-6)
EE 4506	High Voltage Engineering	3 (3-0-6)
EE 4602	Industrial Instrumentation and Control	3 (3-0-6)
EE 4603	Industrial Electronics	3 (3-0-6)
EE 4701	Microprocessor Interface Techniques	3 (3-0-6)
IE 2110	Introduction to Manufacturing with Plastics	3 (3-0-6)
IE 4101	Manufacturing and Information Technology	3 (3-0-6)
IE 4201	Engineering Management	3 (3-0-6)
IE 4203	Engineering Economics	3 (3-0-6)
MCE 4801	Instrument for Aviation	6 (6-0-12)
MCE 4903	Advanced Topics in Mechatronics Engineering	3 (3-0-6)
MCE 4904	Special Problems in Mechatronics Engineering	3 (3-0-6)
MCE 4907	Engineering Internship	3 (0-9- 6)
ME 4010	Machine Design	3 (3-0-6)
ME 4310	Mechanical Vibration	3 (3-0-6)
ME 4412	Internal Combustion Engines	3 (3-0-6)
ME 4414	Air Conditioning	3 (3-0-6)
ME 4505	Ship Design	3 (3-0-6)
ME 4602	Maritime Robotics	3 (3-0-6)
TE 3000	Principles of Communications	3 (3-0-6)

Students can also select major required courses of other majors as their major elective courses.

C. Free Elective Course — **6 Credits**

Students can take free elective courses of 6 credits from any faculty in Assumption University upon completion of the prerequisites (if any).

STUDY PLAN
(1) AUTOMATION ENGINEERING

FIRST YEAR
First Semester

Code	Subjects	Credits
BG 1001	English I	3 (2-3-6)
BG 1204	Calculus I	3 (3-0-6)
BG 1211	Physics I	3 (3-0-6)
BG 1212	Physics Laboratory I	1 (3-0-6)
BG 1221	Computer Programming	3 (3-0-6)
BG 1113	Engineering Drawing	3 (2-3-6)
ME 1114	Engineering Workshop	2 (0-4-2)
	Total	**18 (13-13-34)**

Second Semester

BG 0008	General Chemistry Laboratory	1 (0-3-2)
BG 1002	English II	3 (2-3-6)
BG 1108	General Chemistry	3 (3-0-6)
BG 1205	Calculus II	3 (3-0-6)
BG 1213	Physics II	3 (3-0-6)
BG 1214	Physics Laboratory II	1 (0-3-2)
BG 2208	Discrete Mathematics	3 (3-0-6)
IE 1110	Engineering Materials	3 (3-0-6)
	Total	**20 (17-9-40)**

SECOND YEAR
First Semester

BG 2000	English III	3 (2-3-6)
BG 2207	Engineering Mathematics	3 (3-0-6)
CE 2704	Digital Logic Design	3 (3-0-6)
CE 2705	Digital Logic Design Laboratory	1 (0-3-2)
EE 2201	Electric Circuits	3 (3-0-6)
EE 2202	Electric Circuits Laboratory	1 (0-3-2)
MCE 2101	Fundamental of Mechatronics Engineering	3 (3-0-6)
MCE 2102	Mechatronics Engineering Laboratory I	1 (0-3-2)
ME 2211	Engineering Mechanics I	3 (3-0-6)
	Total	**21 (17-12-42)**

Second Semester

BG 2001	English IV	3 (2-3-6)
BG 2212	Applied Statistics	3 (3-0-6)
EE 2203	Signals and Systems	3 (3-0-6)
EE 2401	Electromechanical Energy Conversion	3 (3-0-6)
EE 2402	Electromechanical Energy Conversion Laboratory	1 (0-3-2)
EE 2605	Engineering Electronics	3 (3-0-6)
EE 2606	Engineering Electronics Laboratory	1 (0-3-2)
ME 2220	Engineering Mechanics II	3 (3-0-6)
	Total	**20 (17-9-40)**

THIRD YEAR
First Semester

EE 3402	Electrical Machines	3 (3-0-6)
EE 3403	Electrical Machines Laboratory	1 (0-3-2)
EE 3406	Control Systems	3 (3-0-6)
EE 3606	Electrical Instruments and Measurements	3 (3-0-6)
EE 3705	Microprocessors and Microcontrollers	3 (3-0-6)
ME 3120	Mechanics of Machinery	3 (3-0-6)
ME 3311	Pneumatic and Hydraulic Systems	3 (3-0-6)
ME 3312	Pneumatic and Hydraulic Systems Laboratory	1 (0-3-2)
	Total	**20 (18-6-40)**

Second Semester

GE 2101	World Civilization	3 (3-0-6)
CE 4201	Image Processing and Computer Vision	3 (3-0-6)
EE 3405	Digital Control Systems	3 (3-0-6)
IE 3100	Manufacturing Processes	3 (3-0-6)
ME 3110	Mechanics of Materials	3 (3-0-6)
	Total	**15 (15-0-30)**

FOURTH YEAR
First Semester

GE 2202	Ethics	3 (3-0-6)
MCE 4101	Introduction to Robotics	3 (3-0-6)
MCE 4103	Mechatronics Engineering Laboratory II	1 (0-3-2)
MCE 4901	Mechatronics Engineering Project I	1 (0-3-2)
MGT 1101	Introduction to Business	3 (3-0-6)
	One Major Elective Course	3 (3-0-6)
	One Free Elective Course	3 (3-0-6)
	Total	**17 (15-6-34)**

Second Semester

EE 4705	Power Electronics	3 (3-0-6)
EE 4706	Power Electronics Laboratory	1 (0-3-2)
MCE 4102	Introduction to Industrial Automation	3 (3-0-6)
MCE 4902	Mechatronics Engineering Project II	2 (0-6-3)
	One Major Elective Course	3 (3-0-6)
	One Free Elective Course	3 (3-0-6)
	Total	**15 (12-9-29)**

STUDY PLAN
(2) MARINE ENGINEERING

FIRST YEAR
First Semester

Code	Subjects	Credits
BG 1001	English I	3 (2-3-6)
BG 1204	Calculus I	3 (3-0-6)
BG 1211	Physics I	3 (3-0-6)
BG 1212	Physics Laboratory I	1 (3-0-6)
BG 1221	Computer Programming	3 (3-0-6)
BG 1113	Engineering Drawing	3 (2-3-6)
ME 1114	Engineering Workshop	2 (0-4-2)
	Total	**18 (13-13-34)**

Second Semester

BG 0008	General Chemistry Laboratory	1 (0-3-2)
BG 1002	English II	3 (2-3-6)
BG 1108	General Chemistry	3 (3-0-6)
BG 1205	Calculus II	3 (3-0-6)
BG 1213	Physics II	3 (3-0-6)
BG 1214	Physics Laboratory II	1 (0-3-2)
BG 2208	Discrete Mathematics	3 (3-0-6)
IE 1110	Engineering Materials	3 (3-0-6)
	Total	**20 (17-9-40)**

SECOND YEAR
First Semester

BG 2000	English III	3 (2-3-6)
BG 2207	Engineering Mathematics	3 (3-0-6)
CE 2704	Digital Logic Design	3 (3-0-6)
CE 2705	Digital Logic Design Laboratory	1 (0-3-2)
EE 2201	Electric Circuits	3 (3-0-6)
EE 2202	Electric Circuits Laboratory	1 (0-3-2)
MCE 2101	Fundamental of Mechatronics Engineering	3 (3-0-6)
MCE 2102	Mechatronics Engineering Laboratory I	1 (0-3-2)
ME 2211	Engineering Mechanics I	3 (3-0-6)
	Total	**21 (17-12-42)**

Second Semester

BG 2001	English IV	3 (2-3-6)
BG 2212	Applied Statistics	3 (3-0-6)
EE 2203	Signals and Systems	3 (3-0-6)
EE 2401	Electromechanical Energy Conversion	3 (3-0-6)
EE 2402	Electromechanical Energy Conversion Laboratory	1 (0-3-2)
EE 2605	Engineering Electronics	3 (3-0-6)
EE 2606	Engineering Electronics Laboratory	1 (0-3-2)
ME 2220	Engineering Mechanics II	3 (3-0-6)
	Total	**20 (17-9-40)**

THIRD YEAR
First Semester

EE 3406	Control Systems	3 (3-0-6)
ME 3204	Marine Electrical Powering and Systems	3 (3-0-6)
ME 3311	Pneumatic and Hydraulic Systems	3 (3-0-6)
ME 3312	Pneumatic and Hydraulic Systems Laboratory	1 (0-3-2)
ME 3410	Thermodynamics	3 (3-0-6)
ME 3414	Fluid Mechanics	3 (3-0-6)
	Total	**16 (15-3-32)**

Second Semester

GE 2101	World Civilization	3 (3-0-6)
IE 3100	Manufacturing Processes	3 (3-0-6)
ME 3110	Mechanics of Materials	3 (3-0-6)
ME 3418	Heat Transfer	3 (3-0-6)
ME 3501	Naval Architecture and Ship Construction	4 (4-0-8)
	One Free Elective Course	3 (3-0-6)
	Total	**19 (19-0-38)**

FOURTH YEAR
First Semester

GE 2202	Ethics	3 (3-0-6)
MCE 4103	Mechatronics Engineering Laboratory II	1 (0-3-2)
MCE 4901	Mechatronics Engineering Project I	1 (0-3-2)
ME 4502	Marine Propulsion and Machinery Systems	3 (3-0-6)
MGT 1101	Introduction to Business	3 (3-0-6)
	One Major Elective Course	3 (3-0-6)
	One Free Elective Course	3 (3-0-6)
	Total	**17 (15-6-34)**

Second Semester

EE 4705	Power Electronics	3 (3-0-6)
EE 4706	Power Electronics Laboratory	1 (0-3-2)
MCE 4902	Mechatronics Engineering Project II	2 (0-6-3)
ME 4506	Ship Dynamics	3 (3-0-6)
ME 4512	Ship Operation and Maintenance	3 (3-0-6)
	One Major Elective Course	3 (3-0-6)
	Total	**15 (12-9-29)**

BACHELOR OF ENGINEERING

PROGRAM IN AERONAUTIC ENGINEERING

GRADUATION REQUIREMENTS

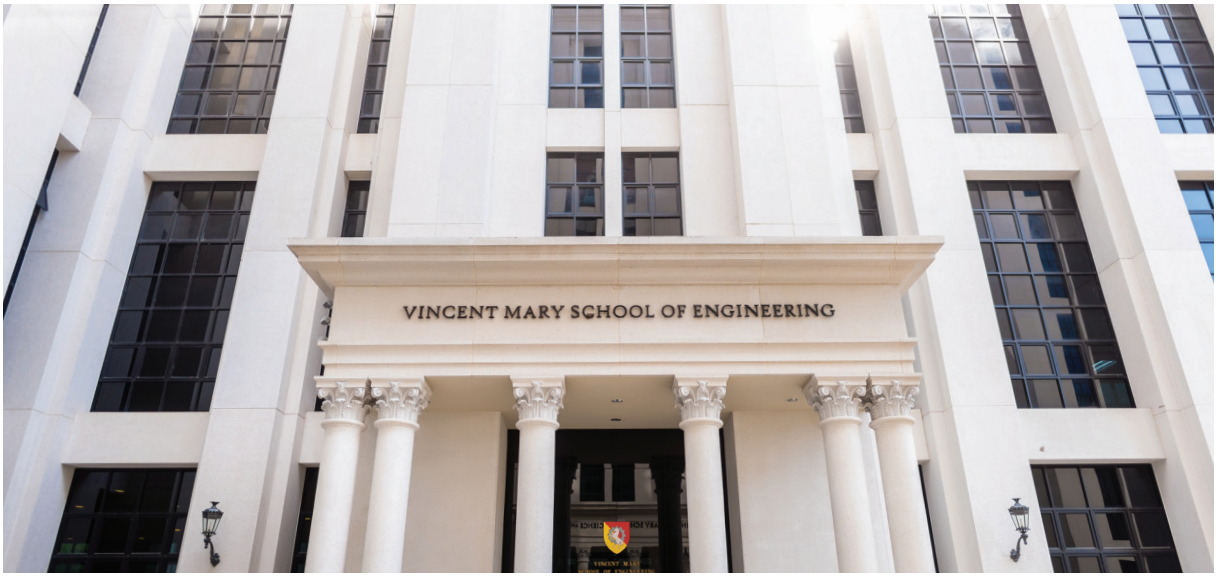
Assumption University confers the degree of Bachelor of Engineering in Aeronautic Engineering upon students who meet all of the following requirements specified in the Graduate P ogram Standard Criteria B.E. 2548 and Assumption University Bylaw B.E. 2548 as follows:

- Have completed of the total number of credits of the curriculum
- Have obtained a cumulative grade point average of at least 2.00
- Have participated in 16 sessions of the Professional Ethics Seminar
- Have obtained library and financial clearance wit the University
- Have demonstrated good-behavior and discipline

OBJECTIVES OF CURRICULUM

To produce graduates who have the characteristics, knowledge and skills as follows:

1. Be morally sound, committed to acting justly and open to further growth
2. Have aeronautic knowledge both engineering and non-engineering
3. Have aircraft maneuver skills
4. Be open-minded with strong logical thinking problem-solving
5. Have communication skills



CURRICULUM STRUCTURE

Total number of credits	144 Credits
A. General Education Courses	**34 Credits**
Language Courses	12 Credits
Social Science Courses	9 Credits
Humanities Course	3 Credits
Science and Mathematics Courses	10 Credits
B. Specialized Courses	**104 Credits**
Basic Engineering Courses	**40 Credits**
Major Required Courses	
(1) Commercial Pilot	61 Credits
(2) Aircraft Maintenance Engineer	61 Credits
Major Elective Courses	
(1) Commercial Pilot	3 Credits
(2) Aircraft Maintenance Engineer	3 Credits
C. Free Elective Courses	**6 Credits**

COURSES

A. General Education Courses

Language Courses		**12 Credits**
BG 1001	English I	3 (3-3-7)
BG 1002	English II	3 (3-3-7)
BG 2000	English III	3 (3-3-7)
BG 2001	English IV	3 (3-3-7)
Social Science Courses		**9 Credits**
GE 1301	Environmental Science	3 (3-0-6)
GE 2202	Ethics	3 (3-0-6)
MGT 1101	Introduction to Business	3 (3-0-6)
Humanities Course		**3 Credits**
GE 2101	World Civilization	3 (3-0-6)
Science and Mathematics Courses		**10 Credits**
BG 0008	General Chemistry Laboratory	1 (0-3-2)
BG 1108	General Chemistry	3 (3-0-6)
BG 1221	Computer Programming	3 (3-0-6)
BG 2208	Discrete Mathematics	3 (3-0-6)

B. Specialized Courses

Basic Engineering Courses **40 Credits**

BG 1204	Calculus I	3 (3-0-6)
BG 1205	Calculus II	3 (3-0-6)
BG 1211	Physics I	3 (3-0-6)
BG 1212	Physics Laboratory I	1 (0-3-2)
BG 1213	Physics II	3 (3-0-6)
BG 1214	Physics Laboratory II	1 (0-3-2)
BG 2209	Statistics for Engineers	3 (3-0-6)
EE 2201	Electric Circuits	3 (3-0-6)
EE 2202	Electric Circuits Laboratory	1 (0-3-2)
EE 2605	Engineering Electronics	3 (3-0-6)
EE 2606	Engineering Electronics Laboratory	1 (0-3-2)
IE 1110	Engineering Materials	3 (3-0-6)
MCE 2101	Fundamentals of Mechatronics Engineering	3 (3-0-6)
MCE 2102	Fundamentals of Mechatronics Engineering Laboratory I	1 (0-3-2)
ME 1112	Engineering Laboratory	2 (0-4-2)
ME 1113	Engineering Drawing	3 (3-0-6)
ME 2211	Engineering Mechanics I	3 (3-0-6)

Major Required Courses

Students can select Commercial Pilot or Aircraft Maintenance Engineer as their major.

Commercial Pilot **61 credits**

AE 1100	Core Flying: Single-Engine Flight - Ground	3 (3-0-6)
AE 1101	Theory of Single-Engine Flight	3 (3-0-6)
AE 1200	Core Flying: Single-Engine Flight - Flight	2 (0-3-2)
AE 2100	Basic Flying: Single/Multi-Engine - Ground	3 (3-0-6)
AE 2200	Basic Flying: Single/Multi-Engine - Flight I	1 (0-3-2)
AE 2201	Basic Flying: Single/Multi-Engine - Flight II	1 (0-3-2)
AE 2202	Basic Flying: Multi-Engine Operations	2 (0-3-2)
AE 2203	Basic Flying: Operational Procedures	1 (0-3-2)
AE 2300	Basic Flying: Flight Communications	1 (0-3-2)
AE 2401	Basic Flying: Air Law	3 (3-0-6)
AE 3300	Intermediate Flying: Route Manual and Pilot Applications	3 (3-0-6)
AE 3301	Intermediate Flying: General Navigation	3 (3-0-6)
AE 3302	Intermediate Flying: Flight Performance and Planning I	3 (3-0-6)
AE 3303	Intermediate Flying: Flight Performance and Planning II	3 (3-0-6)
AE 3304	Intermediate Flying: Meteorology	3 (3-0-6)
AE 3400	Intermediate Flying: Advanced Aerodynamics	3 (3-0-6)
AE 3500	Intermediate Flying: Airframes and Aircraft Systems	3 (3-0-6)
AE 3501	Intermediate Flying: Power Plants and Instrumentations	3 (3-0-6)
AE 3502	Intermediate Flying: Radio Navigation	3 (3-0-6)
AE 3700	Commercial Flight I	1 (0-3-2)
AE 3701	Commercial Flight II	1 (0-3-2)
AE 3702	Commercial Flight III	1 (0-3-2)
AE 3703	Commercial Flight IV	1 (0-3-2)
AE 3705	Commercial Flight – Ground	3 (3-0-6)
AE 3900	Seminar in International and Domestic Navigation	3 (3-0-6)
AE 4300	Intermediate Flying: Crew Resources Management and Flight Safety	1 (1-0-2)
AE 4301	Intermediate Flying: Human Performance and Limitations	3 (3-0-6)

Aircraft Maintenance Engineer **61 credits**

AE 1910	Problem-based Training in Aircraft Maintenance I	1 (0-3-2)
AE 1911	Problem-based Training in Aircraft Maintenance II	1 (0-3-2)
AE 1920	Problem-based Training in Aircraft Maintenance III	1 (0-3-2)
AE 2700	Fundamental Aircraft: Propulsion Theory	2 (2-0-4)
AE 2701	Fundamental Aircraft: Aircraft Engine	3 (3-0-6)
AE 2702	Fundamental Aircraft: Aerodynamics	2 (2-0-4)
AE 2703	Fundamental Aircraft: Aircraft Structure	3 (2-3-6)
AE 2704	Fundamental Aircraft: Aircraft Material	3 (2-3-6)
AE 2705	Fundamental Aircraft: Aircraft Performance	3 (2-3-6)
AE 2901	Fundamental Aircraft: Practical Verificatio	1 (0-3-2)
AE 3310	Aircraft Maintenance: Maintenance Human Factor	1 (1-0-2)
AE 3311	Aircraft System: Technical Document System	3 (3-0-6)
AE 3312	Aircraft System: Logistics	2 (2-0-4)
AE 3411	Aircraft System: Aviation Acts and Airworthiness Regulations	3 (3-0-6)
AE 3511	Aircraft System: Aircraft Communications	1 (1-0-2)

AE 3512	Aircraft System: Ground Support Equipment	2 (1-1-4)
AE 3513	Aircraft System: Non-Destructive Inspection	3 (2-3-6)
AE 3710	Aircraft Maintenance: Aircraft Maintenance I	3 (2-3-6)
AE 3711	Aircraft Maintenance: Aircraft Maintenance II	3 (2-3-6)
AE 3712	Aircraft System: Hydraulic and Pneumatic System	3 (2-3-6)
AE 3713	Aircraft System: Landing Gear and Brake System	3 (2-3-6)
AE 3714	Aircraft System: Fuel System	3 (2-3-6)
AE 3715	Aircraft System: Powerplant	3 (2-3-6)
AE 3716	Aircraft System: Stability and Weight & Balance System	3 (2-3-6)
AE 3800	Aircraft System: Aircraft Electrical System	3 (2-3-6)
AE 3901	Aircraft Maintenance: Practical Verificatio	1 (0-3-2)
AE 4901	Aircraft System: Practical Verificatio	1 (0-3-2)

Major Elective Courses **3 credits**

1) Commercial Pilot 3 Credits
2) Aircraft Maintenance Engineer 3 Credits

(a) Students of all majors can select the following courses as major elective courses according to the number of required credits.

AE 2402	English for Aviation	3 (3-0-6)
AE 2501	Maintenance English I	1 (0-3-2)
AE 2502	Maintenance English II	1 (0-3-2)
AE 3401	Avionics	3 (3-0-6)
AE 4700	Commercial Pilot License Instructor	3 (3-0-6)
AE 4701	Commercial Pilot License Instructor: Fight I	2 (0-6-2)
AE 4702	Commercial Pilot License Instructor: Flight II	2 (0-6-2)
AE 4904	Special Problems in Aeronautic Engineering I	3 (3-0-6)
AE 4905	Special Problems in Aeronautic ngineering II	2 (0-6-2)
AE 4906	Special Problems in Aeronautic Engineering III	1 (1-0-2)
AE 4930	Advanced Topics in Aeronautic Engineering I	3 (3-0-6)
AE 4931	Advanced Topics in Aeronautic Engineering II	2 (2-0-4)
AE 4932	Advanced Topics in Aeronautic Engineering III	1 (1-0-2)
CE 2703	Introduction to Computer Systems	3 (3-0-6)
CE 2704	Digital Logic Design	3 (3-0-6)
CE 2705	Digital Logic Design Laboratory	1 (0-3-2)
CE 4227	Mobile and Wireless Networks	3 (3-0-6)
EE 2401	Electromechanical Energy Conversion	3 (3-0-6)
EE 2402	Electromechanical Energy Conversion Laboratory	1 (0-3-2)
EE 3301	Electromagnetic Fields	3 (3-0-6)
EE 3404	Feedback Control Systems	3 (3-0-6)
EE 3601	Electronic Circuit Design	3 (3-0-6)
EE 3602	Electronic Circuit Design Laboratory	1 (0-3-2)
EE 4305	Digital Signal Processing	3 (3-0-6)
EE 4403	Basic Mechatronics	3 (3-0-6)
EE 4503	Electrical Systems Design	3 (3-0-6)
EE 4602	Industrial Instrumentation and Control	3 (3-0-6)
TE 4201	Communication Electronics	3 (3-0-6)
TE 4202	Communication Electronics Laboratory	1 (0-3-2)

(b) Students can also select major required courses of other majors as their major elective courses.

C. Free Elective Course **6 Credits**

Students can take free elective courses of 6 credits from any faculty in Assumption University upon completion of the prerequisites (if any).

STUDY PLAN
COMMERCIAL PILOT

FIRST YEAR
First Semester

Code	Subjects	Credits
BG 1001	English I	3 (2-3-6)
BG 1204	Calculus I	3 (3-0-6)
BG 1211	Physics I	3 (3-0-6)
BG 1212	Physics Laboratory I	1 (3-0-6)
BG 1221	Computer Programming	3 (3-0-6)
ME 1112	Engineering Laboratory	2 (0-4-2)
ME 1113	Engineering Drawing	3 (2-3-6)
	Total	**18 (14-13-35)**

Second Semester

BG 0008	General Chemistry Laboratory	1 (0-3-2)
BG 1108	General Chemistry	3 (3-0-6)
BG 1002	English II	3 (3-3-7)
BG 1205	Calculus II	3 (3-0-6)
BG 1213	Physics II	3 (3-0-6)
BG 1214	Physics Laboratory II	1 (0-3-2)
BG 2208	Discrete Mathematics	3 (3-0-6)
IE 1110	Engineering Materials	3 (3-0-6)
	Total	**20 (18-9-41)**

SECOND YEAR
First Semester

BG 2000	English III	3 (3-3-7)
EE 2201	Electric Circuits	3 (3-0-6)
EE 2202	Electric Circuits Laboratory	1 (0-3-2)
MCE 2101	Fundamentals of Mechatronics Engineering	3 (3-0-6)
MCE 2102	Fundamentals of Mechatronics Engineering Laboratory I	1 (0-3-2)
MGT 1101	Introduction to Business	3 (3-0-6)
	Free Elective	3 (3-0-6)
	Total	**17 (15-9-35)**

Second Semester

BG 2001	English IV	3 (3-3-7)
BG 2209	Statistics for Engineers	3 (3-0-6)
GE 2101	World Civilization	3 (3-0-6)
EE 2605	Engineering Electronics	3 (3-0-6)
EE 2606	Engineering Electronics Laboratory	1 (0-3-2)
ME 2211	Engineering Mechanics I	3 (3-0-6)
	Free Elective	3 (3-0-6)
	Total	**19 (18-6-39)**

Summer Session

GE 1301	Environmental Science	3 (3-0-6)
	Total	**3 (3-0-6)**

THIRD YEAR
First Semester

AE 3302	Intermediate Flying: Flight Performance and Planning I	3 (3-0-6)
AE 3304	Intermediate Flying: Meteorology	3 (3-0-6)
AE 3400	Intermediate Flying: Advanced Aerodynamics	3 (3-0-6)
AE 3501	Intermediate Flying: Power Plants and Instrumentations	3 (3-0-6)
AE 4300	Intermediate Flying: Crew Resources Management and Flight Safety	1 (1-0-2)
AE 4301	Intermediate Flying: Human Performance and Limitations	3 (3-0-6)
	Total	**16 (16-0-32)**

Second Semester

AE 1100	Core Flying: Single-Engine Flight – Ground	3 (3-0-6)
AE 1101	Theory of Single-Engine Flight	3 (3-0-6)
AE 1200	Core Flying: Single-Engine Flight – Flight	2 (0-3-2)
AE 2100	Basic Flying: Single/Multi-Engine – Ground	3 (3-0-6)
AE 2200	Basic Flying: Single/Multi-Engine - Flight I	1 (0-3-2)
AE 2201	Basic Flying: Single/Multi-Engine - Flight II	1 (0-3-2)
AE 2202	Basic Flying: Multi-Engine Operations	2 (1-3-4)
	Total	**15 (10-12-28)**

Summer Session

AE 3700	Commercial Flight I	1 (0-3-2)
AE 3705	Commercial Flight - Ground	3 (3-0-6)
	Total	**4 (3-3-8)**

FOURTH YEAR
First Semester

AE 2203	Basic Flying: Operational Procedures	1 (1-0-2)
AE 2300	Basic Flying: Flight Communications	1 (1-0-2)
AE 2401	Basic Flying: Air Law	3 (3-0-6)
AE 3701	Commercial Flight II	1 (0-3-2)
AE 3702	Commercial Flight III	1 (0-3-2)
AE 3703	Commercial Flight IV	1 (0-3-2)
	Major Elective	3 (3-0-6)
	Total	**11 (8-9-22)**

Second Semester

GE 2202	Ethics	3 (3-0-6)
AE 3300	Intermediate Flying: Route Manual and Pilot Applications	3 (3-0-6)
AE 3301	Intermediate Flying: General Navigation	3 (3-0-6)
AE 3303	Intermediate Flying: Flight Performance and Planning II	3 (3-0-6)
AE 3500	Intermediate Flying: Airframes and Aircraft Systems	3 (3-0-6)
AE 3502	Intermediate Flying: Radio Navigation	3 (3-0-6)
AE 3900	Seminar in International and Domestic Navigation	3 (3-0-6)
	Total	**21 (21-0-42)**

STUDY PLAN
AIRCRAFT MAINTENANCE ENGINEERING

FIRST YEAR
First Semester

Code	Subjects	Credits
BG 1001	English I	3 (2-3-6)
BG 1204	Calculus I	3 (3-0-6)
BG 1211	Physics I	3 (3-0-6)
BG 1212	Physics Laboratory I	1 (3-0-6)
BG 1221	Computer Programming	3 (3-0-6)
ME 1112	Engineering Laboratory	2 (0-4-2)
ME 1113	Engineering Drawing	3 (2-3-6)
	Total	**18 (14-13-35)**

Second Semester

BG 0008	General Chemistry Laboratory	1 (0-3-2)
BG 1108	General Chemistry	3 (3-0-6)
BG 1002	English II	3 (3-3-7)
BG 1205	Calculus II	3 (3-0-6)
BG 1213	Physics II	3 (3-0-6)
BG 1214	Physics Laboratory II	1 (0-3-2)
BG 2208	Discrete Mathematics	3 (3-0-6)
IE 1110	Engineering Materials	3 (3-0-6)
	Total	**20 (18-9-41)**

SECOND YEAR
First Semester

BG 2000	English III	3 (3-3-7)
EE 2201	Electric Circuits	3 (3-0-6)
EE 2202	Electric Circuits Laboratory	1 (0-3-2)
MCE 2101	Fundamentals of Mechatronics Engineering	3 (3-0-6)
MCE 2102	Fundamentals of Mechatronics Engineering Laboratory I	1 (0-3-2)
MGT 1101	Introduction to Business	3 (3-0-6)
AE 1910	Problem-based Training in Aircraft Maintenance I	1 (0-3-2)
AE 2700	Fundamental Aircraft: Propulsion Theory	2 (2-0-4)
	Total	**17 (14-12-35)**

Second Semester

BG 2001	English IV	3 (3-3-7)
BG 2209	Statistics for Engineers	3 (3-0-6)
GE 2101	World Civilization	3 (3-0-6)
EE 2605	Engineering Electronics	3 (3-0-6)
EE 2606	Engineering Electronics Laboratory	1 (0-3-2)
ME 2211	Engineering Mechanics I	3 (3-0-6)
AE 1911	Problem-based Training in Aircraft Maintenance II	1 (0-3-2)
AE 2701	Fundamental Aircraft: Aircraft Engine	3 (3-0-6)
	Total	**20 (18-9-41)**

Summer Session

GE 1301	Environmental Science	3 (3-0-6)
	Total	**3 (3-0-6)**

THIRD YEAR
First Semester

AE 1920	Problem-based Training in Aircraft Maintenance III	1 (0-3-2)
AE 2702	Fundamental Aircraft: Aerodynamics	2 (2-0-4)
AE 2703	Fundamental Aircraft: Aircraft Structure	3 (2-3-6)
AE 2704	Fundamental Aircraft: Aircraft Material	3 (2-3-6)
AE 2705	Fundamental Aircraft: Aircraft Performance	3 (2-3-6)
AE 3310	Aircraft Maintenance: Maintenance Human Factor	1 (1-0-2)
AE 3710	Aircraft Maintenance: Aircraft Maintenance I	3 (2-3-6)
	Total	**16 (11-15-32)**

Second Semester

AE 2901	Fundamental Aircraft: Practical Verificatio	1 (0-3-2)
AE 3311	Aircraft System: Technical Document System	3 (3-0-6)
AE 3312	Aircraft System: Logistics	2 (2-0-4)
AE 3411	Aircraft System: Aviation Acts and Airworthiness Regulations	3 (3-0-6)
AE 3511	Aircraft System: Aircraft Communications	1 (1-0-2)
AE 3711	Aircraft Maintenance: Aircraft Maintenance II	3 (3-0-6)
AE 3712	Aircraft System: Hydraulic and Pneumatic System	3 (3-0-6)
AE 3713	Aircraft System: Landing Gear and Brake System	3 (3-0-6)
	Total	**19 (15-12-38)**

FOURTH YEAR
First Semester

AE 3714	Aircraft System: Fuel System	3 (2-3-6)
AE 3715	Aircraft System: Powerplant	3 (2-3-6)
AE 3800	Aircraft System: Aircraft Electrica System	3 (2-3-6)
AE 3901	Aircraft Maintenance: Practical Verificatio	1 (0-3-2)
	Major Elective	3 (3-0-6)
	Free Elective	3 (3-0-6)
	Total	**16 (12-12-32)**

Second Semester

GE 2202	Ethics	3 (3-0-6)
AE 3512	Aircraft System: Ground Support Equipment	2 (1-1-4)
AE 3513	Aircraft System: Non-Destructive Inspection	3 (2-3-6)
AE 3716	Aircraft System: Stability and Weight & Balance System	3 (2-3-6)
AE 4901	Aircraft System: Practical Verificatio	1 (0-3-2)
	Free Elective	3 (x-x-x)
	Total	**15 (11-10-30)**

VINCENT MARY SCHOOL OF **SCIENCE AND TECHNOLOGY**

BACHELOR OF SCIENCE

PROGRAM IN COMPUTER SCIENCE

GRADUATION REQUIREMENTS

Assumption University confers the degree of Bachelor of Science in Computer Science upon students who meet all of the following requirements:

1. Have completed the total number of credits of the curriculum
2. Have obtained a cumulative grade point average of at least 2.00
3. Have participated in 16 sessions of the Professional Ethics Seminar
4. Have obtained library and financial clearance f om the University
5. Have demonstrated good behavior and discipline

OBJECTIVES OF CURRICULUM

To produce graduates who have the characteristics, knowledge and skills as follows:

1. Have morals and ethics
2. Socially responsible and understand well the impacts and consequences of technology towards society and the environment
3. Have the knowledge and understanding of the major principles and theories of computer science
4. Capable of developing the fundamentals of computer programs and with the expertise to analyze, operate and manage computer systems
5. Able to understand the organization and operation of the computer hardware
6. Able to help in the promotion and collaboration of transfer technology which is undergoing rapid development
7. Capable of meeting the nation's present and future needs for computer science experts in the application and development of computer planning
8. Possess systematic, logical and critical thinking skills
9. Able to work with a team and be a leader or a follower
10. Have responsibility in the assigned tasks and continuously have self-development in the field o computer science
11. Able to communicate effectively

CURRICULUM STRUCTURE

Total number of credits	**132 Credits**
(1) General Education Courses	**33 Credits**
Language Courses	12 Credits
Humanities Course	3 Credits
Social Science Courses	6 Credits
Science and Mathematics Courses	6 Credits
Two other General Education Courses	6 Credits
(2) Specialized Courses	**90 Credits**
(2.1) Core Courses	**21 Credits**
(2.2) Major Courses	**39 Credits**
- Organization Issues and Information Systems	3 Credits
- Group Applications Technology Group	6 Credits
- Technology and Software Methods Group	15 Credits
- Systems Infrastructure Group	12 Credits
- Hardware and Computer Architecture Group	3 Credits
(2.3) Major Elective Courses	**30 Credits**
(3) Free Elective Courses	**9 Credits**

COURSES

(1) General Education Courses

Language Courses — **12 Credits**

BG 1001	English I	3 (2-3-6)
BG 1002	English II	3 (2-3-6)
BG 2000	English III	3 (2-3-6)
BG 2001	English IV	3 (2-3-6)

Social Science Courses — **6 Credits**

GE 2202	Ethics	3 (3-0-6)
BBA 1001	Business Exploration	3 (3-0-6)

Humanities Course — **3 Credits**

LAW 1201	Business Laws for Entrepreneurs	3 (3-0-6)

Science and Mathematics Courses — **6 Credits**

BAC 1602	Fundamentals of Financial Accounting I	3 (3-0-6)
CSX 1001	Basic Mathematics and Statistics	3 (3-0-6)

Two other General Education Courses **6 Credits**
can be chosen the following courses

GE 1103	Historical Perspectives on Thailand	3 (3-0-6)
GE 1102	Introduction to Philosophy	3 (3-0-6)
GE 2102	Human Heritage and Globalization	3 (3-0-6)
GE 2103	Art of Reasoning	3 (3-0-6)
GE 2104	Thai Buddhism	3 (3-0-6)
GE 2105	Introduction to World Religion	3 (3-0-6)
GE 2106	Logical Thinking and Application	3 (3-0-6)
GE 2107	Applied Philosophy in Social Sciences and Humanities	3 (3-0-6)
BBA 2001	Human Behavior	3 (3-0-6)
GE 1207	Fundamental Psychology	3 (3-0-6)
GE 1203	Society, Politics and Economics	3 (3-0-6)
GE 1205	ASEAN Ways	3 (3-0-6)
GE 1206	Philosophy of Sufficiency Economy	3 (3-0-6)
GE 2203	Art of Living	3 (3-0-6)
GE 2205	Communication and Multicultural society	3 (3-0-6)
GE 2206	Personality Development	3 (3-0-6)
GE 2207	Sport, Health and Wellness Development	3 (3-0-6)
GE 2208	Thai Politics and Government	3 (3-0-6)
BEC 2200	Introduction to Economics	3 (3-0-6)
GE 1302	Ecology and Sustainability	3 (3-0-6)
GE 2301	Lifestyles in Dynamic World	3 (3-0-6)
GE 2302	Climate Change and Human Life	3 (3-0-6)
GE 2303	Building Brilliant Brain	3 (3-0-6)
MA 1200	Mathematics for Business	3 (3-0-6)
GE 1403	Communication in Thai	3 (3-0-6)
GE 1405	Thai Language and Culture	3 (3-0-6)
GE 1406	Burmese Language	3 (3-0-6)
GE 1407	Russian Language	3 (3-0-6)
GE 3401	Public Speaking in Thai	3 (3-0-6)

(2) Specialized Courses

(2.1) Core Courses **21 Credits**

CSX 2002	Calculus	3 (3-1-7)
CSX 2003	Principles of Statistics	3 (3-1-7)
CSX 2004	UI/UX Design and Prototyping	3 (3-0-6)
CSX 2005	Design Thinking	3 (3-0-6)
CSX 2006	Mathematics and Statistics for Data Science	3 (3-1-7)
CSX 2007	Data Science	3 (3-0-6)
CSX 2008	Mathematics Foundation for Computer Science	3 (3-0-6)

(2.2) Major Courses **39 Credits**

Organization Issues and Information Systems Group **3 Credits**

CSX 2001	Introduction to Information Technology	3 (3-0-6)

Applications Technology Group **6 Credits**

CSX 3010	Senior Project I	3 (3-0-6)
CSX 3011	Senior Project II	3 (3-0-6)

Technology and Software Methods Group **15 Credits**

CSX 3001	Fundamentals of Computer Programming	3 (3-0-6)
CSX 3002	Object-Oriented Concepts and Programming	3 (3-0-6)
CSX 3003	Data Structure and Algorithms	3 (3-0-6)
CSX 3004	Programming Languages	3 (3-0-6)
CSX 3009	Algorithm Design	3 (3-0-6)

Systems Infrastructure Group **12 Credits**

CSX 2009	Cloud Computing	3 (3-0-6)
CSX 3005	Computer Networks	3 (3-0-6)
CSX 3006	Database Systems	3 (3-0-6)
CSX 3008	Operating Systems	3 (3-0-6)

Hardware and Computer Architecture Group **3 Credits**

CSX 3007	Computer Architecture	3 (3-0-6)

(2.3) Major Elective Courses **30 Credits**

Major Elective Courses are divided into two groups:
Major Elective Courses Group 1 which consists of 4 concentrations including
- Software Engineering and Development (SED)
- Informatics and Data Science (IDS)
- Network Technology and Infrastructure (NET)
- Enterprise Systems (ERP); and

Major Elective Courses Group 2
*Students are required to choose one concentration out of 4 concentrations and study 5 subjects (15 credits) from the chosen concentration and study 5 subjects (15 credits) from all major elective courses.

Group 1(A): Software Engineering and Development

CSX 4101	Information System Analysis and Design	3 (3-0-6)
CSX 4102	Software Engineering	3 (3-0-6)
CSX 4103	Requirement Engineering	3 (3-0-6)
CSX 4104	Software Testing	3 (3-0-6)
CSX 4105	IT Project Management	3 (3-0-6)
CSX 4106	Enterprise Architecture	3 (3-0-6)
CSX 4107	Web Application Development	3 (3-0-6)
CSX 4108	iOS Application Development	3 (3-0-6)
CSX 4109	Android Application Development	3 (3-0-6)

Group 1(B): Informatics and Data Science

CSX 4201	Artificial Intelligence Concepts	3 (3-0-6)
CSX 4202	Data Mining	3 (3-0-6)
CSX 4203	Machine Learning	3 (3-0-6)
CSX 4204	Biometrics	3 (3-0-6)
CSX 4205	Big Data Analytics	3 (3-0-6)
CSX 4206	Data Warehousing and Business Intelligence	3 (3-0-6)
CSX 4207	Decision Support and Recommender Systems	3 (3-0-6)
CSX 4208	Deep Learning	3 (3-0-6)
CSX 4209	Intelligent System Development	3 (3-0-6)
CSX 4210	Natural Language Processing and Social Interactions	3 (3-0-6)

Group 1(C): Network Technology and Infrastructure

CSX 4301	Network Design	3 (3-0-6)
CSX 4302	Cisco Networking Workshop	3 (3-0-6)
CSX 4303	Network Security	3 (3-0-6)
CSX 4304	Network Management	3 (3-0-6)
CSX 4305	Heterogeneous Wireless Networks	3 (3-0-6)
CSX 4306	Internet of Things	3 (3-0-6)
CSX 4307	Business Continuity Planning and Management	3 (3-0-6)

Group 1(D): Enterprise Systems

CSX 4401	Business Systems	3 (3-0-6)
CSX 4402	Sales and Distribution Management System	3 (3-0-6)
CSX 4403	Manufacturing Management System	3 (3-0-6)
CSX 4404	Supply Chain Management System	3 (3-0-6)
CSX 4405	Finance and Accounting Information System	3 (3-0-6)
CSX 4406	Customer Relationship Management System	3 (3-0-6)
CSX 4407	Enterprise Application Development	3 (3-0-6)
CSX 4408	Enterprise Database System	3 (3-0-6)
CSX 4409	Blockchain Technology	3 (3-0-6)

Major Elective Courses Group 2

CSX 4501	Theory of Computation	3 (3-0-6)
CSX 4502	Tech Startup	3 (3-0-6)
CSX 4503	Information Systems Security	3 (3-0-6)
CSX 4504	Digital Marketing	3 (3-0-6)
CSX 4505	Digital Transformation	3 (3-0-6)
CSX 4506	Image Processing	3 (3-0-6)
CSX 4507	Information Retrieval and Search Engines	3 (3-0-6)
CSX 4508	Quantitative Research for Digital Business	3 (3-0-6)
CSX 4600-4699	Selected Topics	3 (3-0-6)

(3) Free Elective Courses — 9 Credits

Students can take free elective courses of 9 credits from any faculty in Assumption University upon completion of the prerequisite.

STUDY PLAN

FIRST YEAR

First Semester

Code	Subjects	Credits
BG 1001	English I	3 (2-3-6)
CS 1001	Basic Mathematics and Statistics	3 (3-0-6)
CSX 2001	Basic Mathematics and Statistics	3 (3-0-6)
CSX 3001	Fundamentals of Computer Programming	3 (3-0-6)
BBA 1001	Business Exploration	3 (3-0-6)
	Total	**15 (14-3-30)**

Second Semester

BG 1002	English II	3 (2-3-6)
LAW 1201	Business Laws for Entrepreneurs	3 (3-0-6)
CSX 2002	Calculus	3 (3-1-7)
CSX 2003	Principles of Statistics	3 (3-1-7)
CSX 2004	UI/UX Design and Prototyping	3 (3-0-6)
CSX 3002	Object-Oriented Concepts and Programming	3 (3-0-6)
	Total	**18 (17-5-38)**

SECOND YEAR

First Semester

BG 2000	English III	3 (2-3-6)
CSX 2005	Design Thinking	3 (3-0-6)
CSX 2006	Mathematics and Statistics for Data Science	3 (3-1-7)
CSX 3003	Data Structure and Algorithms	3 (3-0-6)
CSX 3004	Programming Languages	3 (3-0-6)
CSX 3005	Computer Networks	3 (3-0-6)
	Total	**18 (17-4-37)**

Second Semester

BG 2001	English IV	3 (2-3-6)
BAC 1602	Fundamentals of Financial Accounting I	3 (3-0-6)
CSX 2007	Data Science	3 (3-0-6)
CSX 2008	Mathematics Foundation for Computer Science	3 (3-0-6)
CSX 3006	Database Systems	3 (3-0-6)
	One Major Elective Course	3 (3-0-6)
	Total	**18 (17-3-36)**

THIRD YEAR

First Semester

CSX 2009	Cloud Computing	3 (3-0-6)
CSX 3007	Computer Architecture	3 (3-0-6)
CSX 3008	Operating Systems	3 (3-0-6)
CSX 3009	Algorithm Design	3 (3-0-6)
	Two Major Elective Courses	6 (6-0-12)
	Total	**18 (18-0-36)**

Second Semester

GE 2202	Ethics	3 (3-0-6)
CSX 3010	Senior Project I	3 (3-0-6)
	Two Major Elective Courses	6 (6-0-12)
	One Free Elective Course	3 (3-0-6)
	Total	**15 (15-0-30)**

FOURTH YEAR

First Semester

	Three Major Elective Courses	9 (9-0-18)
	Two General Education Courses	6 (6-0-12)
	One Free Elective Course	3 (3-0-6)
	Total	**18 (18-0-36)**

Second Semester

CSX 3011	Senior Project II	3 (3-0-6)
	Two Major Elective Courses	6 (6-0-12)
	One Free Elective Course	3 (3-0-6)
	Total	**12 (12-0-24)**

BACHELOR OF SCIENCE

PROGRAM IN INFORMATION TECHNOLOGY

GRADUATION REQUIREMENTS

Assumption University confers the degree of Bachelor of Science in Information Technology upon students who meet all of the following requirements:

1. Have completed the total number of credits of the curriculum
2. Have obtained a cumulative grade point average of at least 2.00
3. Have participated in 16 sessions of the Professional Ethics Seminar
4. Have obtained library and financial clearance f om the University
5. Have demonstrated good behaviour and discipline

OBJECTIVES

To produce graduates who have the characteristics, knowledge and skills as follows:

1. Have morals and ethics
2. Understand and are responsible for the impacts and consequences of technology towards society and the environment
3. Have the knowledge and understanding of the major principles and theories of information technology
4. Able to manage and develop information systems and communication network
5. Capable of applying new technology in the design, operation, linkage, control and management of information systems
6. Possess systematic, logical and critical thinking skills
7. Able to provide advice and coordinate the services needed by executives in both internal and external units of organizations
8. Able to provide solutions related to information systems in the dynamic environment
9. Able to work with a team and be a leader or a follower
10. Have responsibility in the assigned tasks and continuously have self-development in the field o information technology
11. Able to communicate effectively

CURRICULUM STRUCTURE

Total number of credits	132 Credits
(1) General Education Courses	**33 Credits**
Language Courses	12 Credits
Humanities Course	3 Credits
Social Science Courses	6 Credits
Science and Mathematics Courses	6 Credits
Two other General Education Courses	6 Credits
(2) Specialized Courses	**90 Credits**
(2.1) Core Courses	15 Credits
(2.2) Major Courses	45 Credits
Organization Issues and Information Systems Group	9 Credits
Applications Technology Group	18 Credits
Technology and Software Methods Group	12 Credits
Systems Infrastructure Group	6 Credits
(2.3) Major Elective Courses	30 Credits
(3) Free Elective Courses	**9 Credits**

COURSES

(1) General Education Courses

Language Courses		**12 Credits**
BG 1001	English I	3 (2-3-6)
BG 1002	English II	3 (2-3-6)
BG 2000	English III	3 (2-3-6)
BG 2001	English IV	3 (2-3-6)
Social Science Courses		**6 Credits**
GE 2202	Ethics	3 (3-0-6)
BBA 1001	Business Exploration	3 (3-0-6)
Humanities Course		**3 Credits**
LAW 1201	Business Laws for Entrepreneurs	3 (3-0-6)
Science and Mathematics Courses		**9 Credits**
BAC 1602	Fundamentals of Financial Accounting I	3 (3-0-6)
ITX 1001	Basic Mathematics and Statistics	3 (3-0-6)

Two Other General Education Courses **6 Credits**

Students are required to choose two of the following courses.

GE 1103	Historical Perspectives on Thailand	3 (3-0-6)
GE 1102	Introduction to Philosophy	3 (3-0-6)
GE 2102	Human Heritage and Glabalization	3 (3-0-6)
GE 2103	Art of Reasoning	3 (3-0-6)
GE 2104	Thai Buddhism	3 (3-0-6)
GE 2105	Introduction to World Religion	3 (3-0-6)
GE 2106	Logical Thinking and Application	3 (3-0-6)
GE 2107	Applied Philosophy in Social Sciences and Humanities	3 (3-0-6)
BBA 2001	Human Behavior	3 (3-0-6)
GE 1207	Fundamental Psychology	3 (3-0-6)
GE 1203	Society, Politics and Economics	3 (3-0-6)
GE 1205	ASEAN Ways	3 (3-0-6)
GE 1206	Philosophy of Sufficiency Economy	3 (3-0-6)
GE 2203	Art of Living	3 (3-0-6)
GE 2205	Communication and Multicultural society	3 (3-0-6)
GE 2206	Personality Development	3 (3-0-6)
GE 2207	Sport, Health and Wellness Development	3 (3-0-6)
GE 2208	Thai Politics and Government	3 (3-0-6)
BEC 2200	Introduction to Economics	3 (3-0-6)
GE 1301	Environmental Science	3 (3-0-6)
GE 2301	Lifestyles in Dynamic World	3 (3-0-6)
GE 2302	Climate Change and Human Life	3 (3-0-6)
GE 2303	Building Brilliant Brain	3 (3-0-6)
MA 1200	Mathematics for Business	3 (3-0-6)
GE 1403	Communication in Thai	3 (3-0-6)
GE 1405	Thai Language and Culture	3 (3-0-6)
GE 1406	Burmese Language	3 (3-0-6)
GE 1407	Russian Language	3 (3-0-6)
GE 3401	Public Speaking in Thai	3 (3-0-6)

(2) Specialized Courses

(2.1) Core Courses **15 Credits**

ITX 2002	Calculus	3 (3-1-7)
ITX 2003	Principles of Statistics	3 (3-1-7)
ITX 2005	Design Thinking	3 (3-0-6)
ITX 2006	Mathematics and Statistics for Data Science	3 (3-1-7)
ITX 3002	Introduction to Information Technology	3 (3-0-6)

(2.2) Major Courses **45 Credits**

Organization Issues and Information Systems Group **9 Credits**

ITX 3003	Business Systems	3 (3-0-6)
ITX 3004	Information System Analysis and Design	3 (3-0-6)
ITX 3008	IT Project Management	3 (3-0-6)

Applications Technology Group **18 Credits**

ITX 2004	UI/UX Design and Prototyping	3 (3-0-6)
ITX 2007	Data Science	3 (3-0-6)
ITX 2009	Presentation and Data Visualization Techniques	3 (3-0-6)
ITX 3006	Database Management Systems	3 (3-0-6)
ITX 3009	Senior Project I	3 (3-0-6)
ITX 3010	Senior Project II	3 (3-0-6)

Technology and Software Methods Group **12 Credits**

ITX 2001	Object-Oriented Concepts and Programming	3 (3-0-6)
ITX 2010	Data Structure and Algorithms	3 (3-0-6)
ITX 3001	Fundamentals of Computer Programming	3 (3-0-6)
ITX 3007	Software Engineering	3 (3-0-6)

Systems Infrastructure Group **6 Credits**

ITX 2008	Cloud Computing	3 (3-0-6)
ITX 3005	Computer Networks	3 (3-0-6)

(2.3) Major Elective Courses **30 Credits**

Major Elective Courses are divided into two groups:
Major Elective Courses Group 1 which consists of 4 concentrations including
- Software Engineering and Development (SED)
- Informatics and Data Science (IDS)
- Network Technology and Infrastructure (NET)
- Enterprise Systems (ERP); and

Major Elective Courses Group 2
** Students are required to choose one concentration out of 4 concentrations and study 5 subjects (15 credits) from the chosen concentration and study 5 subjects (15 credits) from all major elective courses.*

Group 1(A): Software Engineering and Development

ITX 4103	Requirement Engineering	3 (3-0-6)
ITX 4104	Software Testing	3 (3-0-6)
ITX 4106	Enterprise Architecture	3 (3-0-6)
ITX 4107	Web Application Development	3 (3-0-6)
ITX 4108	iOS Application Development	3 (3-0-6)
ITX 4109	Android Application Development	3 (3-0-6)

Group 1(B): Informatics and Data Science

ITX 4201	Artificial Intelligence Concepts	3 (3-0-6)
ITX 4202	Data Mining	3 (3-0-6)
ITX 4203	Machine Learning	3 (3-0-6)
ITX 4204	Biometrics	3 (3-0-6)
ITX 4205	Big Data Analytics	3 (3-0-6)
ITX 4206	Data Warehousing and Business Intelligence	3 (3-0-6)
ITX 4207	Decision Support and Recommender Systems	3 (3-0-6)
ITX 4208	Deep Learning	3 (3-0-6)
ITX 4209	Intelligent System Development	3 (3-0-6)
ITX 4210	Natural Language Processing and Social Interactions	3 (3-0-6)

Group 1(C): Network Technology and Infrastructure

ITX 4301	Network Design	3 (3-0-6)
ITX 4302	Cisco Networking Workshop	3 (3-0-6)
ITX 4303	Network Security	3 (3-0-6)
ITX 4304	Network Management	3 (3-0-6)
ITX 4305	Heterogeneous Wireless Networks	3 (3-0-6)
ITX 4306	Internet of Things	3 (3-0-6)
ITX 4307	Business Continuity Planning and Management	3 (3-0-6)

Group 1(D): Enterprise Systems

ITX 4402	Sales and Distribution Management System	3 (3-0-6)
ITX 4403	Manufacturing Management System	3 (3-0-6)
ITX 4404	Supply Chain Management System	3 (3-0-6)
ITX 4405	Finance and Accounting Information System	3 (3-0-6)
ITX 4406	Customer Relationship Management System	3 (3-0-6)
ITX 4407	Enterprise Application Development	3 (3-0-6)
ITX 4408	Enterprise Database System	3 (3-0-6)
ITX 4409	Blockchain Technology	3 (3-0-6)

Group 2

ITX 4502	Tech Startup	3 (3-0-6)
ITX 4503	Information Systems Security	3 (3-0-6)
ITX 4504	Digital Marketing	3 (3-0-6)
ITX 4505	Digital Transformation	3 (3-0-6)
ITX 4506	Image Processing	3 (3-0-6)
ITX 4507	Information Retrieval and Search Engines	3 (3-0-6)
ITX 4508	Quantitative Research for Digital Business	3 (3-0-6)
ITX 4600-4699	Selected Topics	3 (3-0-6)

(3) Free Elective — 9 Credits

Students can take free elective courses of 9 credits from any faculty in Assumption University upon completion of the prerequisite.

STUDY PLAN

FIRST YEAR

First Semester

Code	Subjects	Credits
BG 1001	English I	3 (2-3-6)
BBA 1001	Business Exploration	3 (3-0-6)
ITX 1001	Basic Mathematics and Statistics	3 (3-0-6)
ITX 3001	Fundamentals of Computer Programming	3 (3-0-6)
ITX 3002	Introduction to Information Technology	3 (3-0-6)
	Total	**15 (14-3-30)**

Second Semester

BG 1002	English II	3 (2-3-6)
LAW 1201	Business Laws for Entrepreneurs	3 (3-0-6)
ITX 2001	Object-Oriented Concepts and Programming	3 (3-0-6)
ITX 2002	Calculus	3 (3-1-7)
ITX 2003	Principles of Statistics	3 (3-1-7)
ITX 2004	UI/UX Design and Phototyping	3 (3-0-6)
	Total	**18 (17-5-38)**

SECOND YEAR

First Semester

BG 2000	English III	3 (2-3-6)
ITX 2005	Design Thinking	3 (3-0-6)
ITX 2006	Mathematics and Statistics for Data Science	3 (3-1-7)
ITX 2010	Data Structure and Algorithms	3 (3-0-6)
ITX 3003	Business Systems	3 (3-0-6)
ITX 3005	Computer Networks	3 (3-0-6)
	Total	**18 (17-4-37)**

Second Semester

BG 2001	English IV	3 (2-3-6)
BAC 1602	Fundamental of Financial Accounting I	3 (3-0-6)
ITX 2007	Data Science	3 (3-0-6)
ITX 2009	Presentation and Data Visualization Techniques	3 (3-0-6)
ITX 3006	Database Management Systems	3 (3-0-6)
	One Major Elective Course	3 (3-0-6)
	Total	**18 (17-3-36)**

THIRD YEAR

First Semester

ITX 2008	Cloud Computing	3 (3-0-6)
ITX 3004	Information System Analysis and Design	3 (3-0-6)
ITX 3007	Software Engineering	3 (3-0-6)
ITX 3008	IT Project Management	3 (3-0-6)
	Two Major Elective Courses	6 (6-0-12)
	Total	**18 (18-0-36)**

Second Semester

GE 2202	Ethics	3 (3-0-6)
ITX 3009	Senior Project I	3 (3-0-6)
	Two Major Elective Courses	6 (6-0-12)
	One Free Elective Course	3 (3-0-6)
	Total	**15 (15-0-30)**

FOURTH YEAR

First Semester

	Two General Education Courses	6 (6-0-12)
	Three Major Elective Courses	9 (9-0-18)
	One Free Elective Course	3 (3-0-6)
	Total	**18 (18-0-36)**

Second Semester

ITX 3010	Senior Project II	3 (3-0-6)
	Two Major Elective Courses	6 (6-0-12)
	One Free Elective Course	3 (3-0-6)
	Total	**12 (12-0-24)**

d. Urea Hydrolysis
-Urea broth - 3/group
e. Nitrate reduction
Due April 7, 2016

THEOPHANE VENARD SCHOOL OF BIOTECHNOLOGY

BACHELOR OF SCIENCE

PROGRAM IN FOOD TECHNOLOGY

GRADUATION REQUIREMENTS

Assumption University confers the degree of Bachelor of Science in Food Technology upon students who meet all of the following requirements:

- Have completed the total number of credits of the curriculum
- Have obtained a cumulative Grade Point Average of at least 2.00
- Have participated in 16 sessions of the Professional Ethics Seminar
- Have obtained library and financial clearance f om the University
- Have demonstrated good behavior and discipline
- Meet the minimum English proficiency equirement

Test Instruments	Required Passing Score
AU English Proficienc Assessment or	70%*
TOEFL (iBT) or	90
TOEFL (P) or	575
IELTS	6.5

**70% = Level B2 of Common European Framework of Reference for Language (CEFR)*

OBJECTIVES OF CURRICULUM

To produce graduates who have the characteristics, knowledge and skills as follows:

1. Possess good moral and ethics, socially and professionally.
2. Aware of laws, standards and regulations concerning foods and agricultural products.
3. Understand food components, their characteristics and properties, the changes of food components during processing and storage, and selection of suitable analyzing method to determine those food components.
4. Understand the principles underlying food safety and food microbiology, development of quality assurance plan for safety food production and food plant sanitation.
5. Understand the principles used in preservation, engineering, processing and packaging of the foods and the application of the knowledge in order to develop suitable food production process.
6. Understand product development procedure as a systematic and controllable process as well as principle of food marketing
7. Understand how the food business works as well as entrepreneurship
8. Possess analysis skills in food chemistry, food safety and food plant sanitation as well as food processing to control and assure of the quality food.
9. Experiment and analyze the problems related to assessment of physical and sensory qualities of the foods.
10. Able to work with different groups of people in the food industries and related fields
11. Able to use information technology in searching for information, communication, and presentation of ideas effectively.

CURRICULUM STRUCTURE

Total number of credits	138 Credits
A. General Education Courses	**30 Credits**
Language Courses	12 Credits
Social Science Courses	9 Credits
Humanities Course	3 Credits
Science and Mathematics Courses	6 Credits
B. Specialized Courses	**102 Credits**
Core Courses	49 Credits
Major Required Courses	44 Credits
Major Elective Courses	9 Credits
C. Free Elective Courses	**6 Credits**

COURSES

A. General Education Courses

Language Courses		**12 Credits**
BG 1001	English I	3 (2-3-6)
BG 1002	English II	3 (2-3-6)
BG 2000	English III	3 (2-3-6)
BG 2001	English IV	3 (2-3-6)

Social Science Courses		**9 Credits**
GE 1207	Fundamental Psychology	3 (3-0-6)
GE 2202	Ethics	3 (3-0-6)
ECO 2200	Introduction to Economics	3 (3-0-6)

Humanities Course		**3 Credits**
GE 2101	World Civilization	3 (3-0-6)

Science and Mathematics Courses		**6 Credits**
SA 1201	Statistics I	3 (3-0-6)
SC 2151	Introduction to Microcomputer Application	3 (3-0-6)

B. Specialized Courses

Core Courses		49 Credits
BS 1001	General Chemistry	3 (3-0-6)
BS 1002	General Chemistry Laboratory	1 (0-3-1)
BS 1005	Principles of Biology	3 (3-0-6)
BS 1006	Biology Laboratory	1 (0-3-1)
BS 1007	Organic Chemistry	3 (3-0-6)
BS 1008	Organic Chemistry Laboratory	1 (0-3-1)
BS 1101	Calculus I for Bioscience	3 (3-0-6)
BS 1201	Physics for Bioscience	3 (3-0-6)
BS 1202	Physics Laboratory for Bioscience	1 (0-3-1)
BS 2004	Analytical Chemistry	3 (3-0-6)
BS 2005	Analytical Chemistry Laboratory	1 (0-3-1)
BS 2006	Basic Biochemistry	3 (3-0-6)
BS 2007	Basic Biochemistry Laboratory	1 (0-3-1)
BS 2008	Physical Chemistry	3 (3-0-6)
BS 2011	Introduction to Microbiology	3 (3-0-6)
BS 2013	Engineering Drawing for Bioscience	1 (0-3-1)
BS 2014	Genetics and Its Food Application	3 (3-0-6)
BT 2011	Introduction to Biotechnology	3 (3-0-6)
BT 3015	Industrial Fermentation	3 (3-0-6)
BT 3016	Enzyme Technology	3 (3-0-6)
BT 3017	Principles of Research	3 (3-0-6)

Major Required Courses		44 credits
FT 3100	Introduction to Food Technology	2 (2-0-4)
FT 3103	Food Microbiology	3 (2-3-5)
FT 3105	Human Nutrition	3 (3-0-6)
FT 3106	Industrial Food Processing I	3 (2-3-5)
FT 3108	Food Chemistry I	3 (2-3-5)
FT 3109	Food Chemistry II	3 (2-3-5)
FT 3110	Food Law and Regulation	1 (1-0-2)
FT 3111	Food Engineering I	3 (2-3-5)
FT 3112	Food Engineering II	3 (3-0-6)
FT 4108	Industrial Food Processing II	3 (2-3-5)
FT 4110	Food Marketing and Management	3 (3-0-6)
FT 4112	Food Quality Control	3 (2-3-5)
FT 4113	Food Product Development	3 (2-3-5)
FT 4128	Food Safety and Sanitation	3 (2-3-5)
FT 4190	Special Project	3 (2-3-5)
FT 4191	Field Trip	1 (0-3-1)
FT 4192	Seminar	1 (1-0-2)
FT 4194	Internship	Non-credit (300 Hours)

Major Elective Courses		9 credits
BS 4001	Ecology, Conservation and Environmentalism	3 (3-0-6)
BT 3018	Genetic Engineering	3 (2-3-5)
FT 4114	Bakery Technology	3 (2-3-5)
FT 4115	Fruit and Vegetable Technology	3 (2-3-5)
FT 4116	Food Toxicology	3 (2-3-5)
FT 4117	Dairy Technology	3 (2-3-5)
FT 4120	Food Additive	3 (2-3-5)
FT 4121	Meat Poultry and Fishery Technology	3 (2-3-5)
FT 4122	Confectionery Technology	3 (2-3-5)
FT 4124	Lipid Technology	3 (2-3-5)
FT 4125	Beverage Technology	3 (2-3-5)
FT 4126	Food Packaging	3 (3-0-6)
FT 4127	Cereal Technology	3 (2-3-5)
FT 4131	Selected Topic	3 (2-3-5)
FT 4132	Color and Flavor Technology	3 (2-3-5)
FT 4135	Sensory Analysis	3 (2-3-5)
FT 4136	Advance Product Development	3 (2-3-5)
FT 4137	Technology of Confectionery and Thai Sweet	3 (2-3-5)
FT 4138	Phytochemicals and Functional Foods	3 (2-3-5)
AI 3201	Biological Material and Biodegradation	3 (2-3-5)
AI 3209	Microbial Physiology	3 (2-3-5)
AI 4219	Sugar Technology	3 (2-3-5)
AI 4220	Post Harvest Technology	3 (2-3-5)
AI 4221	Alcoholic Beverage Technology	3 (2-3-5)
AI 4222	Water and Waste Management	3 (2-3-5)
AI 4223	Waste and By-product Utilization	3 (2-3-5)

C. Free Elective Course — 6 Credits

FT 4133	Introduction to Wine Appreciation	3 (3-0-6)
FT 4134	Food Health and Beauty	3 (3-0-6)

Students can take free elective courses of 6 credits from any faculty in Assumption University upon completion of the prerequisites (if any).

STUDY PLAN

FIRST YEAR

First Semester

Code	Subjects	Credits
BG 1001	English I	3 (2-3-6)
BS 1001	General Chemistry	3 (3-0-6)
BS 1002	General Chemistry Laboratory	1 (0-3-1)
BS 1005	Principles of Biology	3 (3-0-6)
BS 1006	Biology Laboratory	1 (0-3-1)
BS 1101	Calculus I for Bioscience	3 (3-0-6)
BS 1201	Physics for Bioscience	3 (3-0-6)
BS 1202	Physics Laboratory for Bioscience	1 (0-3-1)
	One Free Elective Course	3 (3-0-6)
	Total	**21 (17-12-39)**

Second Semester

BG 1002	English II	3 (2-3-6)
SA 1201	Statistics I	3 (3-0-6)
BS 1007	Organic Chemistry	3 (3-0-6)
BS 1008	Organic Chemistry Laboratory	1 (0-3-1)
BS 2004	Analytical Chemistry	3 (3-0-6)
BS 2005	Analytical Chemistry Laboratory	1 (0-3-1)
GE 1207	Fundamental Psychology	3 (3-0-6)
SC 2151	Introduction to Microcomputer Application	3 (3-0-6)
	Total	**20 (17-9-38)**

SECOND YEAR

First Semester

BG 2000	English III	3 (2-3-6)
ECO 2200	Introduction to Economics	3 (3-0-6)
BS 2006	Basic Biochemistry	3 (3-0-6)
BS 2007	Basic Biochemistry Laboratory	1 (0-3-1)
BS 2013	Engineering Drawing for Bioscience	1 (0-3-1)
FT 3100	Introduction to Food Technology	2 (2-0-4)
FT 3105	Human Nutrition	3 (3-0-6)
FT 3110	Food Law and Regulation	1 (0-3-1)
	Total	**17 (14-9-32)**

Second Semester

BG 2001	English IV	3 (2-3-6)
BS 2008	Physical Chemistry	3 (3-0-6)
BS 2011	Introduction to Microbiology	3 (2-3-6)
BS 2014	Genetics and Its Food Application	3 (2-3-6)
BT 2011	Introduction to Biotechnology	3 (3-0-6)
FT 3108	Food Chemistry I	3 (2-3-6)
	Total	**18 (14-12-33)**

THIRD YEAR

First Semester

BT 3015	Industrial Fermentation	3 (2-3-5)
FT 3103	Food Microbiology	3 (2-3-5)
FT 3106	Industrial Food Processing I	3 (2-3-5)
FT 3109	Food Chemistry II	3 (2-3-5)
FT 3111	Food Engineering I	3 (2-3-5)
	Total	**15 (10-15-25)**

Second Semester

BT 3016	Enzyme Technology	3 (2-3-5)
FT 3112	Food Engineering II	3 (3-0-6)
FT 4108	Industrial Food Processing II	3 (2-3-5)
FT 4128	Food Safety and Sanitation	3 (2-3-5)
FT 4110	Food Marketing and Management	3 (3-0-6)
GE 2101	World Civilization	3 (3-0-6)
	Total	**18 (15-9-33)**

Summer Session

FT 4194	Internship	Non-credit
	Total	**Non-credit**

FOURTH YEAR

First Semester

BT 3017	Principles of Research	3 (3-0-6)
FT 4112	Food Quality Control	3 (2-3-5)
FT 4113	Food Product Development	3 (2-3-5)
	One Major Elective Course	3 (x-x-x)
	One Free Elective Course	3 (x-x-x)
	Total	**15 (x-x-x)**

Second Semester

GE 2202	Ethics	3 (3-0-6)
FT 4190	Special Project	3 (0-3-4)
FT 4191	Field Trip	1 (0-3-0)
FT 4192	Seminar	1 (1-0-2)
	Two Major Elective Courses	6 (x-x-x)
	Total	**14 (x-x-x)**

BACHELOR OF SCIENCE

PROGRAM IN AGRO-INDUSTRY

GRADUATION REQUIREMENTS

Assumption University confers the degree of Bachelor of Science in Agro-Industry upon students who meet all of the following requirements specified in the Graduate Program Standard Criteria B.E. 2548 and Assumption University Bylaw B.E. 2548 as follows:

- Have completed the total number of credits (139 credits) of the curriculum
- Have obtained a cumulative Grade Point Average of at least 2.00
- Have participated in 16 sessions of the Professional Ethics Seminar
- Have obtained library and financial clearance f om the University
- Have demonstrated good behavior and discipline

OBJECTIVES OF CURRICULUM

To produce graduates who have the characteristics, knowledge and skills as follows:

1. Demonstrate moral responsibility to the society, the environment and their profession.
2. Understand the principles of basic science and how they are applied to the improvement of productivity and competitiveness of agro-products.
3. Understand the diversity of agro-commodity and the value chain of important commodities.
4. Understand the basic knowledge and procedure to create product innovation and design new process to improve safety and quality of agro products.
5. Able to apply their knowledge in the practice of their profession.
6. Able to work with people in the specialized field an other fields
7. Able to communicate effectively in spoken and written forms.
8. Able to make appropriate use of technology in the practice of their profession.
9. Able to use information technology in searching for information, communication , and presentation of ideas effectively.

CURRICULUM STRUCTURE

Total number of credits	139 Credits
A. General Education Courses	**30 Credits**
Language Courses	12 Credits
Social Science Courses	6 Credits
Humanities Course	6 Credits
Science and Mathematics Courses	6 Credits
B. Specialized Courses	**103 Credits**
Core Courses	49 Credits
Major Required Courses	45 Credits
Major Elective Courses	9 Credits
C. Free Elective Courses	**6 Credits**

COURSES

A. General Education Courses

Language Courses		**12 Credits**
BG 1001	English I	3 (2-3-6)
BG 1002	English II	3 (2-3-6)
BG 2000	English III	3 (2-3-6)
BG 2001	English IV	3 (2-3-6)
Social Science Courses		**6 Credits**
ECO 2200	Introduction to Economics	3 (3-0-6)
GE 2202	Ethics	3 (3-0-6)
Humanity Course		**6 Credits**
GE 1207	Fundamental Psychology	3 (3-0-6)
GE 2101	World Civilization	3 (3-0-6)
Science and Mathematics Courses		**6 Credits**
SA 1201	Statistics I	3 (3-0-6)
SC 2151	Introduction to Microcomputer Application	3 (3-0-6)

B. Specialized Courses

Core Courses		49 Credits
BS 1001	General Chemistry	3 (3-0-6)
BS 1002	General Chemistry Laboratory	1 (0-3-1)
BS 1005	Principles of Biology	3 (3-0-6)
BS 1006	Biology Laboratory	1 (0-3-1)
BS 1009	Organic Chemistry	3 (3-0-6)
BS 1010	Organic Chemistry Laboratory	1 (0-3-1)
BS 1103	Calculus for Bioscience	3 (3-0-6)
BS 1201	Physics for Bioscience	3 (3-0-6)
BS 1202	Physics Laboratory for Bioscience	1 (0-3-1)
BS 2006	Basic Biochemistry	3 (3-0-6)
BS 2008	Physical Chemistry	3 (3-0-6)
BS 2011	Introduction to Microbiology	3 (2-3-5)
BS 2014	Analytical Chemistry	3 (3-0-6)
BS 2015	Analytical Chemistry Laboratory	1 (0-3-1)
BS 2016	Basic Biochemistry Laboratory	1 (0-3-1)
BS 2017	Genetics	3 (2-3-5)
BS 2018	Engineering Drawing for Bioscience	1 (0-3-1)
BT 2011	Introduction to Biotechnology	3 (3-0-6)
BT 3015	Industrial Fermentation	3 (2-3-5)
BT 3016	Enzyme Technology	3 (2-3-5)
BT 3019	Principles of Research	3 (3-0-6)

Major Required Courses		45 credits
AI 3201	Biological Material and Biodegradation	3 (2-3-5)
AI 3202	Introduction to Agro-Industry	2 (2-0-4)
AI 3203	Instrumentation and Control in Agro-Industrial Process	3 (2-3-5)
AI 3204	Processing of Agricultural Product I	3 (2-3-5)
AI 3205	Biochemical Engineering	3 (3-0-6)
AI 3206	Agro-Industry Management and Marketing	3 (3-0-6)
AI 3207	Unit Operation of Agro-Industry I	3 (2-3-5)
AI 3208	Standards and Regulations of Agricultural Products	2 (2-0-4)
AI 3209	Microbial Physiology	3 (2-3-5)
AI 4208	Processing of Agricultural Product II	3 (2-3-5)
AI 4209	Unit Operation for Agro-Industry II	3 (2-3-5)
AI 4211	Fermentation Process	3 (2-3-5)
AI 4213	Agro-Industrial Quality Control	3 (2-3-5)
AI 4218	Agro-Industrial Product Development	3 (2-3-5)
AI 4290	Special Project	3 (0-9-4)
AI 4291	Field Trip	1 (0-3-1)
AI 4292	Seminar	1 (1-0-2)
AI 4294	Internship	Non-credit (300 Hours)

Major Elective Courses		9 Credits
AI 4212	Tissue Culture Techniques and Application	3 (2-3-5)
AI 4215	Agro-Industry Preservation and Packaging	3 (2-3-5)
AI 4216	Fiber Technology	3 (2-3-5)
AI 4217	Essential Oil Technology	3 (2-3-5)
AI 4219	Sugar Technology	3 (2-3-5)
AI 4220	Post Harvest Technology	3 (2-3-5)
AI 4221	Alcoholic Beverage Technology	3 (2-3-5)
AI 4222	Water and Waste Management	3 (2-3-5)
AI 4223	Waste and By-product Utilization	3 (2-3-5)
AI 4226	Plant Breeding Technology	3 (2-3-5)
AI 4232	Secondary Metabolites of Plant Cells	3 (3-0-6)
AI 4233	Pulp and Paper Technology	3 (3-0-6)
AI 4234	Wood Technology	3 (3-0-6)
AI 4235	Rubber Technology	3 (3-0-6)
AI 4236	Feed Manufacturing Technology	3 (3-0-6)
AI 4237	Leather Product Technology	3 (3-0-6)
AI 4238	Mushroom Cultivation Technology	3 (2-3-5)
AI 4239	Selected Topic	3 (2-3-5)
AI 4240	Bioinformatics	3 (2-3-5)
AI 4241	Bacteriology	3 (2-3-5)
AI 4242	Mycology	3 (2-3-5)
AI 4243	Algology	3 (2-3-5)
BS 4001	Ecology, Conservation and Environmentalism	3 (3-0-6)
BT 3018	Genetic Engineering	3 (2-3-5)
FT 3103	Food Microbiology	3 (2-3-5)
FT 3108	Food Chemistry I	3 (2-3-5)
FT 3109	Food Chemistry II	3 (2-3-5)
FT 4115	Fruit and Vegetable Technology	3 (2-3-5)
FT 4117	Dairy Technology	3 (2-3-5)
FT 4121	Meat Poultry and Fishery Technology	3 (2-3-5)
FT 4123	Food Sanitation	3 (2-3-5)
FT 4124	Lipid Technology	3 (2-3-5)
FT 4126	Food Packaging	3 (2-3-5)
FT 4127	Cereal Technology	3 (2-3-5)
FT 4132	Color and Flavor Technology	3 (2-3-5)

C. Free Elective Course

Students can take free elective courses of 6 credits from any course offered in Assumption University upon completion of the prerequisites (if any).

STUDY PLAN

FIRST YEAR

First Semester

Code	Subjects	Credits
BG 1001	English I	3 (2-3-6)
BS 1001	General Chemistry	3 (3-0-6)
BS 1002	General Chemistry Laboratory	1 (0-3-1)
BS 1005	Principles of Biology	3 (3-0-6)
BS 1006	Biology Laboratory	1 (0-3-1)
BS 1103	Calculus for Bioscience	3 (3-0-6)
BS 1201	Physics for Bioscience	3 (3-0-6)
BS 1202	Physics Laboratory for Bioscience	1 (0-3-1)
GE 2101	World Civilization	3 (3-0-6)
	Total	**21 (17-12-39)**

Second Semester

BG 1002	English II	3 (2-3-6)
SA 1201	Statistics I	3 (3-0-6)
BS 1009	Organic Chemistry	3 (3-0-6)
BS 1010	Organic Chemistry Laboratory	1 (0-3-1)
GE 1207	Fundamental Psychology	3 (3-0-6)
SC 2151	Introduction to Microcomputer Application	3 (3-0-6)
	One Free Elective Course	3 (x-x-x)
	Total	**19 (x-x-x)**

SECOND YEAR

First Semester

BG 2000	English III	3 (2-3-6)
ECO 2200	Introduction to Economics	3 (3-0-6)
BS 2014	Analytical Chemistry	3 (3-0-6)
BS 2015	Analytical Chemistry Laboratory	1 (0-3-1)
BS 2006	Basic Biochemistry	3 (3-0-6)
BS 2016	Basic Biochemistry Laboratory	1 (0-3-1)
BS 2018	Engineering Drawing for Bioscience	1 (0-3-1)
	One Free Elective Course	3 (3-0-6)
	Total	**18 (14-12-33)**

Second Semester

AI 3202	Introduction to Agro-Industry	2 (2-0-4)
BG 2001	English IV	3 (2-3-6)
BS 2011	Introduction to Microbiology	3 (2-3-5)
BS 2017	Genetics	3 (2-3-5)
BT 2011	Introduction to Biotechnology	3 (3-0-6)
BS 2008	Physical Chemistry	3 (3-0-6)
GE 2202	Ethics	3 (3-0-6)
	Total	**20 (17-9-38)**

THIRD YEAR

First Semester

AI 3201	Biological Material and Biodegradation	3 (2-3-5)
AI 3204	Processing of Agricultural Product I	3 (2-3-5)
AI 3209	Microbial Physiology	3 (2-3-5)
BT 3015	Industrial Fermentation	3 (2-3-5)
	One Major Elective Course	3 (x-x-x)
	One Major Elective Course	3 (x-x-x)
	Total	**18 (x-x-x)**

Second Semester

AI 3203	Instrumentation and Control in Agro-Industrial Process	3 (2-3-5)
AI 3205	Biochemical Engineering	3 (3-0-6)
AI 3207	Unit Operation of Agro-Industry I	3 (2-3-5)
AI 3208	Standards and Regulations of Agricultural Products	2 (2-0-4)
AI 4208	Processing of Agricultural Product II	3 (2-3-5)
BT 3016	Enzyme Technology	3 (2-3-5)
	Total	**17 (13-12-30)**

FOURTH YEAR

First Semester

AI 3206	Agro-Industry Management and Marketing	3 (3-0-6)
AI 4209	Unit Operation for Agro-Industry II	3 (2-3-5)
AI 4211	Fermentation Process	3 (2-3-5)
AI 4213	Agro-Industrial Quality Control	3 (2-3-5)
AI 4294	Internship	Non-credit (300 Hours)
BT 3019	Principles of Research	3 (2-3-5)
	Total	**15 (12-9-27)**

Second Semester

AI 4218	Agro-Industrial Product Development	3 (2-3-5)
AI 4290	Special Project	3 (0-9-4)
AI 4291	Field Trip	1 (0-3-1)
AI 4292	Seminar	1 (1-0-2)
	One Major Elective Course	3 (x-x-x)
	Total	**11 (x-x-x)**

THOMAS AQUINAS SCHOOL OF **LAW**

BACHELOR OF LAWS PROGRAM

GRADUATION REQUIREMENTS

Assumption University confers the degree of Bachelor of Laws upon students who meet all of the following requirements:

1. Complete all required courses and accumulate the total number of credits specified in the curriculum
2. Attain a cumulative grade point average (GPA) of 2.00 or better
3. Participate in 16 sessions of the Professional Ethics Seminar
4. Settle all accounts with the University Financial Office and the Librar
5. Demonstrate a good behavior and self-discipline
6. Pass the English Proficiency test equired by the University

OBJECTIVES OF CURRICULUM

1. To produce law graduates who demonstrate professional ethics, are of good moral character, have high integrity, uphold justice, and are socially responsible.
2. The graduates will acquire fundamental legal knowledge and an understanding of commercial law that will enable them to apply the laws appropriately.
3. The graduates will attain a high level of English proficiency
4. The graduates will be able to apply their legal knowledge to analyze and solve work-related problems appropriately and responsibly.
5. The graduates will be able to work with others, adapt to different work environments and socialize appropriately. They will demonstrate leadership and accountability. They will be capable of planning an ongoing process of learning and self-improvement.
6. The graduates will be able to use communications technology effectively.

CURRICULUM STRUCTURE

Total number of credits	144 Credits
A. General Education Courses	**30 Credits**
Language Courses	15 Credits
Social Science Courses	9 Credits
Humanity Course	3 Credits
Science and Mathematics Course	3 Credits
B. Specialized Courses	**108 Credits**
Core Courses	89 Credits
Major Required Courses	13 Credits
Major Elective Courses	6 Credits
Skill Enhancement Courses	- Credits
C. Free Elective Courses	**6 Credits**

COURSES

A. General Education Courses

Language Courses		**15 Credits**
BG 1001	English I	3 (2-3-6)
BG 1002	English II	3 (2-3-6)
BG 2000	English III	3 (2-3-6)
BG 2001	English IV	3 (2-3-6)
GE 1403	Communication in Thai (For Thai students)	3 (3-0-6)

Social Science Courses		**9 Credits**
ECO 2200	Introduction to Economics	3 (3-0-6)
MGT 1101	Introduction to Business	3 (3-0-6)
GE 2202	Ethics	3 (3-0-6)

Humanity Course		**3 Credits**
Choose 1 of the following subjects		
GE 2103	Arts of Reasoning	3 (3-0-6)
GE 2106	Logical Thinking and Application	3 (3-0-6)
MGT 2404	Managerial Psychology	3 (3-0-6)

Science and Mathematics Course		**3 Credits**
Choose 1 of the following subjects		
GE 1301	Environmental Science	3 (3-0-6)
GE 2301	Lifestyles in Dynamic World	3 (3-0-6)
GE 2303	Building Brilliant Brain	3 (3-0-6)
SA1201	Statistics I	3 (3-0-6)

B. Specialized Courses

Core Courses		**89 Credits**
(1) General Principles of Laws		
LL 1104	Introduction Legal Jurisprudence and Laws for Everyday Life	3 (3-0-6)
LL 1102	Legal History	2 (2-0-4)
LL 4103	Application, Interpretation of Laws and Legal Reasoning	2 (2-0-4)
LL 4104	Human Rights. Good Governance, Rule of Law and Ethics	2 (2-0-4)
LL 4105	Philosophy of Law	2 (2-0-4)
(2) Civil and Commercial Laws		
LL 1201	Juristic Acts and Contracts Law	3 (3-0-6)
LL 1202	Property and Land Law	3 (3-0-6)
LL 2203	Law on Consequences and Extinction of Obligations	3 (3-0-6)
LL 2204	Law of Delict, Management of Affairs without Mandate, Undue Enrichment	3 (3-0-6)
LL 2205	Specific Contracts I	3 (3-0-6)
LL 2206	Insurance Law	2 (2-0-4)
LL 2207	Specific Contracts II	3 (3-0-6)
LL 2208	Negotiable Instruments and Current Accounts Law	2 (2-0-4)
LL 3209	Secured Transactions Law	2 (2-0-4)
LL 3210	Law on Business Organizations	3 (3-0-6)
LL 3211	Family Law	3 (3-0-6)
LL 3212	Succession Law	3 (3-0-6)
(3) Criminal Laws		
LL 1301	Criminal Law I	3 (3-0-6)
LL 2302	Criminal Law II	2 (2-0-4)
LL 2303	Criminal Law III	3 (3-0-6)
(4) Public Laws		
LL 1401	Theories and Principles of Public Law	2 (2-0-4)
LL 1402	Constitutional Law and Political Institutions	3 (3-0-6)
LL 3403	Administrative Law and Procedures	3 (3-0-6)
(5) Business Laws and International Business Laws		
LL 3501	Public Finance Law and Tax Law	3 (3-0-6)
LL 4502	Labor and Social Security Law	3 (3-0-6)
(6) Procedural Laws and the Role of Legal Profession in the Judicial Process		
LL 3601	Civil Procedure Law I	3 (3-0-6)
LL 3602	Criminal Procedure Law	4 (4-0-8)
LL 3606	Justice Process Court System and Constitution of Courts of Justice	2 (2-0-4)
LL 3604	Civil Procedure Law II	3 (3-0-6)
LL 3605	Evidence Law	3 (3-0-6)
(7) International Laws		
LL 3701	Public International Law	3 (3-0-6)
LL 3702	Private International Law	3 (3-0-6)
(8) Laws Related to Changes in Society		
LL 4801	Legal Research and Legal Research Methodology	2 (2-0-4)
Major Required Courses		**13 Credits**
(5) Business Laws and International Business Laws		
LL 3503	Bankruptcy Law and Rehabilitation	2 (2-0-4)
LL 4504	Law on Taxation in International Trade and Invesment	2 (2-0-4)
LL 4505	Intellectual Property Law	3 (3-0-6)
LL 4506	International Business Transactions Law	2 (2-0-4)
(6) Procedural Laws and the Role of Legal Profession in the Judicial Process		
LL 4606	Principles of Contract Drafting	2 (2-0-4)
LL 4607	Counselling and Advocacy	2 (2-0-4)
Major Elective Courses		**6 Credits**
Choose 3 subjects from the following list		
(1) General Principles of Laws		
LL 4106	Introduction to Common Law System	2 (2-0-4)
(2) Civil and Commercial Laws		
LL 4213	Seminar in Civil and Commercial Law	2 (2-0-4)
(3) Criminal Laws		
LL 4304	Seminar in Criminal Law	2 (2-0-4)
(4) Public Laws		
LL 4404	Law Drafting and Legislative Process	2 (2-0-4)
LL 4405	Human Rights Law	2 (2-0-4)
LL 4406	Environmental Law	2 (2-0-4)
LL 4407	Natural Resources Law	2 (2-0-4)
LL 4408	Consumer Protection Law	2 (2-0-4)
LL 4409	Broadcasting and Telecommunication Laws	2 (2-0-4)
LL 4410	Energy and Petroleum Law	2 (2-0-4)
LL 4411	Medical and Public Health Laws	2 (2-0-4)
LL 4412	Laws on Food and Drug	2 (2-0-4)
(5) Business Laws and International Business Laws		
LL 4507	Principles of Economics for Lawyers	2 (2-0-4)
LL 4508	Principles of Accounting and Financial Reports for Lawyers	2 (2-0-4)

LL 4509	Securities and Securities Exchange Law	2 (2-0-4)
LL 4510	Banking and Financial Institutions Law	2 (2-0-4)
LL 4511	Investment Law	2 (2-0-4)
LL 4512	International Economic Law	2 (2-0-4)
LL 4513	Arbitration Law	2 (2-0-4)
LL 4514	Carriage of Goods by Sea Law	2 (2-0-4)
LL 4515	Customs Law	2 (2-0-4)
LL 4516	Industrial Law	2 (2-0-4)
LL 4517	Law on Real Estate Business	2 (2-0-4)
LL 4518	Competition Law	2 (2-0-4)
LL 4519	Seminar in Tax Law	2 (2-0-4)
LL 4520	Seminar in Business Law	2 (2-0-4)
LL 4521	Law on Merger and Acquisition	2 (2-0-4)
LL 4522	Law on Sport and Entertainment	2 (2-0-4)
LL 4523	Seminar in Securities and Securities Exchange Law	2 (2-0-4)
LL 4524	Seminar in Intellectual Property Law	2 (2-0-4)
LL 4525	Law on Fashion Business	2 (2-0-4)
LL 4526	International Financial Law	2 (2-0-4)

(6) Procedural Laws and the Role of Legal Professions in the Judicial Process

LL 4608	Seminar in Civil Procedure Law	2 (2-0-4)
LL 4609	Seminar in Criminal Procedure Law	2 (2-0-4)
LL 4610	Criminology and Penology	2 (2-0-4)
LL 4611	Science, Technology and Criminal Investigation	2 (2-0-4)
LL 4612	Law on Juvenile and Family Court and Procedure	2 (2-0-4)
LL 4613	Human Rights in Judicial Procedure	2 (2-0-4)

(7) International Laws

LL 4703	Law of the Sea	2 (2-0-4)
LL 4704	International Organization Law	2 (2-0-4)
LL 4705	European Union Law	2 (2-0-4)
LL 4706	Introduction to Air Law and Space Law	2 (2-0-4)
LL 4707	ASEAN Law	2 (2-0-4)
LL 4708	Human Rights in ASEAN	2 (2-0-4)
LL 4709	Seminar in ASEAN Law	2 (2-0-4)

(8) Laws Related to Changes in Society

LL 4802	Introduction to Digital Technology Laws	2 (2-0-4)
LL 4803	Business and Human Rights	2 (2-0-4)
LL 4804	Business Law and ASEAN	2 (2-0-4)
LL 4805	Law on Digital Economy and Startup Business	2 (2-0-4)
LL 4806	Law on Agriculture	2 (2-0-4)
LL 4807	Introduction for Logistics and Supply Chain	2 (2-0-4)
LL 4808	Legal Aspects of Transportation and Logistics	2 (2-0-4)
LL 4809	Business, Corporate Governance and Corporate Social Responsibility	2 (2-0-4)

Skills Enhancement **No Credits**

LL 2001	Legal English I	-
LL 3002	Legal English II	-

C. Free Elective Course **6 Credits**

Students must take at least six credits of Elective subjects offered by the Law School or from subjects offered by any other School of Assumption University, upon completion of the necessary prerequisites (if any). Students are prohibited from taking any law subjects offered by a School other than the School of Law.

STUDY PLAN

FIRST YEAR

First Semester

Code	Subjects	Credits
BG 1001	English I	3 (2-3-6)
GE 1403	Communication in Thai	3 (3-0-6)
GE 2202	Ethics	3 (3-0-6)
LL 1104	Introduction Legal Jurisprudence and Laws for Everyday Life	3 (3-0-6)
LL 1102	Legal History	2 (2-0-4)
LL 1401	Theories and Principles of Public Law	2 (2-0-4)
	Choose 1 subject from the Humanities Courses	3 (3-0-6)
	Total	**19 (18-3-38)**

Second Semester

BG 1002	English II	3 (2-3-6)
LL 1201	Juristic Acts and Contracts Law	3 (3-0-6)
LL 1202	Property and Land Law	3 (3-0-6)
LL 1301	Criminal Law I	3 (3-0-6)
LL 1402	Constitutional Law and Political Institutions	3 (3-0-6)
	Choose 1 subject from the Humanities Courses	3 (3-0-6)
	Total	**18 (17-3-36)**

SECOND YEAR

First Semester

BG 2001	English III	3 (2-3-6)
ECO 2202	Introduction to Economics	3 (3-0-6)
MGT 1101	Introduction to Business	3 (3-0-6)
LL 2203	Law on Consequences and Extinction of Obligations	3 (3-0-6)
LL 2204	Law of Delict, Management of Affairs without Mandate, Undue Enrichment	3 (3-0-6)
LL 2205	Specific Contracts	3 (3-0-6)
LL 2302	Criminal Law II	2 (2-0-4)
	Total	**20 (19-3-40)**

Second Semester

LL 2001	English IV	3 (2-3-6)
LL 2001	Legal English I	0 (2-0-4)
LL 2206	Insurance Law	2 (2-0-4)
LL 2207	Specific Contracts II	3 (3-0-6)
LL 2208	Negotiable Instruments and Current Accounts Law	2 (2-0-4)
LL 2303	Criminal Law III	3 (3-0-6)
	Total	**13 (14-3-30)**

THIRD YEAR

First Semester

LL 3002	Legal English II	0 (2-0-4)
LL 3209	Secured Transactions Law	2 (2-0-4)
LL 3210	Law on Business Organizations	3 (3-0-6)
LL 3211	Family Law	3 (3-0-6)
LL 3501	Public Finance Law and Tax Law	3 (3-0-6)
LL 3601	Civil Procedure Law I	3 (3-0-6)
LL 3602	Criminal Procedure Law	4 (4-0-8)
LL 3606	Justice Process Court System and Constitution of Courts of Justice	2 (2-0-4)
	Total	**20 (22-0-44)**

Second Semester

LL 3212	Succession Law	3 (3-0-6)
LL 3403	Administrative Law and Procedures	3 (3-0-6)
LL 3503	Bankruptcy Law and Rehabilitation	2 (2-0-4)
LL 3604	Civil Procedure Law II	3 (3-0-6)
LL 3605	Evidence Law	3 (3-0-6)
LL 3701	Public International Law	3 (3-0-6)
LL 3702	Private International Law	3 (3-0-6)
	Total	**20 (20-0-40)**

FOURTH YEAR

First Semester

LL 4103	Application, Interpretation of Laws and Legal Reasoning	2 (2-0-4)
LL 4105	Philosophy of Law	2 (2-0-4)
LL 4502	Labor and Social Security Law	3 (3-0-6)
LL 4505	Intellectual Property Law	3 (3-0-6)
LL 4504	Law on Taxation in International Trade and Investment	2 (2-0-4)
	Choose 3 Major Elective subjects	6 (6-0-12)
	Total	**18 (18-0-36)**

Second Semester

LL 4104	Human Rights, Good Governance, Rule of Law and Ethics	2 (2-0-4)
LL 4506	International Business Transactions Law	2 (2-0-4)
LL 4606	Principles of Contract Drafting	2 (2-0-4)
LL 4607	Counselling and Advocacy	2 (2-0-4)
LL 4801	Legal Research and Legal Research Methodology	2 (2-0-4)
	Choose at least 6 credits of Free Elective Subject	6 (6-0-12)
	Total	**16 (16-0-32)**

BERNADETTE DE LOURDES SCHOOL OF NURSING SCIENCE

BACHELOR OF NURSING SCIENCE PROGRAM

GRADUATION REQUIREMENTS

Assumption University confers the degree of Bachelor of Nursing Science to students who meet all of the following requirements:

1. Have completed the total number of credits of the curriculum
2. Have obtained a cumulative grade point average (GPA) of at least 2.00 (from 4.00 system)
3. Have obtained GPA not lower than 2.00 out of 4.00 in all professional courses
4. Have participated in 16 sessions of the Professional Ethics Seminar
5. Have demonstrated good behavior, conduct and obtain disciplinary scores not lower than 70%
6. Have obtained library and financial clearance f om the University
7. Have ability to communicate in English according to the requirement of the University

OBJECTIVES OF CURRICULUM

The BLNS sets up the objectives of the curriculum to produce nursing graduates who have the desirable characteristics as follows:

1. Exercise leadership, moral and ethical mind in daily life, and provide nursing care with kindness and professional ethics
2. Demonstrate maturity in all aspects, assertiveness and social accountability
3. Have knowledge in nursing science and related sciences, and be able to apply them in nursing practice by demonstrating professionalism and good management
4. Have ability and skills in nursing informatics, numerical and statistics analyses
5. Use critical thinking skills in problem solving and utilize the scientific p ocess in conducting research and innovations
6. Be able to establish interpersonal relationships and effectively collaborate among health care team
7. Be able to communicate in English with clients and health care team effectively and aware of cultural diversity and sensitivity
8. Perform nursing practice with client safety mindset, caring, and compassionate attitude according to the role and scope of the profession and conform with the professional code of ethics using holistic health services and client-centered approaches
9. Demonstrate confidence, faith and good attitude towa d nursing profession and perform self development for the professional growth

CURRICULUM STRUCTURE

Total number of credits	138 Credits
A. General Education Courses	**30 Credits**
Social Science Courses	4 Credits
Humanity Course	3 Credits
Language Courses	15 Credits
Science and Mathematics Courses	8 Credits
B. Specialized Courses	**102 Credits**
Basic professional Courses and Professional Courses (Theory)	62 Credits
Professional Courses (Practicum)	40 Credits
C. Free Elective Courses	**6 Credits**

COURSES

A. General Education Courses

Language Courses **15 Credits**

BG 1001	English I	3 (2-3-6)
BG 1002	English II	3 (2-3-6)
BG 2000	English III	3 (2-3-6)
BG 2001	English IV	3 (2-3-6)
GE 1403	Communication in Thai (For Thai students)	3 (3-0-6)
or		
GE 1405	Thai Language and Culture (For non-Thai students)	3 (3-0-6)

Social Science Courses **4 Credits**

GE 1204	Physical Education	1 (1-0-2)
GE 2202	Ethics	3 (3-0-6)

Humanity Course **3 Credits**

GE 2102	Human Heritage and Globalization	3 (3-0-6)

Science and Mathematics Courses **8 Credits**

BG 1301	Fundamentals of Statistics	3 (3-0-6)
GE 1302	Ecology and Sustainability	3 (3-0-6)
BG 2301	Information Technology for Nurses	2 (1-3-4)

B. Specialized Courses

Basic Professional Courses **21 Credits**

NB 1210	Pathophysiology	3 (3-0-6)
NB 1214	Anatomy and Physiology	5 (4-3-10)
NB 1215	Biochemistry	2 (2-0-4)
NB 1216	Microbiology and Parasitology	2 (1-3-4)
NB 1217	Multiculturalism in Health Care	1 (1-0-2)
NB 2209	Pharmacology	3 (3-0-6)
NB 2212	Psychology and Mental Health	2 (2-0-4)
NB 2214	Diet Therapy	1 (1-0-2)
NB 2215	Entrepreneurship in Health Care	2 (2-0-4)

Professional Courses **81 Credits**

(1) Theory **41 Credits**

NS 1310	Professional Socialization I	2 (2-0-4)
NS 1312	Health Promotion throughout Lifespan	2 (2-0-4)
NS 1314	Scientific Nursing App oach and Holistic Health Assessment	2 (1-3-4)
NS 2310	Alteration in Adult Health and Nursing I	3 (3-0-6)
NS 2319	Foundation of Professional Nursing	3 (3-0-6)
NS 2324	Bio-Behavioral-Psychiatric Nursing	2 (2-0-4)
NS 2325	Community Focused Nursing I	2 (2-0-4)
NS 2326	Family-Centered Care for Infant, Child, and Adolescent I	2 (2-0-4)
NS 3326	Nursing Inquiry I	2 (1-3-4)
NS 3327	Alteration in Adult Health and Nursing II	3 (3-0-6)
NS 3328	Family-Centered Care for Infant, Child, and Adolescent II	2 (2-0-4)
NS 3329	Community Focused Nursing II	2 (2-0-4)
NS 3330	Gerontology Nursing	1 (1-0-2)
NS 3331	Holistic Childbearing and Family Nursing I	3 (3-0-6)
NS 3332	Emergency Nursing	1 (1-0-2)
NS 4322	Professional Socialization II	2 (2-0-4)
NS 4323	Therapeutic Health Assessment	2 (2-0-4)
NS 4326	Holistic Childbearing and Family Nursing II	3 (3-0-6)
NS 4327	Nursing Leadership and Management	2 (2-0-4)

(2) Practicum **40 Credits**

NS 2424	Nursing Experience	2 (0-6-0)
NS 2425	Clinical Practicum for Professional Nursing Foundation	3 (0-12-0)
NS 2426	Clinical Practicum in Adult Health Nursing I	3 (0-12-0)
NS 2427	Mental Health and Psychiatric Nursing Practicum	3 (0-9-0)
NS 3401	Nursing Inquiry II	1 (0-3-2)
NS 3426	Clinical Practicum in Adult Health Nursing II	3 (0-12-0)
NS 3427	Family-Centered Care for Infant, Child, and Adolescent Nursing Practicum I	2 (0-8-0)
NS 3428	Gerontology Nursing Practicum	2 (0-6-0)
NS 3429	Community Focused Nursing Practicum	3 (0-9-0)
NS 3430	Holistic Childbearing and Family Nursing Practicum I	3 (0-9-0)
NS 3431	Family-Centered Care for Infant, Child, and Adolescent Nursing Practicum II	3 (0-9-0)
NS 4420	Holistic Childbearing and Family Nursing Practicum II	4 (0-16-0)
NS 4421	Therapeutic Health Assessment Practicum	2 (0-8-0)
NS 4422	Nursing Leadership and Management Practicum	3 (0-9-0)
NS 4423	Comprehensive Nursing Practicum	3 (0-12-0)

C. Free Elective Course **6 Credits**

Students can take free elective courses at least 6 credits from any course offered by the universities. The Bernadette de Lourdes School of Nursing Science has also offered the free elective courses as follows:

NE 3501	Spa and Aroma Therapy	3 (2-3-6)
NE 3506	Health Care for Civil Aviation	3 (3-0-6)
NE 3507	Herbal Therapy for Self-Care	3 (3-0-6)
NE 3508	Health Innovation and Entrepreneurship	3 (3-0-6)
NE 4502	Adolescent Health	3 (3-0-6)
NE 4503	Comprehensive Nursing for Excellence	3 (3-0-6)
NE 4504	Disaster Nursing Management	3 (3-0-6)

STUDY PLAN

FIRST YEAR

First Semester

Code	Subjects	Credits
BG 1001	English I	3 (2-3-6)
GE 1204	Physical Education	1 (1-0-2)
GE 1403	Communication in Thai (For Thai students)	3 (3-0-6)
or		
GE 1405	Thai Language and Culture (For non-Thai students)	3 (3-0-6)
NB 1214	Anatomy and Physiology	5 (4-3-10)
NB 1215	Biochemistry	2 (2-0-4)
NB 1216	Microbiology and Parasitology	2 (1-3-4)
	Total	**16 (13-9-32)**

Second Semester

BG 1002	English II	3 (2-3-6)
GE 2202	Ethics	3 (3-0-6)
BG 2301	Information Technology for Nurses	2 (1-3-4)
NB 1210	Pathophysiology	3 (3-0-6)
NS 1310	Professional Socialization I	2 (2-0-4)
NS 1312	Health Promotion throughout Lifespan	2 (2-0-4)
NS 1314	Scientific Nursing App oach and Holistic Health Assessment	2 (1-3-4)
	Total	**17 (14-9-34)**

Summer Session

GE 1302	Ecology and Sustainability	3 (3-0-6)
NB 1217	Multiculturalism in Health Care	1 (1-0-2)
	Total	**4 (4-0-8)**

SECOND YEAR

First Semester

BG 2000	English III	3 (2-3-6)
NB 2212	Psychology and Mental Health	2 (2-0-4)
NB 2209	Pharmacology	3 (3-0-6)
NB 2214	Diet Therapy	1 (1-0-2)
NS 2310	Alteration in Adult Health and Nursing I	3 (3-0-6)
NS 2319	Foundation of Professional Nursing	3 (3-0-6)
NS 2424	Nursing Experience	2 (0-6-0)
	Total	**17 (14-9-30)**

Second Semester

BG 2001	English IV	3 (2-3-6)
NB 2215	Entrepreneurship in Health Care	2 (2-0-4)
NS 2324	Bio-Behavioral-Psychiatric Nursing	2 (2-0-4)
NS 2425	Clinical Practicum for Professional Nursing Foundation	3 (0-12-0)
NS 2426	Clinical Practicum in Adult Health Nursing I	3 (0-12-0)
NS 2326	Family-Centered Care for Infant, Child, and Adolescent I	2 (2-0-4)
	Total	**15 (8-27-18)**

Summer Session

NS 2427	Mental Health and Psychiatric Nursing Practicum	3 (0-9-0)
NS 2325	Community Focused Nursing I	2 (2-0-4)
	Total	**5 (2-9-4)**

THIRD YEAR

First Semester

BG 1301	Fundamentals of Statistics	3 (3-0-6)
NS 3326	Nursing Inquiry I	2 (1-3-4)
NS 3327	Alteration in Adult Health and Nursing II	3 (3-0-6)
NS 3328	Family-Centered Care for Infant, Child, and Adolescent II	2 (2-0-4)
NS 3329	Community Focused Nursing II	2 (2-0-4)
NS 3426	Clinical Practicum in Adult Health Nursing II	3 (0-12-0)
NS 3427	Family-Centered Care for Infant, Child, and Adolescent Nursing Practicum I	2 (0-8-0)
	Total	**17 (11-23-24)**

Second Semester

GE 2102	Human Heritage and Globalization	3 (3-0-6)
NS 3330	Gerontology Nursing	1 (1-0-2)
NS 3331	Holistic Childbearing and Family Nursing I	3 (3-0-6)
NS 3332	Emergency Nursing	1 (1-0-2)
NS 3401	Nursing Inquiry II	1 (0-3-2)
NS 3431	Family-Centered Care for Infant, Child, and Adolescent Nursing Practicum II	3 (0-9-0)
NS 3429	Community Focused Nursing Practicum	3 (0-12-0)
	One Free Elective Course	3 (3-0-6)
	Total	**18 (11-24-24)**

Summer Session

NS 3428	Gerontology Nursing Practicum	2 (0-6-0)
NS 3430	Holistic Childbearing and Family Nursing Practicum I	3 (0-9-0)
	Total	**5 (0-15-0)**

FOURTH YEAR

First Semester

NS 4323	Therapeutic Health Assessment	2 (2-0-4)
NS 4326	Holistic Childbearing and Family Nursing II	3 (3-0-6)
NS 4327	Nursing Leadership and Management	2 (2-0-4)
NS 4420	Holistic Childbearing and Family Nursing Practicum II	4 (0-16-0)
NS 4421	Therapeutic Health Assessment Practicum	2 (0-8-0)
	Total	**13 (7-24-14)**

Second Semester

NS 4322	Professional Socialization II	2 (2-0-4)
NS 4422	Nursing Leadership and Management Practicum	3 (0-9-0)
NS 4423	Comprehensive Nursing Practicum	3 (0-12-0)
	One Free Elective Course	3 (3-0-6)
	Total	**11 (5-21-10)**

Course Description

ACT 1601 **Fundamentals of Financial Accounting** **3 (3-0-6)**

Basic accounting theory and procedures for service and merchandising fi ms by using double-entry system, completing accounting process: journalizing, posting to the ledgers, preparation of trial balance, adjusting entries, worksheet and closing entries, as well as preparation and presentation of basic financial statements.

AD 2100 **Consumer Insight** **3 (3-0-6)**

Framework for customer insights, aspect of consumer decision-making and application of these insights into communication and marketing propositions, fundamentals of customer value management, research tools and techniques for developing customer knowledge, customer insights and for becoming more customer-focused in the context of all communication campaign such as advertising, public relations, performance communication as well as the new media communication.

AD 2101 **Idea Generation in Advertising** **3 (2-2-5)**

Practical tools and methods of how to generate ideas, its application in marketing communication planning, and the exploration of inspiration sources of idea such as consumer insights, arts, as well as interesting research finding for the students to be able to apply those inspiration to their own p ojects.

AD 2102 **Principles of Marketing Communication** **3 (3-0-6)**
Prerequisite : *MKT 2280 Principles of Marketing*

General characteristics in communication and marketing communication process, including the analysis of structure, principles, and the relations of advertising, public relations, sales promotion, sales personnel and independent marketing.

AD 3102 **Advertising Media Planning** **3 (3-0-6)**
Prerequisite : *CA 2018 Consumer Insight*

Media selection that focuses on the quality and benefit of media suited to the purpose, types of target audience, timing and media cost in buying efficiently, including survey of strategies of advertising media planning, creative media purchase, evaluation of assessment, frequency and rates to reach the target audience, and market share.

AD 3103 **Advertising Creative Strategy (English)** **3 (2-2-5)**
Prerequisite : CA 2018 Consumer Insight

Communication management and creation of advertisement for print, radio and television broadcasting, development of advertising from definition to creation of advertising strategy, from creative strategy to advertising execution with emphasis on print, radio, television, film and poster in English

AD 3104 **Advertising Creative Strategy (Thai)** **3 (2-2-5)**
Prerequisites : *CA 2018 Consumer Insight*

Communication management and creation of advertisement for print, radio and television broadcasting, development of advertising from definition to creation of advertising strategy, from creative strategy to advertising execution with emphasis on print, radio, television, film and poster in Thai

AD 3106 **Art Direction** **3 (2-2-5)**
Prerequisites : *CA 1021 Introduction to Advertising and Branding*

Art direction, development of basic art skills, its impact in terms of color combination, layout format, typography and visual composition in both print and TV on effective advertising.

AD 3107 **Copywriting (Thai)** **3 (2-2-5)**
Prerequisite : *AD2102 Principles of Marketing Communication*

Copywriting in Thai through analysis of effectiveness of advertisements in the media, significant characteristics of advertisements appropriately applied, and practice in the art of copywriting in Thai.

AD 3108 **Copywriting (English)** **3 (2-2-5)**
Prerequisite : *AD 2102 Principles of Marketing Communication*

Copywriting in English through analysis of effectiveness of advertisements in the media, significant characteristics of advertisements appropriately applied, and practice in the art of copywriting in English.

AD 3112 **Brand Communication** **3 (3-0-6)**
Prerequisite : *AD 3101 Principles of Marketing Communication or*
MKT3102 Integrated Marketing Communication (For Marketing students)

Theories and principles of brand communication, brand positioning and repositioning, brand equity measurement, brand leverage and integrated brand communications, including current topics of branding.

AD 3113 **Customer Relationship Management** **3 (3-0-6)**
Prerequisite : *AD 2102 Principles of Marketing Communication*

Theories, practices, and applications of direct database and e-commerce marketing strategies, consumer and business-to-business marketing, integration of online and offline marketing strategies, and management of customer relationships.

AD 3114 **Interactive Advertising and Marketing Communication** **3 (3-0-6)**
Prerequisite : *CA 1021 Introduction in Advertising and Branding*

The course covers an implementation of interactive advertising and marketing communication, including the identification and analysis of in-depth interactive data to create the effective interactive models, method to utilize the new media to gain interactivity which is an enhancement of the involvement the consumers have in advertising.

AD 3117 **Advertising and Popular Culture** **3 (3-0-6)**
Prerequisite : *CA 1021 Introduction to Advertising and Branding*

A study of advertising and popular culture. Students will explore advertising from various perspectives of culture and popular culture. The course involves the understanding how these cultures affect creativity and audience and how influencer marketing works in popular cultu e.

AD 3119 **Advertising and Marketing Communication Research** **3 (2-2-5)**
Prerequisite : *CA 2019 Communication Arts Research*

Various roles of advertising and marketing communication research in advertising and brand communication, implication of research methodology and process, including conducting quantitative and qualitative research as part of campaign planning.

AD 3120 **Integrated Marketing Communication Planning and Strategy** **3 (2-2-5)**
Prerequisite : *AD 2102 Principles of Marketing Communication*

Planning and Management of advertising and marketing communication campaign, including integration of various communication tools, media strategy formulation, selections and measurement of campaign effectiveness. The course focuses on strategic communication that aligns with business and marketing planning to collide with business and entrepreneurship orientation

AD 3121 **Strategic Situation Analysis** **3 (3-0-6)**
Prerequisite : *AD 2102 Principles of Marketing Communication*

The course focuses on an analysis in many dimensions; including business analysis, marketing analysis, brand analysis, and communication analysis. The analysis involves examination and evaluation of the internal and external elements and will be used to forecast trends and opportunity in a particular company's market effectively.

AD 3122 **Presentation Design for Campaign Planning** **3 (2-2-5)**
Prerequisite : *AD 3103 Advertising Creative Strategy (English)*
or AD 3104 Advertising Creative Strategy (Thai)

The course focuses on development of presentation design and presentation elements that are impactful and effective for campaign planning and campaign presentation. The course involves individual and group presentation for the students to learn leadership and teamwork skills during presentation design process.

AD 3123 **Corporate Brand Communication** **3 (3-0-6)**
Prerequisite : *AD 3112 Brand Communication*

Concepts, theories, principles, and case studies of strategic corporate brand management and communication at local, regional, and global levels. Understanding brand architecture, brand hierarchy, and brand role at the corporate level. Conducting brand audit to measure brand equity, recognizing problems, and proposing strategic recommendations. Using tools of brand communication to build brand equity in various brand scenarios.

AD 3124 **Strategic Brand Positioning** **3 (3-0-6)**
Prerequisites : *AD 3112 Brand Communication*

Case studies of strategic brand positioning of local, regional, and global brands. Understanding competitive landscape, identifying direct and indirect competitors, and analyzing competitor brand identity to conclude points-of-parity and points-of-difference. Targeting and profiling primary and secondary targets to identify and define e fective brand position and brand personality.

AD 3125 **Production Design for Advertising and Brand Communication** **3 (2-2-5)**
Prerequisites : *AD 3103 Advertising Creative Strategy (English)*
or AD 3104 Advertising Creative Strategy (Thai)

Using innovation and creativity for visual and audio production across traditional and new media platforms for advertising and brand communication, branded-content design and production, and integration of various types of media.

AD 3126-30 **Selected Topics in Advertising I** **3 (3-0-6)**
Prerequisite : *CA 1021 Introduction to Advertising and Branding*

The course emphasizes on an exploration and analysis of selected topics in advertising. The topic will be announced semester by semester.

AD 3131-35 **Selected Topics in Advertising II** **3 (2-2-5)**
Prerequisite : *CA 1021 Introduction to Advertising and Branding*

The course emphasized on an exploration and practice of selected topics in advertising. The topic will be announced semester by semester.

AD 4100 **Seminar in Advertising** **3 (3-0-6)**

Facts and conditions in relation to problems, concerns and ethical issues in advertising, trends and new possibilities of advertising as communication tools, including analyzing the current situations and proposing possible solutions or opportunities for such situation, plus critical thinking towards dilemmas and perspectives of certain topics.

AD 4116 **Advertising Workshop I** **6 (6-2-10)**
Prerequisite : *BG 2000 English III*
CA 1021 Introduction in Advertising and Branding
CA 2019 Communication Arts Research
AD 2102 Principles of Marketing Communication
AD 3119 Advertising Research and Marketing Communication

Training in advertising and communication planning through the study of marketing trends, analysis of data, planning of marketing promotion. Students will be trained to work as advertising agency under the supervision of the instructor.

AD 4117 **Advertising Workshop II** **6 (6-2-10)**
Prerequisite : *AD 4116 Advertising Workshop I*

A continuing training at a higher level in producing advertisements based on the advertising strategy.

AE 1100 **Core Flying: Single-Engine Flight – Ground** **3 (3-0-6)**

Regulations, safety, pre-solo operations, cross-country planning, airspace, chart use, communications, weather, performance, weight and balance, aerodynamics, and decision-making.

AE 1101 **Theory of Single-English Flight** **3 (3-0-6)**
Prerequisite or Co-requisite : AE 1100 Single-Engine Flight – Ground

Pilot's Operation Handbook (POH), Standard Operating Procedure (SOP), Checklist, Preflight Inspection, Entry/Leave Training Area, Pattern T/G, Taxi Check, NAV Check, Turn and Slip Check, Flight Control Check and Air Work, Brief Mission Card, METAR, TAF, Flight Plan, NOTAM before Flight

AE 1200 **Core Flying: Single-Engine Flight - Flight** **2 (0-3-2)**
Prerequisite or Co-requisite : AE 1100 Core-Flying: Single-Engine Flight – Ground

Flying practice to be done according to AE 1100 Core Flying: Single-Engine Flight - Ground

AE 1910 **Problem-based Training in Aircraft Maintenance I** **1 (0-3-2)**

Skill training on the aeronautic engineering and training at the actual work site.

AE 1911 **Problem-based Training in Aircraft Maintenance II** **1 (0-3-2)**

Skill training on the aeronautic engineering and training at the actual work site.

AE 1920 **Problem-based Training in Aircraft Maintenance III** **1 (0-3-2)**

Skill training on the aeronautic engineering and training on the actual work site.

AE 2100 **Basic Flying: Single/Multi-Engine - Ground** **3 (3-0-6)**
Prerequisite or Co-requisite : AE 1100 Core-Flying: Single-Engine Flight–Ground

Instrument flying regulations, safety, operations, navigation systems, chart use, weather, flight planning, decision-making, and crew resource management.

AE 2200 **Basic Flying: Single/Multi-Engine-Flight I** **1 (0-3-2)**
Prerequisite or Co-requisite : AE 1200 Core Flying: Single-Engine-Flight

Fight practice to be done according to AE 2100 Basic Flying: Single/Multi-Engine -- Ground

AE 2201 **Basic Flying: Single/Multi-Engine-Flight II** **1 (0-3-2)**
Prerequisite or Co-requisite : AE 2200 Basic Flying: Single/Multi-Engine-Flight I
AE 2202 Basic Flying: Multi-Engine Operations

Training in maneuvers and procedures required for instrument flight test in order to be endorsed with instrument rating in pilot license.

AE 2202 **Basic Flying: Multi-Engine Operations** **2 (1-3-4)**
Prerequisite or Co-requisite : AE 1100 Core Flying: Single-Engine Flight – Ground

Multi-engine rating, multi-engine aerodynamics, maneuvers and procedures, engine-out operations, safety, operations, flight planning, and decision-makin

AE 2203 **Basic Flying: Operational Procedures** **1 (1-0-2)**
Prerequisite : *AE 1100 Core Flying: Single-Engine Flight – Ground*

Operational procedures related to the safe operations of flight, operational procedures prescribed in ICAO annex 6: Operation of Aircraft, national and international aviation law.

AE 2300 **Basic Flying: Flight Communications** **1 (1-0-2)**
Prerequisite : *AE 1100 Core Flying: Single-Engine Flight – Ground*

Radio Telephony (RT) communications which lie at the base of procedural flying in the professional aviation environment, standard phraseologies and terminologies used in international aviation environment.

AE 2401 **Basic Flying: Air Law** **3 (3-0-6)**
Prerequisite : *AE 1100 Core Flying: Single-Engine Flight – Ground*

International air law, JAR-OPS1 and ICAO documents and annexes relevant to international conventions and agreements.

AE 2402 **English for Aviation** **3 (3-0-6)**
Prerequisite : *AE 1100 Core Flying: Single-Engine Flight- Ground*
AE 2100 Basic Flying: Single/ Multi-Engine - Ground
AE 2300 Basic Flying: Flight Communications

English language used in aviation communications, practice of the reading skill to fully understand Route Manual and Flight Operations Manual, practice of ATC and radiotelephony exchange, the functionally created statements, questions and responses in English as required by the nature of the job and responsibility in both oral and written forms, including communication in English with ATC by using correct structures and pronunciation patterns in order to be understood by both native and non-native speakers of English.

AE 2501 **Maintenance English I** **1 (0-3-2)**

Basic reading and writing English which is used in maintenance, and technical terms for maintenance.

AE 2502 **Maintenance English II** **1 (0-3-2)**

Advanced English in maintenance related to components and systems of aircraft, reading of technical documents and formal aircraft documents.

AE 2700 **Fundamental Aircraft: Propulsion Theory** **2 (2-0-4)**

Introduction to basic fundamental theory of aerospace propulsion system, background in the design and operation of different types of propulsion systems for aerospace applications to design, development, operation and maintenance of propulsion systems.

AE 2701 **Fundamental Aircraft: Aircraft Engine** **3 (3-0-6)**

Basic fundamental theory of piston and gas turbine engine, thermodynamics, mathematical model of each part of piston and gas turbine engine, the working cycle of this heat engine, Basic Gas Turbine Design, Gas Turbine Assembly - Design, Metallurgy and Cooling ,Gas Turbine Main Auxiliaries, Gas Turbine Safety and Fire Protection, Gas Turbine Operation, Gas Turbine Maintenance.

AE 2702 **Fundamental Aircraft: Aerodynamics** **2 (2-0-4)**

Basic knowledge of aviation, namely fluid dynamics, introduction to flight, flight dynamics, types of aircraft and behaviors of aircraft onboard.

AE 2703 **Fundamental Aircraft: Aircraft Structure** **3 (2-3-6)**

Basic aircraft structure both theory of basic structure and strength of material, including fatigues and components of airframe and joints.

AE 2704 **Fundamental Aircraft: Aircraft Material** **3 (2-3-6)**

Basic theory and basic knowledge of aircraft material, types of material especially composite material including the analysis of the problem and fixing.

AE 2705 **Fundamental Aircraft: Aircraft Performance** **3 (2-3-6)**

Fundamentals of propellers and jet aircraft performance, equation of motion, level flight, gliding, climbing including range and endurance based on FAA requirement.

AE 2901 **Fundamental Aircraft: Practical Verificatio** **1 (0-3-2)**

Practice of the theoretical knowledge in "Fundamental Aircraft". The practical assignment related to the topic is given.

AE 3300 **Intermediate Flying: Route Manual and Pilot Applications** **3 (3-0-6)**
Prerequisite : *AE 2203 Basic Flying: Operational Procedures*
Or Co-requisite : AE 3301 Intermediate Flying: General Navigation
AE 3502 Intermediate Flying: Radio Navigation

Application of the rules and regulations stated in Route Manual for all phases of flight from pre-flight planning until landing of the aircraft which include pre-flight planning, en-route charts, approach and landing charts, meteorological rules and regulations, operations and information.

AE 3301 **Intermediate Flying: General Navigation** **3 (3-0-6)**
Prerequisite : *AE 1100 Core Flying: Single-Engine Flight – Ground*

All aspects of classical air navigation from basic pilot navigation to advanced plotting, use of flight computers, maps and related charts for navigation

AE 3302 **Intermediate Flying: Flight Performance and Planning I** **3 (3-0-6)**

Knowledge and principles to enable the pilot and future captain to check that an aircraft is correctly loaded and balanced for safe and efficient operations which include theories required to operate an aircraft safely in all phases of flight: take-off, climb, cruise, descent and landing, as well as typical aircraft types.

AE 3303 **Intermediate Flying: Flight Performance and Planning II** **3 (3-0-6)**
Prerequisite : *AE 3302 Intermediate Flying: Flight Performance and Flight Planning I*
or Co-requisite : AE 3500 Intermediate Flying: Airframes and Aircraft Systems

Practical flight planning instruction based upon aircraft such as the Boeing and Airbus, as well as aspects of flight planning such as the weather facto .

AE 3304 **Intermediate Flying: Meteorology** **3 (3-0-6)**

All aspects of meteorology and its application to flight operations, meteorology and weather forecasting which contribute greatly to flight safety, how weather-related, in-flight hazards arise and how they should be predicted, avoided and or dealt with.

AE 3310 **Aircraft Maintenance: Maintenance Human Factor** **1 (1-0-2)**

Factors that might cause damage in maintenance, theory of human behavior and proactive model including how to avoid accidents during maintaining aircraft and maintenance safety.

AE 3311 **System: Technical Document System** **3 (3-0-6)**

Common and manufacturing aircraft manual, service letters, service bulletin and other issued documents, which are presented in terms of ATA system for working in maintenance.

AE 3312 **Aircraft System: Logistics** **2 (2-0-4)**

Logistics or maintenance and material support, how to supply the material or spare parts during conducting maintenance in order to avoid lack or not-in-time materials, systematic management based on basic logistics.

AE 3400 **Intermediate Flying: Advanced Aerodynamics** **3 (3-0-6)**

Basic aerodynamic theory to transonic and supersonic flight to help professional pilots master the fundamental principles upon which flight depends and which are essential to a full understanding of the flight characteristics of whichever ai craft they may operate.

AE 3401 **Avionics** **3 (3-0-6)**

Basic theory of avionics including the indicators and instrument used on aircraft, usefulness of this system and problems that might occur.

AE 3411 **Aircraft System: Aviation Acts and Airworthiness Regulations** **3 (3-0-6)**

Aviation Acts, Airworthiness Regulation. Laws which relate to maintenance and flight operation based on FAA and EASA.

AE 3500 **Intermediate Flying: Airframes and Aircraft Systems** **3 (3-0-6)**
Prerequisite : *AE 1100 Core Flying: Single-Engine Flight – Ground*

Eight systems which comprise of the essential components of the modern aircraft, every part of the aircraft in details from the basic structure, hydraulic, fuel, air conditioning, anti-icing and flight-cont ol systems to the emergency equipment and landing gear.

AE 3501 **Intermediate Flying: Power Plants and Instrumentations** **3 (3-0-6)**

Engine design and engine operation considerations as well as recognition of engine malfunctions, flight instruments, warning and recording equipment and automatic flight cont ol systems.

AE 3502 **Intermediate Flying: Radio Navigation** **3 (3-0-6)**
Prerequisite : *AE 1100 Core Flying: Single-Engine Flight – Ground*

Radio navigation facilities available for the navigation of aircraft during departure, en-route and approach, as well as the radar facilities used for the control of aircraft and for in-flight safety, and the latest Global Navigation Satellite Systems (GNSS).

AE 3511 **Aircraft System: Aircraft Communications** **1 (1-0-2)**

Introduction to basic fundamental theory of communication technology, communication equipment and systems using in aviation, signal flow chart and how to understand the communication system

AE 3512 **Aircraft System: Ground Support Equipment** **2 (1-1-4)**

Types of Ground Support Equipment (GSE) which are used to support during conducting maintenance, including how to handle and provide maintenance to GSE, units such as airline or maintenance company to be responsible for GSE.

AE 3513 **Aircraft System: Non-Destructive Inspection** **3 (2-3-6)**

Basic theory, current methods of Non-Destructive Inspection (NDI) used for aircraft structures, level of NDI, technique and tools.

AE 3700 **Commercial Flight I** **1 (0-3-2)**
Prerequisite : *AE 2201 Basic Flying: Single/ Multi-Engine- Flight II*

Training in the maneuvers and procedures necessary to meet the standards contained in the commercial pilot practical test standards, and training in cockpit resources management and safe flying practices

AE 3701 **Commercial Flight II** **1 (0-3-2)**
Prerequisite : *AE 2201 Basic Flying: Single/ Multi-Engine- Flight II*

Continued training in the maneuvers and procedures necessary to meet the standards contained in the commercial pilot practical test standards, and training in cockpit resources management and safe flying practices.

AE 3702 **Commercial Flight III** **1 (0-3-2)**
Prerequisite : *AE 2201 Basic Flying: Single/ Multi-Engine- Flight II*

Continued training in the maneuvers and procedures necessary to meet the standards contained in the commercial pilot practical test standards, and training in cockpit resources management and safe flying practices.

AE 3703 **Commercial Flight IV** **1 (0-3-2)**
Prerequisite : *AE 2201 Basic Flying: Single/ Multi-Engine- Flight II*

Continued training in the maneuvers and procedures necessary to meet the standards contained in the commercial pilot practical test standards, and training in cockpit resources management and safe flying practices.

AE 3705 **Commercial Flight - Ground** **3 (3-0-6)**

General knowledge of commercial flight: advanced aerodynamic, predicting performance, controlling weight and balance, emergency procedures, commercial decision making, maximum performance in takeoffs & landings, maximum performance in maneuver

AE 3710 **Aircraft Maintenance: Aircraft Maintenance I** **3 (2-3-6)**

Basic aircraft maintenance which concerns the importance, the meaning, the program of maintenance and the organization, and general regulations related to maintenance.

AE 3711 **Aircraft Maintenance: Aircraft Maintenance II** **3 (2-3-6)**

Relationship between the operation of flight and maintenance in airline or maintenance repair station, each part of section in maintenance organization, discussion of problems in maintenance management to understand the up-to-date situation in both local and global region.

AE 3712 **System: Hydraulic and Pneumatic System** **3 (2-3-6)**

Basic fundamental theory of hydraulic and pneumatic power system and their applications in various aircraft systems, Pascal's law in an opened and closed chamber and its application, different components consisting in a simple hydraulic system, functional principle of each component in hydraulic system. Students will learn to design a simple hydraulic system, read a flow chart diagram and perform maintenance on the system involving hydraulic system.

AE 3713 **Aircraft System: Landing Gear and Brake System** **3 (2-3-6)**

Basic functional principle of landing gear and brake system, how to service and maintain landing gear systems and related components including wheels, brakes, indication systems and warning systems.

AE 3714 **Aircraft System: Fuel System** **3 (2-3-6)**

Basic fundamental theory and functional principle of fuel system, how to safely service aircraft with correct rated fuel and theory towards the maintenance of aircraft airframe fuel systems, advises on aircraft fuel systems removal, repair, and installation maintenance procedures and policies, diagnoses fuel system and component malfunctions, recommendations of corrective actions and resolutions of problems using technical publications and analytic techniques.

AE 3715 **Aircraft System: Powerplant** **3 (2-3-6)**

Basic fundamental theory and functional principle of an aircraft power plant system, all the equipment which work together with the propulsion system, flow chart of power system which supports the aircraft power, functional principle of each part and how to perform maintenance on power plant system.

AE 3716 **Aircraft System: Stability and Weight & Balance System** **3 (2-3-6)**

Stability of aircraft based on basic physics and flight dynamics, basic of Weight and Balance (W&B), including tools, schedule and method, discussion of importance and problems.

AE 3800 **Aircraft System: Aircraft Electrical System** **3 (2-3-6)**

Basic fundamental theory of aircraft electrical system technology, equipment and sources of electrical supply using in aviation, electrical flow chart and how to understand the communication

AE 3900 **Seminar in International and Domestic Navigation** **3 (3-0-6)**
Prerequisite : *AE 2100 Basic Flying: Single/Multi-Engine-Ground*

Domestic and flight regulations and evaluation of their impacts on long-range domestic and international flights, use of ICAO operational requirements and typical air carrier Ops SPECS to plan domestic and international flights, high-altitude airspace, navigation, and approach procedure chart interpretation, concepts of MNPS and RVSM airspace, dispatch procedures, ETOPS, ETP, drift down, track messages, LRN accuracy checks, Oceanic Air Traffic Control clearances, international METARs and TAFs and emergencies and contingencies while on oceanic tracks, communication systems requirements and methodology which include satellite, digital, and analog devices.

AE 3901 **Aircraft Maintenance: Practical Verification** **1 (0-3-2)**

Practice of the theoretical knowledge in "Aircraft Maintenance Aircraft". The practical assignment related to the topic is given.

AE 4300 **Intermediate Flying: Crew Resources Management and Flight Safety 1 (1-0-2)**

Human error and reliability, error chain, error prevention and detection, organizational factors, company safety culture, stress and stress management, fatigue and vigilance, information acquisition and processing, situational awareness, workload management, aeronautical decision making, communication and coordination inside and outside the cockpit, leadership and team behavior synergy, automation and philosophy of the usage of automation, basic flight safety concepts, theories of cause of accident, Human Factors Failure Analysis Classification System (H- ACS), and case study of both incident and accident.

AE 4301 **Intermediate Flying: Human Performance and Limitations** **3 (3-0-6)**

Limitations of the human body operating in an aviation environment as well as dealing with all the aspects of the decision making process relevant to the pilot.

AE 4700 **Commercial Pilot License Instructor** **3 (3-0-6)**
Prerequisite : *Obtain commercial pilot license preferably with instrument and multi-engine rating*

Fundamental instructions required to be the flight instructor for airplane which include learning process, human behavior, effective communication, teaching methods, critique and evaluation, and professional development.

AE 4701 **Commercial Pilot License Instructor : Flight I** **2 (0-6-2)**
Prerequisite : *Obtain Commercial Pilot License Single-Engine and instrument rating*
AE 4700 Commercial Pilot License Instructor

Training in the maneuvers and procedures necessary to meet the standards contained in the flight instructor practical test standards, Single-Engine Land with Instrument Airplane Rating, training in cockpit resources management and safe flying practices, associated ground instructions which include completion of the fundamentals of instruction, the flight instructor airplane, and the flight instructor instrument written tes

AE 4702 **Commercial Pilot License Instructor : Flight II** **2 (0-6-2)**
Prerequisite : *Obtain Commercial Pilot License multi-engine and instrument rating*
AE 4700 Commercial Pilot License Instructor

Training in the maneuvers and procedures necessary to meet the standards required to add the Multi-Engine Flight Instructor Rating, additional instruction in advanced multi-engine flight crew training techniques including cockpit resources management and safe flying practices

AE 4901 **Aircraft System: Practical Verificatio** **1 (0-3-2)**

Practice of the theoretical knowledge in "Aircraft System Aircraft". The practical assignment related to the topic is given.

AE 4904 **Special Problems in Aeronautic Engineering I** **3 (3-0-6)**

Selected problems in aeronautic engineering. Students will be supervised to do research on certain problems in aeronautic engineering.

AE 4905 **Special Problems in Aeronautic Engineering II** **2 (2-0-4)**
Prerequisite : *AE 4904 Special Problems in Aeronautic Engineering I*

Selected problems in aeronautic engineering. Students will be supervised to do research on certain problems in aeronautic engineering.

AE 4906 **Special Problems in Aeronautic Engineering III** **1 (1-0-2)**
Prerequisite : *AE 4905 Special Problems in Aeronautic Engineering II*

Selected problems in aeronautic engineering. Students will be supervised to do research on certain problems in aeronautic engineering.

AE 4930 **Advanced Topics in Aeronautic Engineering I** **3 (3-0-6)**

Most current advancements in a particular field of study as determined by the instructor of the course. The topic of each semester depends on the varied interests of the students or the research requirements.

AE 4931 **Advanced Topics in Aeronautic Engineering II** **2 (2-0-4)**
Prerequisite : *AE 4930 Advanced Topics in Aeronautic Engineering I*

Most current advancements in a particular field of study as determined by the instructor of the course. The topic of each semester depends on the varied interests of the students or the research requirements.

AE 4932 **Advanced Topics in Aeronautic Engineering III** **1 (1-0-2)**
Prerequisite : *AE 4931 Advanced Topics in Aeronautic Engineering II*

Most current advancements in a particular field of study as determined by the instructor of the course. The topic of each semester depends on the varied interests of the students or the research requirements.

AI 3201 **Biological Material and Biodegradation** **3 (2-3-5)**
Prerequisites : *BS 1005 Principles of Biology*
BS 1006 Biology Laboratory

Properties and mechanisms of biodeterioration in natural materials important in Agro-industry, techniques used in assessing the extent and causes of deterioration, damage reduction strategy and technique, including biodeterioration in the environment, and corresponding laboratory sessions.

AI 3202 **Introduction to Agro-Industry** **2 (2-0-4)**
Prerequisites : *BS 1001 General Chemistry*
BS1005 Principles of Biology

Meaning and importance of agro-industry to the economy of the country, factors and composition of agro-industry, types of agro-industrial products and the value adding processes.

AI 3203 **Instrumentation and Control in Agro-Industrial Process** **3 (2-3-5)**
Prerequisites : *BS 1001 General Chemistry*
BS 1201 Physics for Bioscience
BS 1202 Physics Laboratory for Bioscience

Principles and application of instruments involved in biotechnology and their variation in control system, their roles in production efficiency and stability and their application in research, application of mathematics and physics models to convert the signal and the control system in agro-industry process, and corresponding laboratory sessions, principles, method and maintenance of basic and advanced instruments such as centrifuge, autoclave, incubator, HPLC etc.

AI 3204 **Processing of Agricultural Product I** **3 (2-3-5)**
Prerequisite : *AI 3202 Introduction to Agro-Industry*

Chemical, physical and biological properties and characteristics of agricultural raw materials, factors and processing principles for converting agricultural raw materials into industrial products. This course is also combined with laboratory sessions.

AI 3205 **Biochemical Engineering** **3 (3-0-6)**
Prerequisites : *BS 2006 Basic Biochemistry*
BS 2011 Introduction to Microbiology

Applications of biological organisms and their enzymes in the bioprocesses and the enzyme technology, bioprocess economics, applied enzyme kinetics, fermentation kinetics, metabolic stoichiometry, transport phenomena, sterilization techniques, bioreactor design and operation, upstream and downstream processes and optimization in the process scale up.

AI 3206 **Agro-Industry Management and Marketing** **3 (3-0-6)**
Prerequisite : *ECO 2200 Introduction to Economics*

Basic principles of marketing and management which can be applied to use with agricultural products which include environmental factors in Agro-industry, consumer's buying behavior, marketing research, product development, accounting, pricing strategy, distribution channel, and promotion strategy in with the examples and the case studies of agro-industrial products.

AI 3207 **Unit Operation of Agro-Industry I** **3 (2-3-5)**

Concepts and principles of engineering for various unit operations in agro-industry, topics include pumps, heat exchangers, evaporators, dryers, refrigerators, boilers, retorts, and size reduction equipment, and corresponding laboratory sessions.

AI 3208 **Standards and Regulations of Agricultural Products** **2 (2-0-4)**
Prerequisite : *AI 3202 Introduction to Agro-Industry*
or FT 3101 Introduction to Food Technology

Legal and scientific issues involved in the national and international regulations of agricultural products and foods, philosophy underpinning the application of regulation statutes, roles and responsibilities of Thai FDA and international organizations e.g. WTO and its agreements etc., Food Act B.E. 2522, food standards, Codex, risk analysis, and nutrition labeling and sources of information necessary for communication with government and public are also included.

AI 3209 **Microbial Physiology** **3 (2-3-5)**
Prerequisite : *BS 2011 Introduction to Microbiology*

Microbial structures and functions to understand how physiology relates to microbial growth and survival. Use of bacteria as the primary model and are focused on the molecular aspect of cell growth, structure and functions, cell envelope, cellular metabolism and genetics, and corresponding laboratory sessions

AI 4208 **Processing of Agricultural Product II** **3 (2-3-5)**
Prerequisite : *AI 3204 Processing of Agricultural Product I*

Processing methods of agricultural products into food products and non-food products including fruit and vegetable, cereal, meat, milk, rubber, wood and textile and packaging of the products, and corresponding laboratory sessions.

AI 4209 **Unit Operation for Agro-Industry II** **3 (2-3-5)**
Prerequisite: *AI 3207 Unit Operation for Agro-Industry I*

Concepts and principles of engineering for various unit operations in separation processes which Topics include distillation columns, extractors, adsorption columns, absorption towers, membrane separators, crystallizers, filters, and centrifuges, and cor esponding laboratory sessions.

AI 4211 **Fermentation Process** **3 (2-3-5)**
Prerequisite : *AI 3205 Biochemical Engineering*

Principles of isolation, modification and storage techniques of industrial microorganisms, nutrients needed for microbial growth and media optimization, optimization and control processes during upstream, fermentation and downstream processes in batch, continuous and fed batch bioreactors, and corresponding laboratory sessions.

AI 4212 **Tissue Culture Techniques and Application** **3 (2-3-5)**
Prerequisites : *BS 1005 Principles of Biology*
BS 1006 Biology Laboratory

Techniques and physiological basis of plant tissue culture used in research and industry, commercial laboratories culture media, organogenesis, somatic embryogenesis and micropropagation, and corresponding laboratory sessions.

AI 4213 **Agro-Industrial Quality Control** **3 (2-3-5)**
Prerequisite : *SA 1201Statistics I*
AI 4208 Processing of Agricultural Product II

Agro-industrial production as a systematic and controllable process, acceptance sampling plans for analysis and control of quality, quality management, quality control, quality assurance and quality improvement, quality assurance systems, Total Quality Management and ISO series within food factory, and corresponding laboratory sessions.

AI 4215 **Agro-Industry Preservation and Packaging** **3 (2-3-5)**
Prerequisite : *AI 4208 Processing of Agricultural Product II*

Reasons and factors relating to raw material and product spoilage, storage and preservation methods, principles of packaging that include packaging materials used in transportation and distribution, their properties, forms and applications, and corresponding laboratory sessions.

AI 4216 **Fiber Technology** **3 (2-3-5)**
Prerequisite : *AI 4208 Processing of Agricultural Product II*

Principles in production of natural fibe , sources of raw material, processing methods used in Fiber Technology, research and development of natural fiber and application as agro-industrial, and corresponding laboratory sessions.

AI 4217 **Essential Oil Technology** **3 (2-3-5)**
Prerequisite : **BS 2006 Basic Biochemistry**

Composition, physical and chemical characteristics of essential oils, sources of raw material, extraction, purification and use of essential oils, and cor esponding laboratory sessions.

AI 4218 **Agro-Industrial Product Development** **3 (2-3-5)**
Prerequisite : *AI 4208 Processing of Agricultural Product II*

New products and product development system for agro-industry in laboratory and industry, generation and screening of new product ideas, design of product concept, product design specifications, prototype development and process development, sensory testing and testing of consumer acceptability, shelf life evaluation, commercialization of new products and evaluation of launch and hand-on experience in laboratory.

AI 4219 **Sugar Technology** **3 (2-3-5)**
Prerequisites : *BS 2006 Basic Biochemistry*
AI 4208 Processing of Agricultural Product II
or FT 4108 Industrial Food Processing II

Chemical and physical properties of sugar, sugar processing and by-products from sugar industry, quality control and development of new sugar products to be used in other industries, and corresponding laboratory sessions.

AI 4220 **Post Harvest Technology** **3 (2-3-5)**
Prerequisites : *BS 2006 Basic Biochemistry*
AI 4208 Processing of Agricultural Product II
or FT 4108 Industrial Food Processing II

Principles underlying physiological changes in fresh agricultural produces, harvesting methods and post harvest technology to handle the post harvested crops in order to maintain the crop qualities or to delay the changes involved in deterioration of the crop qualities and, corresponding laboratory sessions.

AI 4221 **Alcoholic Beverage Technology** **3 (2-3-5)**
Prerequisite : *BT 3015 Industrial Fermentation*

Current technologies used in production of alcoholic beverage, and monitoring of impact of fermentation variables on microbial performance and product quality, distillation principles and practices, production technology of brandy, whiskey, rum, vodka, gins, and other distilled beverages, characteristics of raw materials, fermentation, distillation, and aging, manufacturing processes used in alcoholic beverages production, research development involving the use of biotechnology for the purpose of yield, solving quality related problems and stimulation innovation, an introduction to management, marketing and economics of most of the alcoholic beverages, review market segmentation and explore alternative, social policy formation, and corresponding laboratory sessions.

AI 4222 **Water and Waste Management** **3 (2-3-5)**
Prerequisite : *BS 2011 Introduction to Microbiology*

Water and waste management starting from good preparation of raw material for industry, clean technology, waste controlling, and water management of downstream process to reduce sources of pollution, and corresponding laboratory sessions.

AI 4223 **Waste and By-product Utilization** **3 (2-3-5)**
Prerequisite : *BS 2011 Introduction to Microbiology*

Principles and practical issues for using of waste and by-products from industry to find optimum method to produce products from those waste materials, and corresponding laboratory sessions.

AI 4226 **Plant Breeding Technology** **3 (2-3-5)**
Prerequisite : *BS 2017 Genetics*
AI 3202 Introduction to Agro-Industry

Life cycle of monocotyledons and dicotyledons, sexual and asexual reproduction of plant, factors affecting plant growth, plant cultivation techniques and seed storage technology, mechanisms of germination, seed selection, techniques for sexual and asexual propagation. The course also includes the study of plant genetic, inheritance, germplasm bank, the use of genetic engineering to create new plant species and also industrial seed production techniques, and corresponding laboratory sessions.

AI 4232 **Secondary Metabolites of Plant Cells** **3 (2-3-5)**
Prerequisites : *BS 2006 Basic Biochemistry*
BS 2016 Basic Biochemistry Laboratory

Use of plant cells for production of secondary metabolism products such as alkaloid, monoterpenes, biopolymer, antimicrobial agents and flavors products. The course will also discuss on metabolic regulation of the desired products, genetic manipulation of plant cells with different techniques e.g. recombinant DNA and protoplast fusion techniques, and corresponding laboratory sessions.

AI 4233 **Pulp and Paper Technology** **3 (3-0-6)**
Prerequisite : *AI 4208 Processing of Agricultural Product II*

Basic knowledge in pulp and paper science and technology, pulping process, pulp bleaching, paper processing, coating of paper, use of non-fib ous additives, measurement of pulp and paper quality, paper recycling process, water treatment in the pulp and paper mill, and new technology in pulp and paper processing.

AI 4234 **Wood Technology** **3 (3-0-6)**
Prerequisite : *AI 4208 Processing of Agricultural Product II*

Types of wood, natural properties of wood, mechanical properties and degradation, basic principles of wood preservation, processing of wood and commercial uses for wood products as well as safety and quality control in wood manufacturer.

AI 4235 **Rubber Technology** **3 (3-0-6)**
Prerequisite : *AI 4208 Processing of Agricultural Product II*

Chemical and physical properties of rubber, definition and basis concepts of Caoutechouc, rubber and elastomer, vulcanization, natural rubber latex and coagulation technology, manufacturing of industrial rubber latex sheets, block rubber and rubberized products and recent developments in the biotechnology associated with rubber technology.

AI 4236 **Feed Manufacturing Technology** **3 (3-0-6)**
Prerequisite : *AI 4208 Processing of Agricultural Product II*

Production of feeds, nutritional requirement of economically important animals, the composition and nutrition characteristics of common feeds, feed formulation, economics of feeding programs for farm animals, plant layout design, selection of appropriate equipment, quality control, feed manufacturing management, safety and sanitation for feed manufacturing industry and also the application of biotechnology to improve quality of feeds.

AI 4237 **Leather Product Technology** **3 (3-0-6)**
Prerequisite : *AI 4208 Processing of Agricultural Product II*

Leather and hide used for industrial purposes and their properties as well as processing technology of leather and hide, equipment and tools used in leather industry, waste and environmental management for leather manufacturer.

AI 4238 **Mushroom Cultivation Technology** **3 (3-0-6)**
Prerequisite : *BT 3015 Industrial Fermentation*

Biology and cultivation of different types of mushroom that is economically important especially for human consumption, preparation of starter culture, support materials and media preparation and sterilization, environmental control for fruiting body formation, preparation of cultivation room or space, cultivation methods and also post harvest technology for mushroom, including mushroom diseases and prevention methods.

AI 4239 **Selected Topic** **3 (2-3-5)**

Discussion and advanced study of a selected topic in the field of Agro-Industry, and corresponding laboratory sessions.

AI 4240 **Bioinformatics** **3 (2-3-5)**

Biological database searching and primer design, DNA and amino acid sequence alignment, phylogenetic analysis, computational program for prediction of gene, genome and protein structures including application of datamining in agriculture, industry and medicine.

AI 4241 **Bacteriology** **3 (2-3-5)**
Prerequisites : *BS 2011 Introduction to Microbiology*

Studies of bacterial morphology, physiology, genetics, taxonomy, practices in isolation, structure, function and classification of bacteria such as actinomycetes, photosynthetic bacteria, archaebacteria, coliform bacteria, etc. Field trips are also included.

AI 4242 **Mycology** **3 (2-3-5)**
Prerequisite : *BS 2011 Introduction to Microbiology*

Studies of fungal morphology, physiology, genetics, taxonomy, practices in isolation, structure, function and classification of fungi such as slime mold, water mold, yeast, rust, smut, mushroom, etc. Field trips are also included.

AI 4243 **Algology** **3 (2-3-5)**
Prerequisite : *BS 2011 Introduction to Microbiology*

Studies of algal morphology, physiology, genetics, taxonomy, practices in isolation, structure, function and classification various kinds of algae such as blue green algae, green algae, euglenoid, diatom, etc. Field trips are also included

AI 4290 **Special Project** **3 (0-9-4)**

A project involving an aspect of Agro-Industry, design of the study, collection and analysis of experimental data under the faculty member's supervision. A written report and presentation of the research work in a seminar is compulsory.

AI 4291 **Field Trip** **1 (0-3-1)**

Visit to food or Agro-Industrial production facilities to view specific aspects of food processing and management, written report of the tour is required.

AI 4292 **Seminar** **1 (1-0-2)**

Method in preparation and performing a scientific presentation, demonstration of scientific research paper presentation from veteran speakers in the field of biotechnology, food technology and agro-industry. Each student is required to present a selected paper of interest from scientific jou nals.

AI 4294 **Internship** **Non-credit**

Practical training in Agro-Industry or biotechnology related industry, government sector and/or academic institute of no less than 300 hours to develop skills and confidence after graduation

AR 1102 **Visual Studies and Communication** **3 (2-2-5)**

Composition of abstract visual art using elements, such as shape, form, space, figu e and ground, color, and texture. Design experimentation through various methods of communication, such as drawing painting, collage, folding, carving and model making. Emphasis given to the aesthetics of composition, idea manifestation, and communication skills.

AR 1104 **Fundamentals of Architectural Design** **3 (2-2-5)**

Theory and architectural components and the basic design relationship between form, function in order to fulfill the pe fection of architectural design.

AR 1106 **Architectural Drawing** **3 (2-2-5)**

Methods of drawing used in architecture and design profession i.e. orthographic projection, perspective projection, shade and shadow and drawing technique in pencil, and ink.

AR 1108 **History of Art and Architecture** **3 (3-0-6)**

Historiographical method and techniques and contextual reading and interpretation, surveys of art and architecture in the ancient world, Classical art and architecture, Medieval art and architecture, Renaissance and Baroque art and architecture, and the eighteenth century art and architecture.

AR 1300 **Preparation for Architectural and Design Studies** **Non credit (80 Hours)**

Basic freehand sketch techniques, principles of perspective sketch, and graphic presentation, basic Two – dimensional and Three – dimensional visual composition.

AR 2109 **Building Technology and Construction I** **3 (2-2-5)**

Introduction to small building construction, standard timber construction methods, short span beams, column and flo r joist, properties of basic construction materials such as timber, concrete, masonry and studio work.

AR 2110 **Building Technology and Construction II** **3 (2-2-5)**
Prerequisite : *AR 2109 Building Technology and Construction I*

Medium building construction using reinforced concrete construction methods, light frame steel for the roof and principles of structural system, properties of building materials such as steel, glass and other standard building products and studio work.

AR 2111 **Introduction to Computer-Aided Design** **3 (2-2-5)**

Computer-aided design application for creating both two dimensional architectural drawing and three dimensional modeling, animation, rendering, representation.

AR 2202 **Architectural Design I** **6 (2-8-8)**
Prerequisite : *AR 1104 Fundamental of Architectural Design*

Introduction to architectural design of intimate-scale by considering basic related factors such as space, measure, structure, site, tectonics, program, and habitation, poetic meaning, human needs and the interaction of persons with the natural and built environment.

AR 2204 **Architectural Design II** **6 (2-8-8)**
Prerequisite : *AR 2202 Architectural Design I*

Continuation of practice from Architectural Design I, broader architectural dimensions, multi-user private and small-scale public design problems, how architecture fits contextually into existing circumstances, and how poetic meanings relate to built forms, analysis of existing places and synthesis incorporating the more complex multi-dimensions of architectural environments.

AR 2307 **Structural Design Principle in Architecture** **3 (3-0-6)**

Fundamentals of analysis of structural members under apply loads, and behaviors of force upon structure, static equilibrium of structure, mechanical properties of materials, basic concept and design criteria of structural design in architecture and materials selection

AR 2308 **History of Modern Architecture and Later** **3 (3-0-6)**
Prerequisite: *AR 1108 History of Art and Architecture*

Architectural history from the Industrial Revolution to the 1960's Late Modernism, comparative reviews incorporating research and analysis of the tendencies and forms of architecture, its concept, philosophy, and also construction methods, contextual influences posing on the consequent architecture, i.e., geographical, sociocultural, political, and technological factors.

AR 2309 **Architectural Design Methods** **3 (3-0-6)**

Parallel investigation in conjunction with the design studio in order to substantiate architectural knowledge through the discussion of actual architectural case studies, correlation between conceptual foundation, learned in the studio context, physical, and formal building and implementation in design ,practice, multi-dimensional organization of an architectural project, such as planning, formation, and execution.

AR 3108 **Building Equipment and Systems** **3 (2-2-5)**

Fundamental design principles of building equipment and systems, water supply and sanitary system, air conditioning system, electricity and lighting systems, fi e protection systems, vertical and horizontal transportation system, communication system, security system, smart building systems and studio work.

AR 3109 **History of Thai Architecture** **3 (3-0-6)**

Components of Thai Architecture from Sukhothai to Rattanakosin periods, various influence and development of Thai Architecture, influences of culture from outside and analysis of unique Thai Architecture in different periods of time.

AR 3200 **Theory and Concept in Architecture** **3 (3-0-6)**

Contemporary architectural theories and concepts, from the late Modern period to the present time, through the study of significant texts and buildings of the sentimental architects and theorists, investigating the formal, technological, social, political, and economical debates at issue within the discipline, with emphasis given to evaluate and articulate the interactions between theory and practice, thereby enabling students to formulate and assess strategies for the making of architecture.

AR 3203 **Architectural Design III** **6 (2-8-8)**
Prerequisite : *AR 2204 Architectural Design II*

Continuation of practice from Architectural Design II with moderate complex level, developing the design process skills through conceptualization, analysis, synthesis, visualization of architectural design at all levels of correlation of context, conceptualization in value, identity and aesthetic quality in architectural design and exploration of a medium scale public building.

AR 3207 **Architectural Design IV** **6 (2-8-8)**
Prerequisite : *AR 3203 Architectural Design III*

Continuation of practice from Architectural Design III with more complexity, experiment and application of a wide span structure, development of space and building form through the expression of structure, building envelope, materials, site planning, and space arrangement of building for tropical climate concerning aesthetics and utility system of building, and exploration of a medium scale public building.

AR 3307 **Building Technology and Construction III** **3 (2-2-5)**
Prerequisite : *AR 2110 Building Technology and Construction II*

Composite building materials and construction methods, large span pre-stressed and post-tensioned systems for floor and beam, fundamental principles of prefabricated – construction system and curtain wall and studio work.

AR 3308 **Building Technology and Construction IV** **3 (2-2-5)**
Prerequisite : *AR 3307 Building Technology and Construction III*

Introduction to design and construction principles of long span structure, high-rise building and their behavior and studio work.

AR 3310 **Fundamentals of Site and Landscape Planning** **3 (2-2-5)**

Shaping of the surroundings through a thorough analysis of issues starting from land, soil, and vegetation to social and economic factors to best determine a possible site layout.

AR 3311 **Fundamentals of Building Information Management** **3 (2-2-5)**

Integration of building information management (BIM) in architectural design and construction processes, data integration, collaboration methods, innovative applications and environments in project life-cycle.

AR 3312 **Architectural Programming** **3 (3-0-6)**

Programmatic elements in architecture, typological analysis, factors involving functional determinant, behavior psychology of users, context and peculiarity of programming, area requirement calculation, law and regulation for programming, case study analysis, marketing and investment analysis for creating programming

AR 4101 **History of Thai Architecture** **3 (3-0-6)**

Components of Thai Architecture from Sukhothai to Rattanakosin periods, various influence and development of Thai Architecture, influences of culture from outside and analysis of unique Thai Architecture in different periods of time.

AR 4106 **Methods of Research and Data Processing** **3 (3-0-6)**

Principles and regulations of appropriate architectural research in conjunction with quality and quantity to support research, history and conservation, research in technology, marketing, social work and behavior involving architecture and case study analysis.

AR 4207 **Integrated Architectural Design I** **6 (2-8-8)**
Prerequisite: *AR 3207 Architectural Design IV*

Continuation of practice from Architectural design IV, complexities of building programs and spaces that must be integrated through correspondence of design process and multidisciplinary, relationships of contextual, spatial and programmatic factors as determinants in architectural design, exploration of a medium to large scale and high rise public building, collaboration with AR 4305 Building Technology and Construction V.

AR 4208 **Integrated Architectural Design II** **6 (2-8-8)**
Prerequisite: *AR 4207 Integrated Architectural Design I*

Continuation of practice from AR 4207 Integrated Architectural Design I, investigation and analysis of spatial, programmatic and contextual factors as determinants in cluster buildings planning, importance of built environments responsive to urban context and communities, multi-level of correlation of buildings in an urban fabric, parallel with current urban situation, forming the conceptual background of large scale public architecture relative to macro planning issues, collaboration with major electives II and III

AR 4301 **Fundamentals of Urban and Regional Planning** **3 (2-2-5)**

Influence of developing city in physical, economics, structures, social work and its environment, relationship between city and its surroundings, process of city and regional design, conceptual design of urban, transportation, and environmental conservation.

AR 4302 **Seminar in Architecture** **3 (3-0-6)**

Architectural seminar involving architectural development from the past to present in terms of theoretical and practice and the task of professional development, problems and obstacles in working and their solutions.

AR 4303 **Practicum in Architecture** **Non-credit (240 Hours)**

A 240 working hour professional training at an architecture fi m in order to expose students to all kinds of hands-on experiences and knowledge in the real architectural business world.

AR 4304 **Building Technology and Construction V** **3 (2-2-5)**
Prerequisite: *AR 3308 Building Technology and Construction IV*

Principles of design, construction technology, and structure of high-rise building, advanced building envelop system, collaboration with AR 4206 Integrated Architectural Design I, integration of construction details design and building equipment and systems in architectural design.

AR 5200 **Pre-Thesis in Architecture** **3 (0-6-3)**
Prerequisite : *AR 5203 Architectural Design VII*

Preparation of thesis information, context, theory and facilities of thesis research. The direction will be individually supervised by assigned advisor.

AR 5205 **Thesis in Architecture** **9 (0-18-9)**
Prerequisite : *AR 5200 Pre-Thesis in Architecture*

Students work on individual design project of an approved thesis project which investigates either from a theoretical or pragmatic position a subject of sufficient complexity.

AR 5206 **Integrated Architectural Design III** **6 (2-8-8)**
Prerequisite: *AR 4208 Integrated Architectural Design II*

Continuation of practice from AR 4208 Integrated Architectural Design 11, developing design process focusing on multidisciplinary researches pertaining to individual interests, analysis and studying of issues of interest, collaboration with major electives IV

AR 5300 **Professional Ethics and Practices** **3 (3-0-6)**

Ethical conduct of the professionals in the field, relationship between client and designer, designer and staff, an understanding of zoning, building laws, bidding and contracts, and work supervision.

AR 5401 **Building Cost Estimation and Control** **3 (3-0-6)**

Principles of building estimate and control by way of rough and exact estimation, the cost of materials, equipment and cost of labor, quality survey: materials, labor cost and equipment for final decision.

AR 5402 **Fundamentals of Architectural and Urban Conservation** **3 (3-0-6)**

Principles of architectural and urban conservation for evaluation and development, physical environment, economic and social work by government policy to reinforce fundamentals of architectural and urban conservation.

AR 5403 **Advanced Computer - Aided Design** **3 (2-2-5)**

Advanced study of computer-aided design and primary introduction to the creation of work with a design and technology context, narrative, computation, and interactivity. Students will develop their investigations and interests as well as a space for exploration, experimentation, and methodologies.

AR 5404 **Construction Management** **3 (1-4-4)**

Construction methods in relation to the engineer, contractor, architect, and security control for safety purposes, including municipal laws of construction.

AR 5405 **Individual Study in Architecture** **3 (3-0-6)**

Individual study on interesting architectural topics of interest of the students, under the supervision of the lecturers.

AR 5407 **Real Estate Development** **3 (3-0-6)**

Real estate development, procedure of financial investment and property management in city and rural areas.

AR 5409 **Architectural Psychology** **3 (3-0-6)**

Basic concepts of psychology development, fundamentals of psychology, human behavior, mankind and environment.

AR 5410 **Thai Architecture** **3 (2-2-5)**

Different components of Thai architecture as in building bodies, roofs and structures, analysis of different forms and spaces of Thai buildings from past to present time, conducting research on Thai design, architectural characteristics, site planning and appropriate functions.

AR 5413 **Project Management** **3 (3-0-6)**

Feasible programmed instruction of projects, site, economical techniques, professional management, budget analysis and leasing.

AR 5414 **Energy Saving** **3 (3-0-6)**

Unconventional energy saving resources, alternative and renewable energy such as solar energy, wind power, water power, geothermal power and biomass.

AR 5415 **Interactive Features Design** **3 (2-2-5)**

Introduction to the creation of work within a design and technological context, i.e., new media installation, interactive architecture, and intelligent space, developing individual investigations and interests by exploration, experimentation, and implementation.

AR 5416 **Façade Design in Architecture** **3 (2-2-5)**

Theoretical basis for a design understanding for overall performance of façades, examination of the complex interrelationships through a consideration of existing constructions, design criteria in successful design of façades, knowledge of materials, methods of manufacturing and installation.

AR 5417 **Interior Design by Architects** **3 (2-2-5)**

Introduction to interior spatial design and decoration necessary for professional architects incorporating lectures and studio, issues surrounding the interior profession and the architects, survey of contemporary works, principles of shaping and planning interior spatiality, design factors, programs, elements, colors, lighting, tectonic, presentation skills, and decorative materials for both new and renovation projects.

AR 5418 **Introduction to Exhibition Design** **3 (2-2-5)**

Introduction to exhibition design, strategies in designing for exhibitions and trade show booths, various issues ranging from programs space design, conceptual development of a thematic approach, and creation of a presentation system for products, artifacts, or artwork activities as business practices specific to the trade show and exhibit design industry, and the effective use of computer renderings and presentation skills.

AR 5419 **Special Topics in History, Theory and Technology in Architecture** **3 (3-0-6)**

Specialized topics of interest in history, theory and technology of architecture and urbanism.

AR 5420 **Light, Perception and Culture** **3 (3-0-6)**

Influences of lighting design to the human perceptual system and the culture of the times, understanding of how human beings react to and interact within light by exploring contemporary theories of perceptual, somatic, and aesthetic response to light, introduction to psychology of lighting design, and the impact of energy ethics on lighting decisions.

AR 5421 **Landscape Architectural Design** **3 (2-2-5)**
Prerequisite: *AR 3310 Fundamentals of Site and Landscape Planning*

Basic Landscape design, survey landscape design history and theory, landscape planning, styles and modes of landscape design, hardscape and plant materials, presentation techniques, and landscape architectural design project.

AR 5422 **Contemporary Theory and Concept in Architecture** **3 (3-0-6)**

Contemporary architectural theories and concepts, postmodern theories, emphasis on leading architects, analysis and synthesis of architectural thoughts of current world.

AR 5423 **Sustainable Building Design** **3 (2-2-5)**

Principle of the passive and active building design, high performance building, resources and energy management, renewable energy solutions, and various sustainable design applications.

AR 5424 **Introduction to Design-Build** **3 (2-2-5)**

Design research and design thinking methodology on prototype, materials and tectonics, technology and innovative design and construction, construction detail design by hands-on.

AR 5425 **Project Feasibility Study** **3 (3-0-6)**

Fundamentals of analysis of marketing, construction cost estimation, finance and investment, influential factors and data analysis; planning in economic perspective, allocation of products that help to increase profits and p ogramming calculation of returns and investment.

ART 0011 **Intensive Drawing** **Non-Credit**

This course introduces basic drawing techniques and is designed to increase direct observation skills. Emphasis is placed on the fundamentals of drawing in relation to scale, proportion and shading. Students work in black media on sketch paper from a variety of subjects to demonstrate basic representational imagery by exploring mark making, value, line and line quality.

ART 1001 **Drawing** **3 (2-2-5)**
Prerequisite : *ART 0011 Intensive Drawing*

Principles of drawing, types of drawing tools and equipment, includes paper types, various medium implementation, shading, and shadowing, scale and proportion, composition preparatory process in the creation of intermediate and advanced art and design work, including a required field trip

ART 1002 **Dimensional Foundation** **3 (2-2-5)**

Study the terminology of design elements, form relationships, and design principles of 2-dimensional design utilized by all aspects of visual art. Practice on the utilization of each component following basic design principles in visual language and build up design vocabulary and its repertoire, using a wide variety of materials and methods.

ART 1003 **Color Theory** **3 (2-2-5)**

A basic and practical understanding of the principles of color theory in regards to hue, value, saturation, shade and tone, color relationships and schemes as they apply to the visual communication design process. Explore the psychological, perceptual, historical, cultural and symbolic aspects and meanings of color. Develop an understanding of the practical application of color theories, focusing on the interaction and relativity of color, through hands-on experience in a variety of media.

ART 1005 **Painting** **3 (2-2-5)**
Prerequisite : *ART 1001 Drawing*

Introduction to painting and its principles, theory of colors, tools and equipment, types of colors and its characteristics, technique on medium implementation, individual expression under practical and a theoretical understanding, presentation and critique on assignments, including a required field trip

ART 1006 **3 Dimensional Foundation** **3 (2-2-5)**
Prerequisite : *ART1002 2 Dimensional Foundation*

A continuation from 2-dimensional design principles unfolding into the third dimension. Emphasize on fundamental terminology, concepts, theory, and application. Practice revolves around the principles of three dimensional visual abstractions. Understand the role of dominant, subdominant, and subordinate elements played in 3D form. Explore a variety of processes and materials to assist form and space relationships.

ART 1007 **Figure Drawing** **3 (2-2-5)**
Prerequisite : *ART 1001 Drawing*

Introduction to human anatomy, structures, types of figu e drawing including gesture drawing, contour drawing, tonal modeling, shading and shadowing, including life drawing in studio with real observation on nude figu es

ART 1208 **Computer Graphics Foundation** **3 (2-2-5)**

Introduction to computer for design, software and hardware, vector and raster-based graphics and its nature, digital file development, principles of graphics design p ocess, techniques and printing options.

ART 1507 **History of Western Art I** **3 (3-0-6)**

An introduction to the history of Western art from prehistoric times to the dawn of the Renaissance emphasizing the place of visual arts in the history of civilization. Examine historical, cultural, religious and social conditions and its impacts on human civilization and artists in society through works of architecture, painting, and sculpture.

ART 1604 **Visual Art Media I** **3 (2-2-5)**
Prerequisite : *ART 1011 Intnsive Drawing*

Explore various traditional media in regards to techniques and effects. Emphasize on drawing and painting tools such as pencil, charcoal, color pencil, pen and ink, chalk, pastel, acrylic, and watercolor. Acquire skills in creating representative, abstract and non-objective image through the use of lines, patterns, shapes, textures, value and colors

ART 1605 **Visual Art Media II** **3 (2-2-5)**
Prerequisite : *ART 1604 Visual Art Media I*

Introduce and expose traditional media used in sculpture, printmaking and mix-media. Learn about methods and processes used in printing — relief, intaglio and silkscreen. Introduce a platform for compositional development, design skills and three-dimensional forms. Give attention to visual thinking, exploration, exposure to the qualities and properties of the materials, techniques and processes.

ART 1608 **Computer Graphic** **3 (2-2-5)**

Train in current software and hardware used in the profession design field. Emphasize on vector and raster based applications through basic computer operations and digital workflow specified for design studio practices. Develop and understanding in basic pre-press practice to output artwork in digital and print format.

ART 1709 **Digital Production** **3 (2-2-5)**
Prerequisite : *ART 1608 Computer Graphic*

Study milestones in printing history and traditional printing methods. Understand processes of popular commercial printing methods. Train how to prepare digital pre-press work and artwork for digital screen output. Learn software related to digital paperless output and prepare files in different formats — PDF, EPUB — as required.

ART 2009 **History of Art** **3 (3-0-6)**

A chronological survey of Western and Eastern arts, classifications and periods of historical significances and their impacts on human civilization from ancient to contemporary art.

ART 2010 **Typography** **3 (2-2-5)**

Learn and develop skills use Roman alphabets as design tools for visual communication. Explore and investigate historical significance and development of art of marks and lettering from ancient civilizations to contemporary culture. Learn basic principles of type and typesetting in relation to function, arrangement, organizing and composing in visual space. Practicing laying out text using a grid system basic.

ART 2021 **Digital Type and Typography** **3 (2-2-5)**

Foundation of typeface and typography that relate to digital field, both printing and on-screen media. Students study and practice how to create and use an appropriate typeface and layout, to make effectively design.

ART 2112 **Illustration** **3 (2-2-5)**
Prerequisite : *ART 1604 Visual Art Media I*

Develop a sense of balancing practical image-making with creative self-fulfillment. Examine various stylistic approaches used in both a commercial and artistic venue. Acquire skills in both traditional and digital application. Learn to deliver comprehensive package by integrating concept, material handling, techniques, creativity, communication, and presentation.

ART 2311 **Photography** **3 (2-2-5)**

An introduction to photography in regards to history, fundamental concepts and techniques of photographic equipment and materials. Develop basic camera operations and photographic composition.

ART 2513 **History of Western Art II** **3 (3-0-6)**

Study works of art from the early Renaissance to present-day. Discuss the development of stylistic movements in relation to significant historical, cultural, religious, technological, and social contexts. Categorize artists, schools, movements and styles by examining and interpreting artists' intentions through the interaction of analytical and creative processes.

ART 2615 **Visualization** **3 (2-2-5)**

Investigate graphic images presented in various styles to serve different needs and clientele. Learn the uniqueness and characteristics of each graphic form. Train in diverse techniques of sketching and rendering, both hand drawn conventional methods and 2D-3D computer generated imaging applications.

ART 3014 **Thai Art** **3 (3-0-6)**

Introduction to works of Thai art from prehistoric settlements to contemporary art scenes emphasizing the places of visual arts in the history of Asian art and culture. Categorize and characterize periods, kingdoms and styles by examining historical, cultural, religious and social conditions and its impact on human civilizations and artistic sensibilities. Study from museums, historical parks and other outdoor venues.

ART 3016 **History of Modern Design** **3 (3-0-6)**

Examine changing developments in graphic design, industrial design, interior design, architecture, fashion, furniture, and decorative arts from early 20th century to the present. Study modern design as an extension of creativity in relation to demand, technology and production, standards, fine arts, economic, social and political impacts, mass culture, and the dynamics of consumption.

ART 3022 **Thai Inspiration** **3 (2-2-5)**

Inspirations of Thai arts, culture, folks, crafts, architecture and lifestyle, the course encourages students to get inspiration and apply those inspirations for research and report, individual or group assignments, to make a simple design works. The excursion will be organized for students in order to study from existing site such as temple, museums, historical site, local market, etc.

ART 3117 **Internship** **3 (160 hours)**
Prerequisite: *A portfolio review as required by the program*

Professional practice in an organization that provides an apprenticeship both in design and business for 160 working hours with a satisfactory performance evaluated by the organization supervisor.

ART 3718 **Folk Art in South East Asia** **3 (3-0-6)**

Survey the development of handicraft in Southeast Asia region through a historical, economic, social and cultural perspective. Explore local and authentic craft heritage in textile, earthenware, woodcraft and metal smith. Learn to appreciate and value local wisdom and innovation. Explore and engage in field surveys of local communities, museums and galleries.

ART 3720 **Time Base Media** **3 (1-4-4)**
Prerequisite : *ART 1608 Computer Graphic*

Study the impact and characteristics of temporal conditions in creating visual messages for communication. Train in video camera operation, lighting, scene set-up and cinematography. Learn basic video editing, composite still text and images, along with video and sound clips. Render video with required formats used in professional practice.

ART 3721 **Interactive Media** **3 (1-4-4)**
Prerequisite : *ART 1608 Computer Graphic*

Learn to create and assess different strategic layering of interactive content in regards to framework, functionality, hierarchy, accessibility, navigation and user experiences. Understand on-demand temporal sequencing. Practice and experiment with Content Management System website creation. Prepare and integrate multimedia content with device dependence optimization.

ART 3922 **Basic Drawing** **3 (2-2-5)**

Introduce basic techniques needed for the fundamentals of drawing. Explore visualizing the physical world with formal elements and techniques in line, contour, form, light and shade, texture, value and perspective in representing still life's and other subjects. Graphic media used includes pencil, charcoal, pen and ink.

ART 3923 **Thai Painting** **3 (2-2-5)**

Study the basic Thai motifs and patterns through painting techniques of Lai Thai in various periods. Explore traditional processes to contemporary media, while examining Thai styles applied to fashion, product design, interior design and decorative art. Understand concepts and themes of Thai traditional painting through historical context.

ART 3924 **Print Making** **3 (2-2-5)**

Introduce basic printmaking methods of relief print, intaglio and serigraphy. Learn different techniques from various traditional printmaking processes such as monoprint, letterpress, wood cut, wood engraving or screen printing. Experiment with numerous printing materials and substrate. Explore ideas and possibilities to carry works forward to computer incorporated imagery for graphic design.

ART 3925 **Creative Photography** **3 (2-2-5)**

Learn the art of capturing image in a fun, curious and experimental way. Explore various styles of digital photo taking both in color and in black and white. Incorporate design principles, traditional photography techniques with digital post processing software to attain desirable look and feel. Use an art criticism process to evaluate, explain and measure artistic growth.

ART 4019 **Aesthetics** **3 (3-0-6)**

Study different ideologies of philosophers' viewpoints in sensory experiences distinctively to art, beauty and human conditions from classical period to the 20th century. Reconstruct the philosophical, historical, cultural, and institutional significances that enabled the emergence of both art and its appreciation as an intellectual expression. Apply critical thinking based on sounded judgment from different perspectives in issues pertaining to art and design both globally and locally.

ART 4926 **History of Asian Art** **3 (3-0-6)**

Survey the evolution and expansion of the material culture and artistic production in India, China, Japan, Korea, and Southeast Asia, from antiquity to contemporary art. Discuss and focus on works of paintings, sculpture, calligraphy, architecture, monuments and artifacts in a variety of media. Examine historical, political, religious, social, and visual aspects of the art, while considering themes such as art forms, techniques, patronage, relationships of Asian traditions, modernity and tradition, and ideas of representation in Asia.

BAC 1601 **Fundamentals of Financial Accounting** **3 (3-0-6)**

The course is designed to introduce to students in the fundamentals of accounting, to develop an understanding of the basic concepts underlying business transactions and financial statements, and to determine the most appropriate financial measu es for those events.

BAC 1621 **Accounting for Economists** **3 (3-0-6)**

This course helps business economic students to understand the basic financial and managerial accounting information using in the business, know how to use of accounting in measuring the efficiency and performance of fi ms, and its relevance in the study of Economics. Students would be able to critically evaluate financial statements, analyze and interpret accounting information in the different meaningful way for economic decision-making. Consequently, students would be equipped with the necessary tools to analyze and project the performance of fi ms in economic models.

BAC 3602 **Intermediate Accounting I** **3 (3-0-6)**
Prerequisite: *BBA 1600 Fundamentals of Financial Accounting*

Accounting conceptual framework, accounting principles, practices and problems of accounting for assets: definition classification, recognition, measurements, valuation, impairment of assets, presentation and disclosure of assets in statement of financial position, accounting for cash, marketable securities, notes receivable, accounts receivable, merchandise inventory, investments, tangible and intangible assets, natural resources, different methods of depreciation, difference between capital and revenue expenditure, and preparation and presentation of financial statements in detail and good fo mat.

BAC 3603 **Intermediate Accounting II** **3 (3-0-6)**
Prerequisite: *BBA 1600 Fundamentals of Financial Accounting*

Accounting principles and practices in accounting for short term liabilities, long term liabilities and owner's equity: definition, classification, recognition, measurements, valuation, presentation and disclosure on financial statements, accounting for partnership: organization, operation, dissolution, liquidation, financial statements preparation and presentation, accounting for corporation: organization, issuance of stock, increase and decrease of capital, additional paidin capital, earnings per share, retained earnings, appropriated retained earnings, liquidation, and statements of change in shareholders' equity and retained earnings statement preparation and presentation, accounting for employee benefits, and accounting for lease.

BAC 3608 **Financial Report and Financial Statement Analysis** **3 (3-0-6)**
Prerequisites: *BBA 2620 Fundamentals of Managerial Accounting*
BFN 3101 Corporate Finance

Reading and interpreting financial statements, analyzing, criticizing departmental financial matters, stockholders' equity, investment, capital expansion, and division of profit, analysis and interpretation of financial statements, techniques employed in financial statement analysis, presentation of reports to stockholders and interested public, the principles employed in analyzing assets from the viewpoint of investment, profitability and other factors that affect price of securities, forecasting and analysis of security market environment, and critical problem solving.

BAC 3614 **Taxation I** **3 (3-0-6)**
Prerequisite: *LAW 1201 Business Laws for Entrepreneurs*

Factors relating to taxes paid by individuals and business enterprises: principles and features of taxation according to Revenue Codes; methods of various tax liability appraisal and collection such as personal income tax, corporate tax, business tax, custom, excise tax, duties and stamps, and other kinds of taxes involved in business.

BAC 3615 **Taxation II** **3 (3-0-6)**
Prerequisite: *BAC 1600 Fundamentals of Financial Accounting*
BAC 3614 Taxation I

Types of business fi ms that must prepare accounting in compliance with law and regulations of Revenue Codes including the comparative study of preparing accounting based on Generally Accepted Accounting Principles and based on Revenue Codes, principles for determining income tax for both personal and corporate income taxes, withholding tax, value added tax, special business tax, custom, excise tax, duties and stamps, accounting principles for taxable revenue and expense, including valuation of assets and liabilities, and depreciation in calculation of taxable income and practical problems related to tax accounting.

BAC 3626 **Hotel Accounting** **3 (3-0-6)**
Prerequisite: *BBA 1103 Fundamentals of Financial Accounting*

Accumulation of data and preparation of reports on the performance of various hotel functions: room rentals, food and beverage, including indoor, banquet and outdoor catering, entertainment, laundry and other services, foreign exchange, arcade rental income and other franchise income such as limousine rentals, parking, exhibition stalls, sauna and health clubs, massage parlors, sports centers, control systems, periodical performance appraisals and analysis of variances for corrective action

BAC 3629 **Profit Planning and Contro** **3 (3-0-6)**
Prerequisite: *BBA 2101 Fundamentals of Managerial Accounting*

Process in preparing budgets for managerial planning and control: procedures for various types of budgets such as cash budgeting, capital budgeting, sales budgets, production budgets, interrelationship among budgets, cost-volume-profit analysis and other elated topics

BAC 3632 **Cost Accounting** **3 (3-0-6)**
Prerequisite: *BBA 2620 Fundamentals of Managerial Accounting*

Cost concepts, cost terms, definition, importance and usefulness of cost accounting information for planning and controlling under certain and uncertain circumstances, cost accumulation, techniques in cost analysis, preparing production cost reports, accounting procedures for raw materials, labor and overhead costs as well as various cost accounting approaches: job-order accounting, process costing, joint-product and by-product costs, spoilage, waste, defect, and scrap, cost control by means of standard costs; analysis of variances; cost volume profit relationship; variable costing system; budgeting and planning; pricing and transfer price; and activity base costing.

BAC 3633 **Cost Management** **3 (3-0-6)**
Prerequisite: *BAC 3632 Cost Accounting*

Cost concepts and scope of using cost accounting information for managerial planning and production control, analysis of costs for decision-making, including the use of such information for product pricing, mixed cost, absorption costing, direct costing, variable cost, fixed cost, cost –volume-profit analysis, variance analysis, performance evaluation, transfer pricing, capital expenditure planning, manufacturing expenses control, measurement and control of various work units

BAC 3643 **Auditing** **3 (3-0-6)**
Prerequisite: *BAC 3602 Intermediate Accounting I*
or BAC 3603 Intermediate Accounting II

Auditing conceptual framework, standards, law and professional BACs, roles and responsibilities of external auditors, accepting auditing jobs, professional ethics and accountability, audit planning, fraud and errors in auditing process, auditing reports and procedures: assets, liabilities, owners' equity, revenue and expenses, internal control, risk assessments, risk control as well as audit decision making and evidence accumulation, preparation of working paper, auditor's report, and guidelines on auditing by computer.

BAC 3644 **Internal Control and Audit** **3 (3-0-6)**
Prerequisite: *BAC 3602 Intermediate Accounting I*
or BAC 3603 Intermediate Accounting II

Performance of an internal audit in terms of an independent appraisal function which serves to examine and evaluate the adequacy and effectiveness of an organization's system on internal control and its overall quality of performance, furnishing top management with analysis, appraisals, recommendations, counsel, and information concerning the activities audited, internal auditing process, internal auditing skills, management control and Introduction to Management Information Systems, and audit environment.

BAC 4605 **International Accounting** **3 (3-0-6)**
Prerequisite: *BBA 1103 Fundamentals of Financial Accounting*
BAC 2101 Fundamentals of Managerial Accounting

Accumulation and recording of accounting data for business fi ms with multinational presence, including analysis and reporting of these by function, products, product lines and by country/location for proper presentation of operational results to top management, and update of International financial Reporting Standard- -IFRS , interpretation of IFRS and accounting applied in Asian countries

BAC 4607 **Advanced Accounting I** **3 (3-0-6)**
Prerequisite: *BAC 3602 Intermediate Accounting I*
BAC 3603 Intermediate Accounting II

Specific accounting procedures: joint venture, consignment sale, installment sale, real estate, construction contract, funds accounting, not for profits organization, home office and branch accounting for both domestic and foreign countries, accounting procedures regarding currency exchange, accounting policy, change in accounting estimate, correction of errors, and preparation of financial statements from incomplete records.

BAC 4608 **Advanced Accounting II** **3 (3-0-6)**
Prerequisite: *BAC 3602 Intermediate Accounting I*
BAC 3603 Intermediate Accounting II

Accounting principles and methods for business combination, investment in associated and subsidiary companies, preparation of consolidated financial statements, statement of realization and liquidation, accounting for statement of affairs, receiverships, accounting for foreign currency translation, accounting for trouble debt restructuring, preparation statement of change in stockholders' equity, comprehensive income statements, and statement of cash flows for both separated and consolidated statements

BAC 4609 **Accounting Theory** **3 (3-0-6)**
Prerequisites: *BAC 3602 Intermediate Accounting I*
BAC 3603 Intermediate Accounting II

Evolution, structure, and concept of accounting, emphasis on comprehensive theories with reference to design of holistic accounting systems, definitions and nature of the accounting and accounting theories, theory verification, accounting history, alternative accounting theories and the role of theories in financial accounting and standard setting in assets, liabilities, owner's equity, revenues including information disclosure in financial statements p eparation

BAC 4611 **Seminar in Accounting** **3 (3-0-6)**
Prerequisite: *BAC 4607 Advanced Accounting* I

Discussion and analysis of using accounting conceptual framework and standards as guidelines for practice, contemporary, new, current, interesting accounting issues, updating new accounting standards, rules, regulations related to generally accepted accounting principles in both international and national levels, concepts and principles of code of conduct, code of best practice, and code of accounting professional ethics, practical problems in field of financial accounting, managerial accounting and related field, using case study, academic pape , article, and field esearch.

BAC 4612 **Accounting for Specific Enterprise** **3 (3-0-6)**
Prerequisite: *BAC 3602 Intermediate Accounting I*
and BAC 3603 Intermediate Accounting II

Characteristics of a specific enterprise. Principles and financial accounting practices, tax accounting, accounting systems, and internal control systems for assets, liabilities, owner's equities, and expenses. Performance reporting, presentation of financial position and disclosure for service, hospitality and tourism, agriculture business, logistics business and other interested business.

BAC 4614 **T ax Planning** **3 (3-0-6)**
Prerequisite: *BAC 3614 Taxation I*
and BAC 3615 Taxation II

Taxation planning for personal income tax, corporate income tax, withholding tax, value-added tax, and other types of taxes for paying tax accurately under revenue codes, and responsibility for society

BAC 4615 **Seminar in Taxation** **3 (3-0-6)**
Prerequisite: *BAC 3614 Taxation I*
and BAC 3615 Taxation II

Discussion and analysis of interesting taxation topics based-on case studies, articles, and other related papers in Thailand and other countries, including a set of final taxation verdicts and widespread condemnation introduced by Central Tax Court of Thailand

BAC 4616 **Business and Accounting Profession Ethics** **3 (3-0-6)**
Prerequisite: *BAC 3644 Internal Control and Internal Audit*

Introduce professional ethics in the accounting and business, discuss the fundamental ethical issues of business and society, roles and responsibilities of the accounting and auditing profession, ethical behavior by management, including legal and professional guidelines that address the ethical concerns of society.

BAC 4634 **Seminar in Management Accounting** **3 (3-0-6)**
Prerequisite: *BAC 3633 Cost Management*

Problems concerning the cost accounting system design, relationship, understanding, and cooperation from other work units involved in data collection and analysis for the purpose of designing a cost accounting system, as well as problems arising from the application of cost accounting concepts to various work systems

BAC 4641 **Problems in Auditing** **3 (3-0-6)**
Prerequisite: *BAC 3643 Auditing*

Practices and problems in auditing, use of accounting principles in auditing financial statements, patterns for different types of industries, and statements of certified public accountant institutes that often raise important problems for accountants to consider, using case study analysis in teaching and learning

BAC 4643 **Seminar in Auditing** **3 (3-0-6)**
Prerequisite: *BAC 4641 Problems in Auditing*

Review of auditing problems, principles and practices in auditing accounts, legal aspects in auditing, and other related topics including the current issues related to auditing

BAC 4645 **Forensic Accounting and Fraud Auditing** **3 (3-0-6)**
Prerequisite: *BAC 3643 Auditing*
and BAC 3644 Internal Control and Internal Audit

Study of fundamental concept and practice of forensic accounting, including definition and classification, nature of fraud, characteristics of persons who commit fraud and their motivation, Meaning, motivation and indicator of financial statements fraud, scope, duty and responsibility for fraud auditor, and responsibilities of the executive committee and related party for financial statement fraud and other frauds. Prevention and controlling of financial statement frauds. Techniques and methodology in forensic auditing.

BAC 4646 **Accounting Information Systems** **3 (3-0-6)**
Prerequisite: *BAC 3643 Auditing*
BAC 3644 Internal Control and Audit

Nature, elements and procedures of the accounting information system including the rational data base concepts and design, system development and documentary techniques as well as the computer based information systems controls, computer fraud and its security, the design of data flow diagrams and system flowchart, accounting cycle of various transactions such as revenue, expenditure and production cycle, payroll cycle and reporting system.

BAC 4647 **Accounting Software Packages** **3 (3-0-6)**
Prerequisite: *BDM 2111Introduction to Management Information Systems*
BAC 4646 Accounting Information Systems

Utilization of computer software applications in accounting, including the systems of general ledger, budgeting, purchasing, selling, inventory, payroll, financial reporting and other means of reports, process of using software applications from the designing of the chart of accounts, entering data, as well as the construction of financial and management reports available for the needs of management for decision-making.

BAC 4648 **IT Auditing** **3 (3-0-6)**
Prerequisites: *BAC 3643 Auditing*
BDM 2111Introduction to Management Information Systems

Professional auditing work in terms of examining and analyzing computerized financial and nonfinancial operations in an enterprise to ensure the integrity and reliability of the computerized systems, understanding and appreciation of fundamental concepts of EDP audit, computer audit tools and techniques used in EDP audit, importance of control and audit of mini- and micro-computer systems, EDP controls, and concurrent auditing techniques.

BAC 4652 **Accounting Information System Development and Implementation** **3 (3-0-6)**
Prerequisite: *BAC 4646 Accounting Information System*

Concept and theory of development and implementing accounting information system for performance measurement and evaluation, measurement techniques in managerial accounting tools, value based management by applying accounting information

BAC 4653 **Accounting Information System Analysis and Design for ERP Program** **3 (3-0-6)**
Prerequisite: *BAC 4646 Accounting Information system*

A study of concepts, methods, and principles of prevailing and the future trend of Enterprise Resource Planning (ERP) as well as an accounting application in the ERP system. The course also includes selecting ERP software, introducing ERP to an organization, and factors that would affect the success of ERP system in a fi m. The course also focuses on applying ERP Software packages, and also study of sub-systems and how to integrate sub-systems into ERP.

BAC 4654 **Data Analytics and Automation in Accounting Information System** **3 (3-0-6)**
Prerequisite: *BAC 4646 Accounting Information System*

Definition and important of data analytic and automation, utilize digital internal audit by using analytic robotic process automation, and cognitive intelligence to improve audit quality and manage risk more effectively

BAC 4655 **Seminar in Accounting Information System** **3 (3-0-6)**
Prerequisite: *BAC 4646 Accounting Information System*

Discussion, analysis of problems and current topics relevant to technology applications in accounting information systems based on case studies, articles, and different types of documents in Thailand and other countries, Special problems in technology and accounting information systems, including professional ethics.

BAC 4669 **Accounting Internship** **3 (135 Hours)**
Prerequisites: *Senior standing (Accounting Major) and Completion of at least 100 credits*

Accounting field work practice in organization of at least 135 hours, providing opportunity to students to gain knowledge and skills from the real-world of Accounting profession, application of accounting theory and concept, enhancing competencies in analyzing, synthesizing and problem solving in accounting profession under the actual situation

BBA 1001 **Business Exploration** **3 (3-0-6)**

This is an introductory business course to explore different aspects of business including fundamental principles of organization, legal forms of business ownership, business activities concerning management, production, marketing, accounting, and finance. Business activities in practice and business potential exploration are designed as learning activities of this course.

BBA 1002 **Microeconomics** **3 (3-0-6)**

Microeconomic concepts and theories in making decisions at individual and market levels focusing on pricing mechanism, demand and supply analysis, elasticity, market equilibrium, consumer behavior, costs, productivity, profit-maximization, market structures, and the applications of microeconomic theories in business settings.

BBA 1003 **Introduction to Microeconomics and Personal Finance** **3 (3-0-6)**

Basic microeconomic concepts and theories, and their applications in personal finance and business settings. Topics include pricing mechanism, demand and supply analysis, elasticity, market equilibrium, consumer behavior, costs and profit-maximization, market structures, budgeting, consumption and income smoothing, saving and investment, and inter-generational wealth transfer and retirement planning.

BBA 1101 **Seminar in Business I** **1 (1-0-2)**

Provide opportunities for new business students to get exposed to various perspectives of business fi ms.

BBA 1102 **Data and Information Literacy** **3 (2-2-5)**

Fundamental concepts and hands-on learning of data and information literacy. Exploratory data analysis. Identification, location, evaluation, usage of info mation for problem at hand, and data privacy issues.

BBA 1103 **Fundamentals of Financial Accounting** **3 (3-0-6)**

Basic accounting conceptual framework, theory and procedures, definition, purpose, usefulness, limitation of accounting information including analysis of business transactions, using basic double-entry system in recording process to complete the accounting cycle: journalizing, posting to the ledgers and preparation of trial balance, adjusting entries, worksheets and closing entries, as well as special journals and preparation of basic financial statements and also including basic accounting theory pertaining to accounting for service and merchandising fi ms: cash, receivable, merchandise inventory, plant assets, natural resources, intangible assets, investments, liabilities, owner's equity, and principle of voucher system.

BBA 1104 **Fundamentals of Marketing** **3 (3-0-6)**
Prerequisite: *BBA 1001 Business Exploration*

Basic concepts of marketing consist of the components of marketing mix. The course content includes the basic knowledge of consumer behavior, target markets, product strategies, pricing strategies, channels of distribution strategies, integrated marketing communications strategies and the uses of information technology in marketing.

BBA 2001 **Human Behavior** **3 (3-0-6)**

Basic psychological factors that relate to business specifically exploring concepts and theories in social psychology, behavioral sciences, cultural environment and leadership as theories in social psychology, behavioral sciences, cultural environment and leadership as motivation, skills development, performance appraisal and organizational planning that help in finding solutions to organizational, business and social problems.

BBA 2002 **Economic and Financial Environment** **3 (3-0-6)**
Prerequisite: *MA 1200 Mathematics for Business*

Overall picture of economic and financial environment: macroeconomics such as measuring national income, business cycle, unemployment, inflation, AD-AS model, monetary system, open-economy macroeconomics as well as financial environment including financial intermediaries, financial markets, financial instruments, saving-investment process, financial risk and return, stock and bond valuation, financial statement analysis, and int oduction to personal wealth management.

BBA 2101 **Fundamentals of Managerial Accounting** **3 (3-0-6)**
Prerequisite: *BBA 1103 Fundamentals of Financial Accounting*

Role that managerial accounting plays in servicing informational needs of managers in planning, organizing and controlling through study of systematic structuring of business decisions and identifying the information relevant to decision making, profit planning and budgeting, cost-volume-profit analysis, responsibility accounting, preparation statement of cash flows and segment eport

BBA 2102 **Organization and Management** **3 (3-0-6)**
Prerequisite: *BBA 1001 Business Exploration*

Importance of theories of organization and management in traditional perspectives and contemporary perspectives. Functions of management are emphasized including organizational strategy, organizational structure, human capital management, motivation and leading people in organization and controlling process and strategy.

BBA 2103 **Corporate Finance** **3 (3-0-6)**
Prerequisite: *BBA 2002 Economic and Financial Environment (for BBA students)*
BBA 1003 Introduction to Microeconomics and Personal Finance (for Arts students)
BEC 1201 Macroeconomics I (for Economics students)
BEC 1301 Foundations of Mathematics and Logic (for Economics students)

Introduction to corporate financial management and a comprehensive overview of managerial perspectives for financial managers in making effective as well as ethical investment and financing decisions, including time value of money, risk and return, cost of capital, valuation of stocks and bonds, project evaluation using capital budgeting decision-analysis tools, risk analysis in project evaluation, impact of financial leverage on cost of capital and valuation, dividend policy, financial statement analysis, working capital management as well as the use of MS-Excel functions in helping calculating and making financial decisions

BBA 2104 **Global Strategy and Communication** **3 (3-0-6)**
Prerequisite: *BBA 2002 Economic and Financial Environment*

An introductory course to the global business environment, provides a systematic understanding of globalization and its implication to businesses, the principles, practices and processes of conducting businesses in a globalized environment, introduces decision making tools and framework to formulate strategic decisions for businesses. Emphasizes on developing soft skills in making professional presentations and communication in a competitive multicultural global setting. The course is designed to be delivered in a blended format which involves a combination of in-class activities and online interactions.

BBA 2105 **Operations and Supply Chain Management** **3 (3-0-6)**
Prerequisite: *BBA 2102 Organization and Management*

Basic concepts of operations management, productivity measurement, operations and process selection, forecasting, capacity planning, quality management, inventory management, project management, supply chain management, and environmental sustainability.

BBA 2106 **Seminar in Business II** **1(1-0-2)**
Prerequisite: *BBA1001 Business Exploration (for Economics Students)*

Prepare undergraduate business students to develop business skills to compete successfully in globalized world of business. The topics cover in this course will be related to career preparation, corporate social responsibility, and current issues in global business.

BBA 3101 **Business Research** **3 (3-0-6)**
Prerequisite: *SA 2001 Business Statistics II*

Business research for business decision-making and problem-solving. The course covers the necessary skills and requirements for a problem discovery, literature review, scope of research and relevant methods and techniques to design a research project, research tool, qualitative and quantitative data collection, data processing, data analysis and presentation of data in appropriate report format.

BBA 3410 - 3419 **Law for Business** **3 (3-0-6)**

Contemporary concepts, approaches, applications and practices of law

BBA 3420 - 3429 **Health and Wellness for Business** **3 (3-0-6)**

Contemporary concepts, approaches, applications and practices in health and wellness

BBA 3430 - 3439 **Biotechnology for Business** **3 (3-0-6)**

Contemporary concepts, approaches, applications and practices in biotechnology including agricultural and food applications

BBA 3440 - 3449 **Digital Technology for Business** **3 (3-0-6)**

Contemporary concepts, approaches, applications and practices in digital technology

BBA 3450 - 3459 **Engineering Technology for Business** **3 (3-0-6)**

Contemporary concepts, approaches, applications and practices in engineering technology

BBA 3460 - 3469 **Design for Business** **3 (3-0-6)**

Contemporary concepts, approaches, applications and practices in design including architecture, interior design, industrial design and fashion design.

BBA 3470 - 3479 **Creative Arts for Business** **3 (3-0-6)**

Contemporary concepts, approaches, applications and practices in creative arts including music, dance, drama, photography, graphic design, visual arts and creative writing

BBA 3480 - 3489 **Language and Culture for Business** **3 (3-0-6)**

Contemporary concepts, approaches, applications and practices in language, literature, history culture and the economy

BBA 4101 **Entrepreneurship** **3 (3-0-6)**
Prerequisite: *Senior standing (118 credits)*

An interdisciplinary course to provide the overview of business theories and business concepts, including important topics to develop business plan project such as feasibility analysis, strategic plan, marketing plan, operational plan, management plan and financial plan

BDM 3201 **Digital Business** **3 (2-2-5)**

Fundamental concepts and hands-on learning of software-driven, data-driven, and AI-driven digital transformation. Business process management, intelligent business process management, business process automation, blockchain and financial technology, business analytics, cloud computing, Internet of Things (IoT), 5G, artificial intelligence (AI) and machine learning, enterprise resource planning (ERP), robotic process automation (RPA), and cybersecurity.

BDM 3202 **Digital Commerce** **3 (2-2-5)**

Fundamental concepts and hands-on learning of electronic commerce and mobile commerce. Platforms, marketplaces, channels, website, payment systems, enterprise resource planning, digital marketing, customer relationship management, customer experience management, and cybersecurity.

BDM 3203 **Cybersecurity** **3 (2-2-5)**

Fundamental concepts and hands-on learning of cybersecurity for business and users. Threats, attacks, and vulnerabilities. Technologies and tools, architecture and design, identity and access management, risk management, cryptography, public key infrastructure (PKI), and Quantum cryptography.

BDM 3204 **Enterprise Resource Planning** **3 (2-2-5)**

Fundamental concepts and hands-on learning of enterprise resource planning (ERP) systems for users. Business process management, human resource management, inventory management, sales and marketing management, purchasing and procurement management, financial and accounting management, warehouse and production management, and customer relationship management.

BDM 3205 **Information Systems Strategy, Management, and Acquisition** **3 (2-2-5)**

Fundamental concepts and hands-on learning of information systems strategy, management, and acquisition. Exploration of issues and approaches toward acquisition, development, and implementation of plans and policies to achieve efficient/e fective information systems. Defining enterprise information systems infrastructure. Supporting strategic, administrative, and operational organizational needs. Assessing information systems infrastructures and emerging technologies to understand how they effects on organizational strategy. Information systems project management, the systematic methodology for initiating, planning, executing, monitoring and controlling, and closing projects. Processes, methods, techniques, and tools that organizations use to manage their information systems projects, and project management and collaboration software.

BDM 3301 **Data Analytics Fundamentals** **3 (2-2-5)**

Fundamental concepts and hands-on learning of Python programming and relational database management systems. Python interactive development environments, packages, data structures, mathematical operations, functions, control statements, graphics, and web scraping. Data cleansing, descriptive statistics, and multivariate models. Relational database management systems, structured query language (SQL), and text file

BDM 3302 **Data Management** **3 (2-2-5)**

Fundamental concepts and hands-on learning of data management. Data management platform, data governance, data architecture, data modeling and design, database and storage management, structured query language (SQL), data normalization and denormalization, data security, data integration and inter-operability, documents and content management, data warehousing and business intelligence, metadata management, and data quality.

BDM 3303 **Data Mining** **3 (2-2-5)**

Fundamental concepts and hands-on learning of data mining. Business understanding, data understanding, data preparation, modeling, evaluation, and deployment. Association, classification, and clustering.

BDM 3304 **Systems Analysis and Design** **3 (2-2-5)**

Fundamental concepts and hands-on learning of systems analysis and design. Processes, methods, techniques, and tools for analysis of business requirements, project feasibility, system requirements, and conversion of these requirements into detailed system requirements and high-level design specifications. Structured software development life cycle (SDLC), object-oriented analysis and design (unified process/ UML), and agile methods.

BDM 3305 **Big Data Analytics** **3 (2-2-5)**

Fundamental concepts and hands-on learning of big data analytics and cloud computing technologies. Big data platforms, tools, collection and ingestion, storage, analysis, preprocessing, processing, visualization, and deployment at scale.

BDM 3401 **Artificial Intelligence (AI** **3 (2-2-5)**

Fundamental concepts and hands-on learning of artificial intelligence, machine learning, and computer vision. Challenges, approaches, tools, and applications in business, management, and economics.

BDM 3402 **Blockchain and Financial Technology** **3 (2-2-5)**

Fundamental concepts and hands-on learning of blockchain and financial technology. Emerging platforms, applications, cryptocurrencies, limitations, and opportunities. Applications in insurance, trading, banking services, and risk management.

BDM 3403 **Robotic Process Automation** **3 (2-2-5)**

Fundamental concepts and hands-on learning of robotic process automation development. Business process automation, recorder, development studio, plugin/extension, bot runner, and control center. Architecture, usability, integration, exception handling, security, configuration features, deployment features, and documentation.

BDM 3404 **Data Structures and Algorithms** **3 (2-2-5)**

Fundamental concepts and hands-on learning of Python programming, data structures, and algorithms. Python interactive environment, packages, data structures, mathematical operations, functions, control statements, and graphics.

BDM 3405 **Database Systems** **3 (2-2-5)**

Fundamental concepts and hands-on learning of relational database management systems and NoSQL databases. Data modeling and implementation, structured query language (SQL), data normalization and denormalization, data integrity, concurrency control, and database administrator. Column-oriented, key-value, document, and graph databases.

BDM 3406 **Mobile Application Development** **3 (2-2-5)**

Fundamental concepts and hands-on learning of mobile application development. Mobile application frameworks, user interface design, SDKs, interactivity communication, integration with back-end systems, user authentication and authorization, data services, geo-location, multimedia, verification and validation, security, version-control systems, and business development plan.

BDM 3407 **Web Application Development** **3 (2-2-5)**

Fundamental concepts and hands-on learning of web application development. Web frameworks, web development techniques, n-tiers architecture, web development life cycle, version-control systems, and container technology.

BDM 3408 **Blockchain Development** **3 (2-2-5)**

Fundamental concepts and hands-on learning of blockchain programming. Structures, emerging platforms, applications, cryptocurrencies, smart contracts, and financial services

BDM 3409 **Game Design and Development** **3 (2-2-5)**

Fundamental concepts and hands-on learning of game design and development. Design, implementation, testing, and documentation of 2D and 3D games using game engines and augmented reality (AR).

BDM 3410 **Low-code Development** **3 (2-2-5)**

Fundamental concepts and hands-on learning of low-code development. Rapid graphical user interface (GUI)-based software creation, configuration, and evaluation. Platforms, development, applications, security, and compliance.

BDM 3411 **Software Engineering** **3 (2-2-5)**

Fundamental concepts and hands-on learning of software engineering. Models, methods, requirement engineering, software design, software construction, software testing and test automation, software maintenance, software configuration management, software development process, and software quality.

BDM 3412 **UI/UX Design** **3 (2-2-5)**

Fundamental concepts and hands-on learning of a user interface (UI) and user experience (UX) design. UI design focuses on how the product is laid out, the layout of each screen, developing a style guide, and ensuring that consistent design language is used to maximize usability and the user experience. UX design focuses on how the product feels, ways to solve specific user problems and, ensuring the application flows logically from one step to the next across the application. UX design principles for augmented reality and virtual reality.

BDM 3413 **eSports** **3 (2-2-5)**

Fundamental concepts and hands-on learning of eSports. eSports platforms, players, streamers, teams, competitions, titles, and publishers.

BDM 3414 **Customer Experience Management** **3 (2-2-5)**

Fundamental concepts and hands-on learning of customer relationship management (CRM) and customer experience management (CXM). Understand, anticipating, and managing the needs of an organization's current and potential customers and the interactions between an organization and customers from the customers' perspective.

BDM 3415 **Business Intelligence** **3 (2-2-5)**

Fundamental concepts and hands-on learning of business intelligence and analytics. Online analytical processing, reporting, automated monitoring, dashboard, and query. Data analysis, data mining, text mining, predictive modeling, multivariate testing, forecasting, and optimization.

BDM 3416 **Data Engineering** **3 (2-2-5)**

Fundamental concepts and hands-on learning of data engineering. Python programming, Unix shell script, web scraping, feature engineerig, real-time data, batch data, data reservior, data lake, data pipeline, structure query language (SQL), and persistence storage.

BDM 3417 **Data Storytelling** **3 (2-2-5)**

Fundamental concepts and hands-on learning of data visualization and data storytelling. Value of and techniques in data and information visualization. Data insights communication.

BDM 3418 **Digital Marketing Analytics** **3 (2-2-5)**

Fundamental concepts and hands-on learning of digital marketing technologies and analytics. Lead generation, capture, and nurturing. Search engine optimization (SEO), search engine marketing (SEM), social media marketing, pay-per-click advertising, website, landing pages, forms, customer relationship management, marketing automation platform, web analytics platform, email marketing platform, social media campaigns, email drip campaigns, and
personalization.

BDM 3419 **Text Mining** **3 (2-2-5)**

Fundamental concepts and hands-on learning of text mining. Information retrieval, natural language processing, name-entity recognition, association, sentiment analysis, and document clustering.

BDM 3420 **Cloud Computing** **3 (2-2-5)**

Fundamental concepts and hands-on learning of cloud computing. Cloud configurations and deployment, management, maintenance, security, and troubleshooting.

BDM 3421 **Internet of Things** **3 (2-2-5)**

Fundamental concepts and hands-on learning of Internet of Things (IoT). Frameworks, standards, applications, trends, regulation, privacy and security, business functions, market drivers and barriers, and business environments.

BDM 3422 **IT Infrastructure** **3 (2-2-5)**

Fundamental concepts and hands-on learning of information technology infrastructure. Onpremises and cloud infrastructure. Computer components, system software, computer network, and security.

BDM 3423 **Penetration Testing** **3 (2-2-5)**

Fundamental concepts and hands-on learning of penetration testing. Computer networking, planning and scoping, information gathering and vulnerability identification, attacks and exploits, penetration testing tools, reporting, and communication.

BDM 3481 **Digital Business Internship I** **3 (0-30-0)**

Exploration of the career interests and application of the knowledge and skills learned in the classroom in a work setting. The course also supports these work experiences by fostering personal reflection as well as professional growth and development.

BDM 3482 **Digital Business Internship II** **3 (0-30-0)**

Exploration of the career interests and application of the knowledge and skills learned in the classroom in a work setting. The course also supports these work experiences by fostering personal reflection as well as professional growth and development.

BDM 3498 **Business Analytics in Real Estate** **3 (2-2-5)**
Prerequisite: *BDM 3301 Data Analytics Fundamentals*
BDM 3303 Data Mining
BRE 3201 Real Estate Business
BRE 3205 Real Estate Development

The application of business data, and using statistical and machine learning models to transform data into business insights. The main objective is to determine which business datasets are useful and how they can be utilized to solve problems and increase efficiency, productivity, and revenue in business operation.

BDM 3499 **Business Analytics and Global Strategies** **3 (2-2-5)**
Prerequisite: *BDM 3301 Data Analytics Fundamentals*
BDM 3303 Data Mining
BIB 3204 International Management
BIB 4209 International Strategic Management

The application of business data, and using statistical and machine learning models to transform data into business insights. The main objective is to determine which business datasets are useful and how they can be utilized to solve problems and increase efficiency, productivity, and revenue in business operation.

BDM 4400 - 4409 **Selected topics in Digital Business Management** **3 (2-2-5)**

Selected topics in technology in business. Topics are subject to change through the advancement of technology.

BEC 1101 **Microeconomics I** **3 (3-0-6)**

Allocation of scarce resources in market economies, theory of consumption and production, demand, supply, market equilibrium, production, cost, roles of fi ms in various market structures, externalities and efficiencie

BEC 1201 **Macroeconomics I** **3 (3-0-6)**

Measurement and determination of income and output, inflation, unemployment and economic growth, money supply, banking system and the central bank, government spending, taxation and deficits, and international trade, exchange rates and the balance of payments

BEC 1301 **Foundations of Mathematics and Logic** **3 (3-0-6)**

A naive concept of a set, set operations and their properties, and Venn diagrams. Natural, rational and real numbers, and countable and uncountable sets. Propositional logic, logical equivalence, and logical inference. Introduction to algorithms, recursive algorithms, brute-force and randomised algorithms, and computational complexity. Solving systems of linear equations, and the concept of equivalent systems. Factorisation of polynomials, and solving polynomial equations and inequations. The concept of a function, and linear, polynomial, rational, exponential and logarithmic functions. Compound interest, future and present values of multiple payments, and equations of value.

BEC 1302 **Basic Probability Theory and Statistics** **3 (3-0-6)**

Introduce probability and statistical theory and techniques to analyze univariate business and economic data. In particular, depicting and summarizing data using descriptive statistics such as central tendency, variation, shape, making valid generalizations from samples through statistical inference such as hypothesis testing and confidence interval construction; relating real word data with commonly used probability distributions. Theoretical concepts include probability, probability distribution, expected values, sampling distribution, estimation, law of large numbers, central limit theorem, and estimator properties such as unbiasedness, efficiency and consistency

BEC 1401 **Thinking as an Economist** **3 (3-0-6)**

How economists analyze real-world problems. Topics include Six Principles of Economics: Individuals act optimally, Competition works, Measurement matters, No free lunch, Government intervention with caution, Correlation is not causality. Three core concepts: rationality, marginal analysis, and optimization

BEC 2101 **Microeconomics II** **3 (3-0-6)**
Prerequisite: *BEC 1101 Microeconomics I*
BEC 2301 Calculus I

Theory of consumer choice: analysis of consumer preference and utility maximization, Theory of production: production maximization, cost minimization and factor demands, analysis of general equilibrium and welfare economics.

BEC 2102 **Economic Decision Making for Management** **3 (3-0-6)**
Prerequisite: *BEC 1401 Thinking as an Economist (for BBA Students)*
BEC 1101 Microeconomics I (for Economics Students)

The course focuses on management decision making via applied economic tools and techniques, applies systematic frameworks for determining business area selection, choice of product and diversification, outsourcing, optimum output and price, industry analysis, technology choice, sales promotion, incentives to motivate executives and workers, strategic interaction with competitors, and building and sustaining the fi m's competitive advantage.

BEC 2200 **Introduction to Economics** **3 (3-0-6)**

Economic concepts and theories in making decisions at individual, market, and aggregate levels focusing on consumer decision, pricing mechanism, demand and supply analysis, market equilibrium, theory of the fi m, perfectly and imperfectly competitive market structures, national income accounts, unemployment, inflation, and fiscal and monetary policie

BEC 2301 **Calculus I** **3 (3-0-6)**
Prerequisite: *BEC 1301 Foundations of Mathematics and Logic*

Common methods of calculus for single-variable real functions. Limits, Continuity, Differentiation, Implicit Differentiation, Newton's Numerical Method, Taylor's Theorem with Approximations, Convex and Concave Functions, Simple Minimisation and Maximisation Problems and Indefinite Integration with Simplest Differential Equations

BEC 2302 **Calculus II** **3 (3-0-6)**
Prerequisite: *BEC 2301 Calculus I*

Riemann integral and its application to Consumers' Surplus and Producers' Surplus. Introduction to matrices, determinants and quadratic forms for the analysis of real functions of several variables. Partial Differentiation, Gradient, Linear Approximation, Convex and Concave Functions, Hessian matrix, Optimisation without Constraints and with Equality Constraints using Lagrange Multipliers, and Double Integral with applications to surface area and volume.

BEC 2303 **Fundamentals of Econometrics** **3 (3-0-6)**
Prerequisite: *BEC 1302 Basic Probability Theory and Statistics*

Introduction to statistical techniques of estimation and its applications in business and economics such as assessing the impacts of business strategies and policies on fi m performance; practical issues when analyzing bivariate and multivariate business and economic data; business and economics applications of linear regression models; regression model specification such as, the use of different functional forms and dummy variables; hypothesis testing; and the application of econometric methods to analyze data using software packages.

BEC 2304 **Business and Economic Forecasting** **3 (3-0-6)**
Prerequisite: *BEC 2303 Fundamental of Econometrics*

Introduction to statistical techniques for analyzing time series business and economic data and forecasting their future values. Topics include modeling and forecasting trend and seasonality; characterizing and forecasting cycles; models and methods such as AR, MA, ARCH, Box-Jenkins, and VAR; evaluating and combining forecasts. Students need to use software packages in data analysis and forecasting.

BEC 2401 **Information Literacy Skills** **3 (3-0-6)**
Prerequisite: *BEC 1301 Foundations of Mathematics and Logic*

Practical issues in the creation, organization, dissemination and use of information in business and economics. Topics include locating and evaluating information such as literature and data; sampling design; questionnaire and survey design; database design and query; data cleaning; literature reviews; data visualization and presentation; professional presentation; and information ethics.

BEC 3101 **Firms, Competition and Market Structure** **3 (3-0-6)**
Prerequisite: *BEC 2102 Economics Decision Making for Managers*

How fi ms organize their operations and how external environments affect their decisions. Topics include the organization and structure of production; market structure; measurement of market concentration and industry analysis; competition issues, such as cartels and mergers; antitrust policy, and analysis of regulatory consequences.

BEC 3102 **Competitive Strategy** **3 (3-0-6)**
Prerequisite: *BEC 3101 Firms, Competition and Market Structure*

How fi ms engage in strategic behaviors and how such behaviors affect the industry and the economy. Topics include price strategies, product differentiation, branding, advertising, asymmetric information, markets for technology, innovation, intellectual property, licensing, delegated research and development, technology standards, and entrepreneurship.

BEC 3201 **Macroeconomics II** **3 (3-0-6)**
Prerequisite: *BEC 1201 Macroeconomics I*

Modern macroeconomic theories such as Solow and Endogenous Growth Models, Keynesian Model, IS-LM Model, and AD-AS Model including Philips Curve and also illustrates implications of these theories on fiscal and monetary policies

BEC 3301 **Computer Tools for Economic Analysis** **3 (2-2-5)**
Prerequisite: *BEC 2401 Information Literacy Skills*

Introduction to commonly used programming languages in economic analysis. Topics include basic elements such as syntax and data structures; basic programing instructions such as input, output, arithmetic, conditional execution, and repetition or loop, functions, and plots. Preparation to deepen student programming skills and tackle other languages for computing.

BEC 3302 **Quantitative Methods in Economics** **3 (3-0-6)**
Prerequisite: *BEC 2302 Calculus II*

Systems of linear equations, matrix and vector operations, linear dependence, subspaces and dimensions, determinants, cramer's rule, positive and negative definite matrices, eigenvalues and eigenvectors, applications of linear algebra in economics, unconstrained and constrained optima for multivariate functions and techniques to solve problems in economics, simple difference and differential equations, data mining algorithms: association, classification, and clustering

BEC 3303 **Data Analysis in Business and Economics** **3 (3-0-6)**
Prerequisite: *BEC 2304 Business and Economic Forecasting*
BEC 3301 Computer Tools for Economic Analysis

Practical issues in analyzing economic and business data. In particular, detecting real world data issues when using classical regression analysis: multicollinearity, influential data, heteroscedasticity, autocorrelation, measurement errors, endogeneity and non-linearity as well as approaches to address these issues such as instrumental variable, logit and probit regressions, and panel data estimation. Consumer behavioral analysis techniques including factor analysis, cluster analysis, conjoint analysis and discriminant analysis.

BEC 3401 **Professional Communication in Economics** **3 (3-0-6)**
Prerequisite: *BG 2001 English IV*

This course aims to equip students with the skills to formulate and assess arguments and foster competence to communicate within the professional and academic circle. The course will develop students' language and technical skills through reading, reviewing academic papers, case studies, reports, and journals. The course will also encourage students to become more confid nt and interested in the etiquette and protocol of professional communication through writing workshops, discussions, peer review and editing, and oral presentations.

BEC 3402 **Ethics and Economics** **1 (1-0-2)**
Prerequisite: *BEC 1101 Microeconomics 1*
BEC 1401 Thinking as an Economist

An introduction of the role of ethical reasoning in economics, more specifically, how normative values and ethical reasoning underlie both the science of economics and the operation of the economy. Key topics include trade-offs between profits and more qualitative values such as fairness, honesty or altruism, how conventional economic optimization "marginal cost-benefit analysis" leads to ethical concerns, ethics as a means to increase trust and thereby reduce transaction costs, and constructive responses to cope with natural and social hazards, and allocate limited social resources.

BEC 3403 **Monetary Economics** **3 (3-0-6)**
Prerequisite: *BEC 3201 Macroeconomics II*

Analysis of the role of money in the economy, theory of money, importance of the central bank and the role of monetary policy in stabilizing the economy as well as the economic crisis models.

BEC 3404 **Labor Economics** **3 (3-0-6)**
Prerequisite: *BEC 2101 Microeconomics II*
BEC 2303 Fundamentals of Econometrics

I ntroduction to the theory an d practice of labor economics, determinants of wage rates and employment levels in labor market, contemporary labor policy issues, traditional model of labor demand and labor supply, marginal productivity theory, development of human resources, human capital theory and labor relation.

BEC 3405 **Economic Valuation of Projects** **3 (3-0-6)**
Prerequisite: *BEC 2101 Microeconomics II*
BEC 2304 Business and Economic Forecasting

Theory and methods for estimating the economic value of environmental and natural resources. Benefit cost analyses as inputs in decision making processes. Theory and econometrics of non-market valuation through hands-on applications of methods and real datasets. The valuation of non-market resources. Property rights to ecosystems, basic categories ecosystem functions and services, methods for valuing ecosystem functions and services, preferential methods, hedonic price method, travel cost method, and contingent value method.

BEC 3406 **Public Economics** **3 (3-0-6)**
Prerequisite: *BEC 2101 Microeconomics II*
BEC 2304 Business and Economic Forecasting

Economic analysis of public policy issues, development of up-to-date analytical tools and their application to key policy issues relating to the spending, taxing and financing activities of gove nment.

BEC 3407 **Economic Development in Historical Context** **3 (3-0-6)**
Prerequisite: *BEC 3102 Competitive Strategy*
BEC 2304 Business and Economic Forecasting

An introduction to how an economy develops through the lens of history. Attention is paid to utilizing historical data or anecdotes to evaluate core concepts in economics particularly as regards the determinants of economic wellbeing and the dynamics of market economies.

BEC 3408 **Economics of Sustainability** **3 (3-0-6)**
Prerequisite: *BEC 2101 Microeconomics II*
BEC 2304 Business and Economic Forecasting

Theoretical analysis with discussions on specific environmental policies as applied to water, air pollution, energy, climate change and human health issues, including the evaluation of environmental assets and choices of policy instruments, and the benefits and costs for intervention

BEC 3409 **International Finance** **3 (3-0-6)**
Prerequisite: *BEC 2101 Microeconomics II*
BEC 2304 Business and Economic Forecasting

International monetary theory, macroeconomics in open economy, balance of payments, foreign exchange market, exchange rate systems, theories of exchange rate determination, international financial markets and instruments, inte national macroeconomic policies.

BEC 3410 **Asset Pricing** **3 (3-0-6)**
Prerequisite: *BEC 2101 Microeconomics II*
BEC 2304 Business and Economic Forecasting

Fundamentals of modern financial theory and their applications to the corporate and financial mark such as capital budgeting, project evaluation, corporate investment and financing decisions, basi security analysis and investment management.

BEC 3411 **International Trade** **3 (3-0-6)**
Prerequisite: *BEC 2101 Microeconomics II*

Theories and policies of international trade, neoclassical trade theory and modern trade theory, absolute advantage versus comparative advantage, H-O Model, Standard Trade Model, Inter- and Intra- Industry Trade, instruments of trade policies, trade policies and strategies in both developing countries and advanced countries, and economic integration.

BEC 4001 **Internship** **3 (300 Hours)**
Prerequisite: *Department approval and Completion of 106 credits*

This course designed as a learning experience in which the student works in a business, educational, or professional setting, performing tasks related to economics.

BEC 4101 **Microeconomics III** **3 (3-0-6)**
Prerequisite: *BEC 2101 Microeconomics II*

Uncertainty, expected utility and risk aversion, adverse selection, moral hazard, Intertemporal decision making, static game, sequential game, Nash and subgame perfect equilibrium, pure and mixed strategies, repeated games.

BEC 4201 **Macroeconomics III** **3 (3-0-6)**
Prerequisite: *BEC 2302 Calculus II*
BEC 3201 Macroeconomics II

Concepts used in empirical and theoretical macroeconomics including advanced models that have recently been developed to explain recent economic issues. Topics include new Keynesian models, real business cycle models, overlapping generations models, the Solow growth model, first-generation endogenous growth models, and models with heterogeneous agents, financial frictions and labour market frictions.

BEC 4301 **Advanced Econometrics I** **3 (3-0-6)**
Prerequisite: *BEC 3303 Data Analysis in Business and Economics*

Understanding more advanced models and the related theories in econometrics. This course focuses in applying the theories developed to real-world data and interpret the estimation results in many different respects. Topics include instrument variables estimation, generalized method of moment, maximum likelihood estimation, limited dependent variable models, treatment effect and sample selection corrections, panel data methods, Monte Carlo simulations and bootstrap methods.

BEC 4302 **Advanced Econometrics II** **3 (3-0-6)**
Prerequisite: *BEC 4301 Advanced Econometrics I*

Advanced topics in econometrics. Topics include in-depth concepts in cross section, time series, panel, limited dependent variables, conditional quantile estimation, bootstrapping, large- and smallsample distribution theory, the use of asymptotic methods, generalized least squares, instrumental variables and the generalized method of moments, and maximum likelihood.

BEC 4303 **Applied Economics I** **3 (3-0-6)**
Prerequisite: *BEC 2101 Microeconomics II*
BEC 3201 Macroeconomics II
BEC 3303 Data Analysis in Business and Economics

Applied microeconomic theory. Topics cover economic models and analytical tools to understand and work on advanced problems and empirical implementations of the real world social and economic problems.

BEC 4304 **Applied Economics II** **3 (3-0-6)**
Prerequisite: *BEC 4303 Applied Economics I*

Further applied microeconomic theory developed from ECO 4303 course. Understand the in-depth analysis of recent economic issues including solutions.

BEC 4401 **Senior Project** **3 (3-0-6)**
Prerequisite: *BEC 3102 Competitive Strategy*
BEC 3303 Data Analysis in Business and Economics

Development of analytical and research skills integrating what students have learned in the program to conduct a project with an applied area of economics. Skills include literature review, research methodology, data collection and data analysis, and report writing.

BEC 4402 **Special Topics in Economics** **3 (3-0-6)**
Prerequisite: *BEC 2101 Microeconomics II*
BEC 3201 Macroeconomics II
BEC 3303 Data Analysis in Business and Economics

Topics in this course vary depending on current issues of interest. Topics will be selected by faculty availability or visiting scholar.

BEC 4403 **Honor Thesis** **3 (3-0-6)**
Prerequisite: *Department approval and Completion of 106 credits with GPA above 3.25*

A thesis course in which students conduct a thesis that involves the study in-depth of a specific economic problem with the thesis supervisor.

BEN 3001 **Entrepreneur and Innovation** **3 (3-0-6)**

An introduction to the concept and theory of entrepreneurship to understand the nature of entrepreneurship and the driving forces of new business success. Entrepreneurial design thinking process and business model development are introduced to develop an innovative and creative business model.

BEN 3201 **Innovation and Design Thinking** **3 (3-0-6)**
Prerequisite: *BBA 2102 Organization and Management*

Systematic approach to business innovation and creative problem solving that can be used in developing new products, new services and new organizations of business. Design thinking tools are introduced to have self-development to become innovative thinker and to uncover business opportunities.

BEN 3202 **Entrepreneurial Commercialization** **3 (3-0-6)**
Prerequisite: *BBA 1104 Fundamentals of Marketing*

Knowledge and experience in practical sales and marketing efforts for entrepreneurs and young start-up companies including tactical issues in marketing, sales, and customer acquisition management, marketing analysis, customer selection, channel selection and management, pricing strategies, and selling strategies.

BEN 3303 **Entrepreneurial Leadership** **3 (3-0-6)**
Prerequisite: *BBA 2102 Organization and Management*

Examining the relationship between entrepreneurship and the entrepreneurial leader's role in driving innovation and growth. The course will facilitate development of capabilities to adapt leadership approaches/practices in a variety of business and organizational contexts.

BEN 3304 **Project Management** **3 (3-0-6)**

Project planning procedure by considering factors in determining project objectives, setting of work system, allocation of resources, project feasibility analysis, matrix model organization, management techniques and operation procedures in accomplishing goal such as implementation, communication, coordination, controlling and evaluation of the project

BEN 3305 **Human Capital Management and Development** **3 (3-0-6)**
Prerequisite: *BBA 2102 Organization and Management*

Concepts for managing and developing a comprehensive set of functions for recruiting, training, and retaining workforce in organizations. Case studies and application of strategic competencies of employees in order to understand and maximize their value, talent, and contribution.

BEN 3406 **Legal Aspects and Intellectual Property of Entrepreneurship** **3 (3-0-6)**

Basic knowledge on the different types of intellectual property (IP); the type of assets that are best protected by each category of IP, their advantages and disadvantages, etc. It is therefore imperative that students who are future entrepreneurs be taught to identify where the risk of infringement of other people's IP assets lies and what must be done to minimize such risks.

BEN 3407 **Entrepreneurial Finance and Accounting** **3 (3-0-6)**

Integrated set of theories and application of finance and accounting for entrepreneurs are emphasized. Finance and accounting issues for entrepreneurs related to capital raising, short-term and long-term financial plan, financial management and managerial accounting e included.

BEN 3408 **Conflict and Change Managemen** **3 (3-0-6)**

Theories and practical issues of conflict and change management within organizations and how to carry out effective change programs by overcoming resistance to changes. Discussion for types of strategic change, leadership skills, and cultural change in organizations. Case studies for successful elements for conflict and change management a e provided for learning and discussion.

BEN 3409 **Organization Transition** **3 (3-0-6)**

Theories, concepts, philosophies, practices, and strategies which are relevant to the process of organization transition. A study of organizational size and organizational structure, organizational life cycle, and organic and mechanistic design. Case studies for successful organizational transition and evolution as well as for handling decline stage and methods of downsizing.

BEN 3410 **Entrepreneurship Practicum I** **3 (3-0-6)**

An integrative approach of experiential learning in entrepreneurial fi ms and/ or entrepreneurial businesses which is based on innovative business development. Opportunities are provided to learn and explore entrepreneurial theories and concepts in realistic entrepreneurial business.

BEN 3411 **Entrepreneurship Practicum II** **3 (3-0-6)**

An integrative approach of experiential learning in entrepreneurial fi ms and/ or entrepreneurial businesses which is based on innovative business development. Opportunities are provided to apply entrepreneurial theories and concepts on entrepreneurial activities in a well-structured and supportive environment.

BEN 4212 **Growth Mindset and Sustaining Organization** **3 (3-0-6)**

Definition and importance of growth and fixed mindset, developing the growth mindset, improving motivation and achievement through a growth mindset, building a culture that is willing to take risks and accept failure, driving commitment, determination, opportunity exploration and innovation, and positioning and moving the business and its people for growth, innovation, collaboration and sustaining through the growth mindset.

BEN 4213 **Digital Entrepreneurship** **3 (3-0-6)**

Fostering innovation and entrepreneurship to develop new digital business and leverage digital technologies to create new business opportunities. Business models and strategies with emerging digital technologies are focused and applied in project-based learning process.

BEN 4214 **Entrepreneurial Strategic Management** **3 (3-0-6)**
Prerequisites: *Senior standing*

Understanding the core strategic choices facing startups as well as ongoing businesses. It emphasizes learning theories, frameworks and techniques for helping innovating companies to develop a strategic focus and to survive within their rapidly changing environments.

BEN 4315 **Family Business Management** **3 (3-0-6)**

Importance of family business, dynamics of family business, relationship, leadership and communication issues in family business, management and governance of the family business, professionalism in family business, ownership legacy, succession, sibling rivalries management, wealth management concerns and innovation in family business.

BEN 4316 **Social Entrepreneurship** **3 (3-0-6)**

Social entrepreneurship is an innovative and rapidly changing business field in which entrepreneurs are using business methods to help solving social and environmental challenges. Through case studies, lectures, and student presentations, students will learn to think strategically and explore different opportunities with a socially conscious business mindset.

BEN 4417 **Research in Entrepreneurship** **3 (3-0-6)**
Prerequisites: *Business Research*

Qualitative and quantitative research methods in entrepreneurial research which include selecting relevant research topic in the entrepreneurial and business start-up area, defining the research questions, proposing the entrepreneurial constructs with sufficient theoretical background, developing the solid research tools, designing the appropriate data collection and data analysis methods, writing relevant research proposal/research report.

BEN 4418 **Current Issues in Entrepreneurship and Innovation** **3 (3-0-6)**
Prerequisites: *Senior standing*

Overview of theories and concepts in entrepreneurship and innovation management. Models, tools, methods and approaches related to entrepreneurship and innovation management are included through action learning process.

BEN 4419 **Operational Excellence, Collaboration and Partnership Management** **3 (3-0-6)**

Ideas and strategies for improving operational excellence and managing partnership and collaboration. Concepts of vertical and horizontal networking and information-sharing structure. New virtual network and outsourcing, effective partnership and collaboration with suppliers, customers, and technical developments for innovation are emphasized.

BEN 4420 **Creative Industries Entrepreneurship** **3 (3-0-6)**

Concepts, skills, knowledge, and ideas to start up a new creative entrepreneurship in any creative industries of the country, or to gain a new perspective as a corporate entrepreneur in existing entrepreneurial business in different industries. Creative industries that are in focus such as food and beverage, fashion, and health and beauty.

BEN 4421 **Venture Opportunity I** **3 (3-0-6)**

Interdisciplinary course designed to transform a business idea into real business, to create real product or service, to generate income from real customers and to learn the initial stage of entrepreneurship which are product development, customer development and early stage sales and marketing.

BEN 4422 **Venture Opportunity II** **3 (3-0-6)**

Interdisciplinary course designed to transform a business idea into real business, to create real product or service, to generate income from real customers and to learn the late stage of entrepreneurship which are sustaining business, accelerating product and customer development, attracting potential investors and expanding business.

BFN 3211 **Investment Strategy and Applied Valuation** **3 (3-0-6)**
Prerequisite: *BBA 2103 Corporate Finance*

Fundamental knowledge of investment: definitions, theories, implementations, and decision making in financial markets including philosophical basis of investment principles, risk and expected return relationship, company and securities analysis: valuation frameworks and methodologies, portfolio management theory: management, analysis and strategy, capital market theory and capital market efficiency, fixed income valuation as well as in oduction to derivative securities.

BFN 3212 **Financial Reporting and Analysis** **3 (3-0-6)**
Prerequisite: *BBA 2103 Corporate Finance*

Corporate financial reporting and financial statement analysis relating to financial reporting mechanics and financial reporting standards in line with International Financial Reporting Standard (IFRS) framework, financial statement analysis and interpretation of financial disclosures to help improving risk assessment, forecasting, and decision making as well as to determine how the fi ms 'particular accounting choices reflect the underlying performance of the fi ms including topics on assets and liabilities side, revenue and expense recognition, computation of basic and diluted earnings per share, analysis of cash flows statement, income taxes, employee compensation, intercorporate investments, multinational operations, application of financial statement analysis and evaluation of financial eports' quality.

BFN 3221 **Business and Economic Analysis for Decision Making** **3 (3-0-6)**
Prerequisites: *BBA 2002 Economic and Financial Environment and completion of 80 credits or BBA1003 Introduction to Microeconomics and Personal Finance (for Arts students only)*

Understanding the working of macroeconomic system to encapsulate the changes in economic environment caused by fluctuations in business activities and policy responses and to analyze the effects of economic performance including trends, opportunities, and threats on industries in both real and financial sectors using economic models and the relevant analysis tools in making effective business and financial decisions

BFN 3222 **Financial Modeling and Analysis Tools** **3 (3-0-6)**
Prerequisites: *BBA 2103 Corporate Finance and completion of 80 credits*

An introduction to the use of spreadsheets in an application of finance and accounting, including basic skills of using spreadsheets to more complicate financial models for financial analysis and decision-making

such as using formulas, functions and commands of MS-Excel for financial calculation to analyze the impacts of financial decisions related to financial statement analysis, cash budgeting, cost of capital, capital budgeting, and capital structure.

BFN 3223 **Advanced Financial Management** **3 (3-0-6)**
Prerequisite: *BBA 2103 Corporate Finance and completion of 80 credits*

Advanced knowledge of corporate financial management covering financial forecasting and planning, investment banking process, start-up financing, lease financing, hybrid financing, risk analysis in capital budgeting and real options, pension plan management, financial management in not-for-profit businesses, analysis of capital structure theories and dividend theories as well as merger analysis.

B**FN 3411** **Private Banking and Wealth Management** **3 (3-0-6)**
Prerequisite: *BBA 2103 Corporate Finance*

Introduction to private banking and wealth management including analysis of markets, industries, products and customers, KYC approach, key players in the industry, business structure, law and registration, tax considerations, characters of special products in the industry such as derivatives and structured products as well as wealth management and financial planning such as personal financial projection method, insurance planning, retirement planning, tax planning, and estate planning.

BFN 3421 **Financial Feasibility Planning** **3 (3-0-6)**
Prerequisites: *BBA 2103 Corporate Finance and completion of 80 credits*

Application of financial modeling to build, analyze and assess financial structure, financial projection and financial feasibility in order to propose to potential investors in fund raising process as well as practices and techniques for project management in sophisticated fundraising process proposed to financial institutions.

BFN 3431 **Behavioral Finance** **3 (3-0-6)**
Prerequisite: *BFN 3211 Investment Strategy and Applied Valuation*

A study of how individuals and fi ms make financial decisions in which these decisions might deviate from those predicted by traditional financial or economics theories, existence of psychological biases in financial decision-making, examination of the impacts of these biases on the financial markets and other financial settings, theories and practices of behavioral finance, biases driving human behavior, prospect theory, common investment mistakes, practical applications of behavioral finance and investigation of how insights of behavioral finance complement traditional finance paradig

BFN 4311 **Derivatives and Risk Management** **3 (3-0-6)**
Prerequisites: *BFN 3211 Investment Strategy and Applied Valuation and Completion of 100 credits*

Understanding of derivatives securities including financial futures, forward, options and swaps, focusing on institutional aspects of derivatives markets, fundamental concepts of derivatives pricing and valuation, derivatives trading strategies as well as introduction to risk management, such as identifying, quantifying, assessing, managing risk, and application of risk management strategies such as forward, futures options and swap.

BFN 4312 **Quantitative Analysis and Analytics of Finance** **3 (3-0-6)**
Prerequisites: *BFN 3211 Investment Strategy and Applied Valuation and Completion of 100 credits*

Important quantitative and statistical tools in applied finance, time value of money, discounted cash flow applications, statistical concepts, probability concepts, common probability distribution, sampling and estimation, hypothesis testing, correlation and regression, time series model, forecasting techniques as well as analysis of financial data using R p ogram.

BFN 4313 **International Financial Management** **3 (3-0-6)**
Prerequisites: *BBA 2103 Corporate Finance and Completion of 100 credits*

Managerial aspects of international financial management from the MNCs' perspectives, international financial markets, international capital flows, foreign exchange policies and systems, policies and strategies adopted by MNCs in assessing, measuring and managing foreign exchange risk exposures and international financing as well as capital structu e decisions.

BFN 4321 **Special Topics in Finance Certificatio** **3 (3-0-6)**
Prerequisites: *BFN 3211 Investment Strategy and Applied Valuation and Completion of 121 credits*

A comprehensive course designed to prepare students for level I of Chartered Financial Analyst (CFA) examination focusing on basic knowledge of ethical and professional standards, quantitative methods, economics, financial reporting and analysis, corporate finance, equity investment, fixed income, derivatives, alternative investments, portfolio management, and wealth planning using investment analysis tools.

BFN 4322 **Value Based Management and Financial Decisions** **3 (3-0-6)**
Prerequisites: *BFN 3211 Investment Strategy and Applied Valuation and Completion of 121 credits*

Corporate strategies, financial policies and theoretical framework used in corporate financial decision making focusing on current issues in finance such as capital structure, mergers and acquisitions, corporate takeovers, financial strategies, valuation, restructuring, leveraged buyouts, tax implications, and other topics related to corporate policies by applying case studies and current business situations.

BFN 4411 **Fixed Income Securities** **3 (3-0-6)**
Prerequisite: *BBA 2103 Corporate Finance and completion of 100 credits*

Fixed-income essentials, valuation of debt instruments, risk considerations, asset-backed securities, term structure analysis and fixed-income portfolio management

BFN 4412 **Real Estate Investment and Entrepreneurs** **3 (3-0-6)**
Prerequisite: *BFN 3211 Investment Strategy and Applied Valuation and completion of 100 credits*

Real estate valuation, real estate investment and management, legal aspects of real estate, discounted cash flow and real estate valuation models, appraisal reporting and related parties, analysis of risk-return characteristics of real estate development, construction of real estate portfolios, diversification in real estate, efficiency of real estate market, financial modeling and decision making, real estate portfolio strategies as well as real estate investment trusts and performance measurement.

BFN 4421 **Portfolio Management and Analysis** **3 (3-0-6)**
Prerequisite: *BFN 3211 Investment Strategy and Applied Valuation and completion of 121 credits*

Portfolio management, theories and models, portfolio construction, optimum portfolio and selection process, single-index model and multi-index model, asset pricing model, portfolio performance measurement as well as developing and testing investment strategies.

BFN 4422 **Individual Research in Finance** **3 (3-0-6)**
Prerequisite: *Department approval and completion of 121 credits*

Individual research conducted by applying theoretical financial theories and framework to real world organization in the finance industry in Thailand, with a specific area of concentration selected by students upon the approval of a supervisor assigned by Department of Finance with the requirement of a submission of a typewritten report and analysis as well as a professional presentation at the end of the academic semester.

BFN 4431 **Startup Finance and FinTech** **3 (3-0-6)**
Prerequisite: *BBA 2103 Corporate Finance and completion of 100 credits*

Financial technology driven business models for startup businesses including product creation, product delivery, laws and regulations, fun draising, challenging and opportunities, and financial innovation tools.

BFN 4432 **Investment Banking** **3 (3-0-6)**
Prerequisites: *BFN 3211 Investment Strategy and Applied Valuation and completion of 100 credits*

Management, structure, theories, practices and spreadsheet skills of investment banking : due diligence, initial public offering, financing and investing, valuation methodologies, mergers and acquisitions, leveraged buyouts, tax implications and dealing structure report.

BFN 4433 **Internship in Finance** **3 (300 hours)**
Prerequisites: *Department approval and completion of 121 credits*

Extension of theories beyond in-class teaching and learning activities to gain valuable realworld experience from the finance industry approved by Department of Finance with certain criteria and requirements prior to join the internship program with the organization.

BG 0008 **General Chemistry Laboratory** **1 (0-3-2)**
Prerequisite or Co requisite : BG 1108 General Chemistry

Experiments to be done according to BG 1108 General Chemistry

BG 1001 **English I** **3 (2-3-6)**

Lower intermediate academic English, with activities to foster reading, writing, listening and speaking skills in English through communicative activities in a meaningful academic context.

BG 1002 **English II** **3 (2-3-6)**
Prerequisite: *BG 1001 English I*

Intermediate academic English, reinforcing fluency and grammar with task-driven oral and writing exercises, developing vocabulary and sentence writing skills with combined reading comprehension exercises and writing practice.

BG 1108 **General Chemistry** **3 (3-0-6)**

Stoichiometry and basis of the atomic theory; properties of gas, liquid, solid and solution; chemical equilibrium; ionic equilibrium; chemical kinetic; electronic structures of atoms; chemical bonds; periodic properties; representative elements; nonmetal and transition metals.

BG 1204 **Calculus I** **3 (3-0-6)**

Function, limits, continuity, differentiation, integration, introduction of numerical computation, formula for interval approximation, differentiation and line integration, surface integration and volume integration, infinite series, Fourier series and integrals

BG 1205 **Calculus II** **3 (3-0-6)**
Prerequisite : *BG 1204 Calculus I*

Space vectors, matrices and determinants, linear analytic geometry, differential calculus of multivariable functions, vector analysis, linear integrals, surface integral and volume integrals.

BG 1211 **Physics I** **3 (3-0-6)**

Mechanics of particles and rigid Bodies, properties of matters, fluid mechanics, heat, vibrations, waves.

BG 1212 **Physics Laboratory I** **1 (0-3-2)**
Prerequisite or Co-requisite : BG 1211 Physics I

Experiments to be done according to BG 1211 Physics I.

BG 1213 **Physics II** **3 (3-0-6)**
Prerequisite : *BG 1211 Physics I*

Elements of electromagnetism; alternating current (A. C.) circuits; fundamental electronics; optics; modern physics.

BG 1214 **Physics Laboratory II** **1 (0-3-2)**
Prerequisite or Co-requisite : BG 1213 Physics II

Experiments to be done according to BG 1213 Physics II

BG 1221 **Computer Programming** **3 (3-0-6)**

Computer concepts; computer components; Hardware and software interaction; Current programming language; Programming practices.

BG 1301 **Fundamentals of Statistics** **3 (3-0-6)**

Descriptive statistics, probability theory and inferential statistics, summarizing of data in tables and graphs, computation of descriptive statistics, rules of probability, probability distributions, confidence interval estimate of population parameters, hypothesis testing and simple linear regression.

BG 1400 **Business Law I** **3 (3-0-6)**

Basic Knowledge of business laws, the relation between las and business, fundamental civil laws and criminal laws, civil laws on persons, properties and fundamental intellectual property, juristic acts, contracts, obligations, selected specific contracts which business people should be ware of, introduction to the law of electernic commerce and introduction to the law of international trade.

BG 1401 **Business Law II** **3 (3-0-6)**

Basic knowledge of business laws on business organizations, setting up businesses, liabilities and risks in managing a business, criminal liabilities of directors, and secured debt.

BG 2000 **English III** **3 (2-3-6)**
Prerequisite: *BG 1002 English II*

Advanced English for academic and career purposes, emphasizing organization of ideas and clarity of expression and understanding.

BG 2001 **English IV** **3 (2-3-6)**
Prerequisite: *BG 2000 English III*

Advanced English for academic and career purposes, emphasizing critical and analytical skills, and formulating logical and coherent opinions.

BG 2207 **Engineering Mathematics** **3 (3-0-6)**
Prerequisite : *BG 1205 Calculus II*

First-order and higher-order ordinary differential equations, difference equations, functions of complex variable and their applications in engineering.

BG 2208 **Discrete Mathematics** **3 (3-0-6)**

Teachings of major world religions, the role of conscience, self-development in the moral arena, building self-esteem, self-knowledge, and good habits, distinguishing the right from the wrong, doing the right and refraining from the wrong, attaining a more fulfilling life

BG 2209 **Statistics for Engineers** **3 (3-0-6)**
Prerequisite : *BG 1204 Calculus I*

Sets and probability, random variables, probability distribution, continuous and discrete models, parameters approximation, reliability range, hypothesis tests, regression and linear correlation.

BG 2212 **Applied Statistics** **3 (3-0-6)**
Prerequisite : *BG 1204 Calculus I*

Sets and probability, random variables, probability distribution, continuous and discrete models, parameters approximation, reliability range, hypothesis tests, regression and linear correlation.

BG 2301 **Information Technology for Nurses** **2 (1-3-4)**

Application of current information technology to healthcare and nursing services, the specific applications or programs in the clinical information system, computer based patient record and the advantages of utilizing nursing informatics in clinical management, administration, education, and research.

BHT 3201 **Introduction to Hospitality and Tourism Management** **3 (3-0-6)**
Prerequisite: *BBA 1104 Fundamentals of Marketing*

The overview of the tourism industry and the basic concepts, tools, and techniques of tourism management. The impacts of tourism will also be examined, together with the role and the importance of tourism planning in minimizing those impacts of tourism and developing strategies to ensure sustainable evolution. And it also gives an overview of hotel management in hospitality industry, build to understanding the structure of organization of hospitality business, front office, sale and marketing, housekeeping, food and beverage, human resources and other department, emphasis the current trend and future trend of hospitality business. In addition.

BHT 3202 **Consumer Behavior in Hospitality and Tourism** **3 (3-0-6)**
Prerequisite: *BBA 1104 Fundamentals of Marketing*

Diversity of tourists and their consumer behavior, traditional, social and cultural backgrounds, sociological and psychological factors, social groups, demographic variables, social strata and culture that form tourist attitudes, consideration, purchasing behavior and consumption, tourist behavior with qualitative and quantitative approaches to assure better understanding of diversity of tourist behavior.

BHT 3203 **Food and Beverage Management** **3 (3-0-6)**
Prerequisite: *BBA 2102 Organization and Management*

Role and contribution of the Food & Beverage department, its structure, and functions and responsibilities of the key personnel, overview of the department's functions: purchasing, receiving, storing, food preparation, stewarding, planning the menu, food service and sales including food sanitation, food quality and kitchen equipment.

BHT 3204 **Personality and Communication in Hospitality and Tourism** **3 (3-0-6)**
Prerequisite: *BBA 2102 Organization and Management*

This course is designed to actively involve students in developing the knowledge, skills and abilities crucial to demonstrate basic personal and professional social skills, personality development and modern etiquette. This course starts with the basic aspects of personality and the different ways in which these skills and knowledge are implemented in the hospitality and tourism industry. The course is also designed to developed the communication skill by the process includes perception, listening, self-disclosure, public speaking, ethics, nonverbal communication, conflict, powe , and dysfunctional communication.

BHT 3205 **Marketing in Hospitality and Tourism** **3 (3-0-6)**
Prerequisite: *BHT 3201 Introduction to Hospitality and Tourism Management*

Application of knowledge and skills acquired in principles of marketing and consumer behavior to the hospitality and tourism industry, evaluation of the industry, analyzing and developing marketing plans, application of various promotional strategies and tools to achieve organization's marketing objectives, department's structure, functions, and responsibilities of key personnel.

BHT 3301 **Human Resource Management in Hospitality and Tourism** **3 (3-0-6)**
Prerequisite: *BHT 3201 Introduction to Hospitality and Tourism Management*

A broad view on personnel administration and human resources management with its process (i.e. recruitment, selection, staffing, labor/staff relations, remuneration, compensation, motivation, evaluation, etc.); and training and development (human resources development or HRD) with its process (i.e. identify training needs, design & deliver of training, training evaluation & analysis) in hospitalities and tourism industries while introducing the current theories, current HRM & HRD concepts, skills, practices and hands-on HR applications within the field

BHT 3401 **Event Management** **3 (3-0-6)**
Prerequisite: *BBA 2102 Organization and Management*

Principles of event management, formulate event tourism strategies such as implementation of festivals, entertainment, corporate, cultural and sports events.

BHT 3402 **Rooms Division Management** **3 (3-0-6)**
Prerequisite: *BBA 2102 Organization and Management*

Rooms division, front office operations which covers reception, reservation, room sales, registration, cashier responsibilities and night-auditing, functions and roles of the hotel housekeeping department and coordination with the front office department

BHT 3403 **Service Management** **3 (3-0-6)**
Prerequisite: *BBA 2102 Organization and Management and Completion of at least 110 credits*

The holistic and interdisciplinary approach which will be used to explore the principles of service management. This course will make students more aware of the nature and characteristics of services, more knowledgeable about the way services need to be marketed due to their intangible core and more conscious of service quality, and the foundation of services industries. The course will enhance students' understanding of what actually constitutes quality, the nature of service, strategies for improving it; and taking a broad view on service management with its process

BHT 3404 **Food and Beverage Service** **3 (3-0-6)**
Prerequisite: *BBA 2102 Organization and Management*

Food and Beverage operations, service principles and practices, types of table service of beverages, identification of service and restaurant equipment and supplies, effective employee recruitment and selection as well as strategies for orientation, training and evaluations, principles and application of menu planning, operations of in-house and outside catering, as well as sales and cash control.

BHT 3405 **Kitchen Operation** **3 (3-0-6)**
Prerequisite: *BBA 2102 Organization and Management*

Principles and techniques involved in food production, kitchen organization, food and personal hygiene, kitchen equipment and utilities, basic food preparation methods, kitchen stewarding, sanitation food production control and standards, and kitchen items.

BHT 3406 **Catering, Bakery and Pastry** **3 (3-0-6)**
Prerequisite: *BBA 2102 Organization and Management*

Details of the critical aspects of management involved in operating a catering and bakery business covering the history of baking industry, trends in bakery and catering, standards, food and personal hygiene, basic food preparation, methods of cooking, the use of standardized recipe, fruit desserts, cookies, meringues, pate a choux and basic custards. Key components of the course include a basic baking science principles, ratio, techniques and applying the theory into the real catering and bakery business.

BHT 3407 **Introduction to Airline Business Management** **3 (3-0-6)**
Prerequisite: *BBA 2102 Organization and Management*

A broad view on aviation and airline business and understanding about working environment, interaction, duties and responsibilities of the various units in the day-to-day operations, aviation law, rules and regulations, market and demand, pricing and operations costs, revenue management, planning process, flight scheduling and operations, labor relations and HR management, safety and security, airports, air traffic control and transport, IT in airline operations, distribution and passenger process, handling critical issues and prospects for airline industry.

BHT 3408 **Ground Operation Management** **3 (3-0-6)**
Prerequisite: *BBA 2102 Organization and Management*

This course is designed to facilitate an understanding of passenger service, check-in counter, documentation and co-ordination for dispatching aircraft, passenger handling, cargo as well as customer relation. Moreover, this course aims to create efficiency on the ground through management focus on best practices within the complex operational environment in modern airports.

BHT 3409 **In-flight Service Managemen** **3 (3-0-6)**
Prerequisite: *BBA 2102 Organization and Management*

This course aims to create an understanding of in-flight principle and procedure for making passengers convenience and satisfaction. Emphasizing on the procedure of cabin crew service in passenger safety and serving food and beverages, and other in-flight responsibilities for pre-flight, in-flight and post flight by the form of lecture, practical and simulation.

BHT 3410 **Perfecting Personality for Career and Life** **3 (3-0-6)**
Prerequisite: *BBA 2102 Organization and Management*

This course is designed to actively involve students in developing the knowledge, skills and abilities crucial to service excellence with the demonstration of basic personal and professional social skills, personality development and modern etiquette. This course starts with the basic aspects of personality and the different ways in which these skills and knowledge are implemented. The course is also designed to developed the communication skill by the process includes perception, listening, self-disclosure, public speaking, ethics, nonverbal communication, conflict, powe , and dysfunctional communication.

BHT 3411 **Sustainable Tourism Management** **3 (3-0-6)**
Prerequisite: *BBA 2102 Organization and Management*

Tourism development as well as its impacts to the host country in terms of environmental, socio-cultural and economic perspectives, different approaches for understanding tourism development and its sustainability, definitions and organizations related to sustainable tourism, components, procedures and techniques of sustainable tourism management and planning.

BHT 3412 **Health and Wellness Tourism** **3 (3-0-6)**
Prerequisite: *BBA 2102 Organization and Management*

A comprehensive view of the growing health, wellness and medical tourism sectors in a global context. With the variety of case studies students explore the history, development, range of destinations, products and services and key issues associated with the management of health, wellness and medical tourism operations. Emerging trends and future predictions for these sectors are also examined.

BHT 3413 **Cruise Ship Tourism** **3 (3-0-6)**
Prerequisite: *BBA 2102 Organization and Management*

Examining the major aspects of cruise operations and management including history, global cruise market, economic significance, geography of cruising, itinerary design, anatomy of a cruise ship, operations, sales and marketing procedures, passenger services, event planning and management, and career opportunities.

BHT 3414 **Tour Guiding and Operation in Practice** **3 (3-0-6)**
Prerequisite: *BBA 2102 Organization and Management*

Roles and ethics of a professional tour guide including tour guide practices, tourist safety measures, customs and immigration procedures and Thai tourism law, aspects of tourism distribution channels.

BHT 3415 **Tourism Destination Management** **3 (3-0-6)**
Prerequisite: *BBA 2102 Organization and Management*

Comprehensive coverage of various tourism destinations, basic principles underlying the development of tourism supply and demand, up–to-date trends and implementation of different management approaches.

BHT 3416 **Introduction to MICE Business Management** **3 (3-0-6)**
Prerequisite: *BBA 2102 Organization and Management*

An overview of the MICE business (Meetings, Incentives, Conventions and Exhibitions). It shows opportunities in working as professional meeting planners and job requirements. The emphasis of the course will be on the unique nature of MICE business. The fundamental concepts in creative planning, organizing and solving problems in relations to event and F&B management will be emphasized.

BHT 4301 **Information Technology in Hospitality and Tourism** **3 (3-0-6)**
Prerequisite: *BHT 3201 Introduction to Hospitality and Tourism Management*

Latest information technologies in the hospitality and tourism industries, property management systems and central reservation systems, practice of current global distribution system software.

BHT 4302 **Operation and Leadership in Hospitality and Tourism** **3 (3-0-6)**
Prerequisites: *BHT 3205 Marketing in Hospitality and Tourism and Completion of at least 118 credits*

Leadership, various theories and styles of leadership in the field of hospitality and tourism industries, operation as a major functional area of business and operation decision making to improve by utilizing all the underlying disciplines.

BHT 4303 **Strategic Management in Hospitality and Tourism** **3 (3-0-6)**
Prerequisites: *BHT 3205 Marketing in Hospitality and Tourism and Completion of at least 118 credits*

Advanced tools and techniques in planning and implementing strategies in Hospitality and tourism industry will be introduced in the areas of operation, human resources and marketing. The course emphasizes on building planning, analytical and interpersonal skills as well as leadership and entrepreneurial spirit.

BHT 4304 **Internship in Hospitality and Tourism Industry** **3 (400 hours)**

Prerequisites:
BHT 3301 Event Management
BHT 3302 Rooms Division Management
BHT 3303 Service Management
BHT 3304 Food and Beverage Service
BHT 3305 Kitchen Operation
Completion of at least 136 credits and Passing the in-house training

An off-campus experiential learning activities. It is to facilitate the students to learn in a professional work environment. These experiences will enable them to connect classroom theories to the 'real world' situations thus enhancing the students' academic and career interests and goals. Students must register as the last semester only in order to do internship for at least 400 hours (or 3 months) continuously after completing and passing the in-house training.

BIB 3201 **Cross Cultural Human Resource Management** **3 (3-0-6)**

Prerequisite: *BBA 2104 Global Strategy and Communication*

Differences and similarities of managerial systems and management practices in different cultural settings, definitions and concepts of culture, cultural differences at the national, organizational and managerial levels, regional and country cultural characteristics, complexities and challenges of running global organizations. Human resource practices across cultures and cultural frameworks applied to various aspects of human resource management in the international context. Topics also include the expatriation cycle, factors that influence effective management in cross-cultural settings, and ethical issues in the international environment. Coursework and case studies are used to facilitate a better understanding of the challenges confronted by global organizations when working and dealing with clients in diverse international business environments.

BIB 3202 **Export-Import Policy and Strategy** **3 (3-0-6)**

Prerequisite: *BBA 2104 Global Strategy and Communication*

Concepts and framework to systematically evaluate foreign markets and develop comprehensive export/import strategies, governments and organizations roles in balancing exports and imports among sectors, practical and strategic elements associated with the establishment of cross border international business ventures in the form of exports, e-commence, current/updated procedures and practices of export-import planning, sourcing and financing, documentation, export/import compliance, export/import channels, foreign trade zones, and transportation modes.

BIB 3203 **Global Business in Practice** **3 (3-0-6)**

Prerequisite: *BBA 1104 Fundamentals of Marketing*

Focus on developing advanced skills in analyzing global markets, consumer and environment and identify marketing opportunities, explores the concept of segmentation, targeting and positioning in a globalized, multicultural environment, design and manage marketing mix, apply multiple decision-making tools and frameworks to formulate practical international marketing plans and strategies to gain competitive advantage. The course adopts a practical approach through workshops, projects and industry linkage to develop professional skills.

BIB 3204 **International Management** **3 (3-0-6)**

Prerequisite: *BIB 3201 Cross Cultural human Resource Management*

The intricacies of doing business in different countries and environments, including the political, legal, cultural and technological contexts faced by multinational enterprises (MNEs), forms of operations available to the MNE, and the international strategic planning. Main topics covered include different theoretical and practical perspectives on globalization, international strategic planning and implementation in MNEs, strategies for international competition, international joint ventures and strategic alliances, organizational structure of MNEs, and international social and ethical responsibility of fi ms. The course prepares future managers to make good decisions and formulate successful international strategies.

BIB 3401 **Global Market Behavior** **3 (3-0-6)**

Prerequisites:
BBA 2001 Human Behavior
BBA 1104 Fundamentals of Marketing

Methods of how industrial and consumer goods are marketed to international buyers and the strategic process of segmentation, targeting and positioning, international buyer behavior models and decision making schemes, variables in addition to culture that affect international buyers' purchase behaviors, cognitive, affective and co-native responses of industrial and consumer buyers from other countries in various contexts such as in trade shows, advertising effects, promotional incentives, direct marketing and e-commerce.

BIB 3402 **Global Business Communications** **3 (3-0-6)**
Prerequisite: *BBA 1104 Fundamentals of Marketing*

Global and domestic cultural diversity and their impact on IMC strategy development, values, behaviors, and underlying assumptions related to verbal and visual communication strategies, the debate surrounding standardization versus localization of worldwide marketing communications campaigns, case studies of IMC campaigns directed to culturally specific domestic and inte national audiences.

BIB 3403 **Global Pricing Strategy** **3 (3-0-6)**
Prerequisite: *BIB 3203 Global Business in Practice*

Processes, practices and challenges in designing value-based pricing strategy for fi ms engaging in international business, application of quantitative and qualitative decision-making tools and framework in evaluating pricing decisions in international context. Topics covered include factors affecting pricing of goods and services in the global market, price structures and policies, influences of international competition and negotiation on pricing, export-pricing strategies and transfer pricing issues.

BIB 3404 **Cross Cultural Communication, Conflict and Negotiatio** **3 (3-0-6)**
Prerequisite: *BIB 3201 Cross Cultural Human Resource Management*

Concepts, skills and tools for improving communication among persons from different cultural backgrounds, fundamental knowledge of theories and methodologies of dealing with cross cultural communication as well as theories and strategies of communication relevant to the management of conflicts and the conduct of negotiations. Program participants will be given the opportunity to apply these skills across cultures through international group projects.

BIB 3405 **International Relations** **3 (3-0-6)**
Prerequisite: *BBA 2104 Global Strategy and Communication*

Fundamental principles, issues, conflicts and resolutions in international relations, and international organizations such as the United Nation, the World Trade Organization, the World Bank that govern international relations and its effect on businesses.

BIB 4209 **International Strategic Management** **3 (3-0-6)**
Prerequisite: *BIB 3204 International Management and Completion of 118 Credits*

Strategic management amidst the phenomena of globalization, contemporary strategy concepts and theories, important and consistent principles that a fi m can use in making decisions that will affect its long term performance in an increasingly globalized business environment, strategic management process: environmental scanning, strategy formulation, strategy implementation and evaluation and control, creation of competitive advantages and the system of value creation, challenges posed in the strategic management process through a discussion of various business cases as well as the use of up-to-date information technology (IT) tools.

BIB 4305 **Designing and Managing Global Operations** **3 (3-0-6)**
Prerequisite: *BBA 2105 Operations and Supply Chain Management*

Examines contemporary issues related to managing operations in a global context and explore the key factors in operations such as production planning and management of globally dispersed manufacturing and services by utilizing analytical and quantitative tools and framework and the application of Information Technology to enhance a fi m's operations strategy through facility layout, product design, aggregated planning, inventory management and forecasting.

BIB 4306 **Global Business Feasibility Analysis** **3 (3-0-6)**
Prerequisites: BIB 3204 International Management and Completion of 106 Credits

Conceptual and analytical tools and framework for assessing dynamic international business environment in terms of economic, social, political, cultural, environmental, legal, regulatory and ethical aspects, develop skills to critically evaluate different international business conditions and decisions, analyze financial cost and benefit of international business projects, assess risks and feasibility of establishing business operations across borders, and evaluate effects on business performance. Introduce students to the principles of Data Analytics and its application to business.

BIB 4307 **International Business Research** **3 (3-0-6)**
Prerequisites: *BBA 3101 Business Research*
BIB 3204 International Management

Methodologies used in international business research, emphasis on the concept of crosscultural equivalence in conducting comparative and international business research. Topics covered include scale development and assessment, establishment of data equivalence across cultures, measurement invariance, comparability of data collection techniques, various statistical techniques applied in international research, and the application of information technology in preparing a professional research paper and analyzing data.

BIB 4308 **Seminar in International Business Management** **3 (3-0-6)**
Prerequisite: *BIB 3204 International Management*
and Completion of 118 Credits

Discussion on contemporary issues and trends in international business at the regional, country specific, industry and fi m level, topics covered include international economics, trade and investments, international management and international; marketing, global supply chain, informational technology, legal and ethical issues, relevant to professional development of students.

BIB 4406 **Global Supply Chain Management** **3 (3-0-6)**
Prerequisite: *BIB 3202 Export-Import Policy and Strategy*

Provides an in-depth understanding of the functional areas of supply chain management in terms of procurement, manufacturing and operations management, transportation and logistics, inventory, network planning, collaboration, and performance measurement to design an integrated supply chain system for global business enterprises. Incorporates technological aspects of supply chain and other analytical tools to obtain optimal solutions for multinational fi ms.

BIB 4407 **Global Product and Brand Strategy** **3 (3-0-6)**
Prerequisite: *BBA 1104 Fundamentals of Marketing*
BIB 3204 International Management

Process of developing and introducing new products and brands for different culture markets, global product line and brand management such as global brand extension and dilutions, multiple product life cycle, global product and brand strategies, global brand portfolio, cross cultural brand positioning, brand valuation and impacts on building brand image and equity, issues in crafting a solid global marketing plan, market selection techniques and global segmentation-targeting-positioning strategies.

BIB 4408 **Global Context of Business** **3 (3-0-6)**
Prerequisite: *Approval from the chairperson and academic advisor prior to registering for the course.*

Process of acquiring new skills and knowledge through international exposure. International field trip according to the language courses taken by students, 15-30 hours of course work seminars and industry visits in the host institution. 10-15 hours of preparation and presentation of project report based on the criteria established by the Department.

BIB 4409 **Special Topics in International Business** **3 (3-0-6)**
Prerequisite: *Completion of 118 credits*

Focuses on doing business in selected regions. Includes in-depth understanding of the business environment, management practices and activities of multinational corporations in selected regions, and best practices of fi ms in selected regions.

BIB 4410 **Individual Research** **3 (3-0-6)**
Prerequisite: *(Only for International Business Management major students)*
BBA 3101 Business Research
and Completion of 118 credits

Developing students' ability to apply a theoretical approach to the real-world problems of any organization in a selected industry in Thailand, a specific area of concentration will be chosen by students upon approval of advisor from the department of International Business Management.

BIB 4411 **International Business Management Internship** **3 (300 hours)**
Prerequisite: *Approval from the chairperson and/academic advisor prior to registering for the course.*

Designed to provide students with an opportunity to apply the knowledge and skills to gain practical business experience in domestic and multinational setting as well as international organizations. Formal presentation at the end of the internship period is a requirement.

BIR 3211 **Risk Management and Insurance** **3 (3-0-6)**

Basic concepts of risk and insurance, terminologies used in risk management and insurance, functional operations of insurers, fundamental legal principles, insurance contract, various types of insurance such as life and health insurance, property and liability insurance, and government insurance.

BIR 3212 **Insurance Law** **3 (3-0-6)**
Prerequisite: *LAW 1201 Business Laws for Entrepreneurs*

Insurance law and Ministerial Regulations of the Kingdom pertaining to the contract of insurance in all fields such as life, accident, fi e, transportation, and liability court interpretation on applicable coverage, comparison of laws in the U.K. and U.S.

BIR 3221 **Property Insurance** **3 (3-0-6)**
Prerequisite: *BIR 3211 Risk Management and Insurance*

Analysis of an insurance contract and measurement of property and net income loss exposures of family and business fi m in general, major insurance policies and extension available in the Thai market, fi e insurance and allied lines, Industrial All Risk business interruption insurance, motor insurance, ocean and inland marine insurance fidelity guarantee insurance, su ety bond and other miscellaneous insurance.

BIR 3222 **Casualty Insurance** **3 (3-0-6)**
Prerequisite: *BIR 3211 Risk Management and Insurance*

Analysis of source of legal liability, major sources of liability loss exposures of both family and business fi m and insurance coverage designed to meet those loss exposures, personal liability insurance, public liability insurance, workers' compensation employer's liability insurance, professional liability insurance, products liability insurance, Director and Officers' s liability insurance, Cyber liability insurance and a variety of miscellaneous liability insurance.

BIR 3223 **Life Assurance** **3 (3-0-6)**
Prerequisite: **BIR 3211 Risk Management and Insurance**

Features of life insurance industry, life insurance contract, life insurance policy, life insurance premium, life insurance products and supplemental benefits, life insurance policy provisions, life insurance policy ownership rights, life insurance claim and basic group life insurance.

BIR 3401 **Engineering Insurance** **3 (3-0-6)**
Prerequisite: *BIR 3211 Risk Management and Insurance*

Analysis and measurement of property loss exposures of the business fi m, major insurance policies and extension including contractor's all risks insurance, erection all risks insurance, machinery breakdown insurance, boiler and pressure vessel insurance, consequential loss following machinery breakdown, computer all risks insurance and deterioration of stock.

BIR 3402 **Marine and Aviation Insurance** **3 (3-0-6)**
Prerequisite: *BIR 3211 Risk Management and Insurance*

Insurance of cargo by all modes of transportation and from aspects of loss, damage, and liability, pertinent Institute Cargo clauses A., B., C., war risk, strike, commodity trades, and other clauses, principles of insurable interest, types and characteristics of vessels and cargoes, hull Insurance and aviation insurance.

BIR 3403 **Survey and Claim Management in Non-Life Insurance** **3 (3-0-6)**
Prerequisites: *BIR 3221 Property Insurance*
BIR 3222 Casualty Insurance

Analysis of the roles and duties of the claim representative, human relations in claim, communication skill, listening skill, claim management, claim professionalism, negotiation process and styles, application of claims practice to transacting insurance business on an industry wide basis, pre-insurance survey and post -loss survey, loss-adjustment techniques using policy wording in each class of business.

BIR 3404 **Finance and Accounting in Non-Life Insurance** **3 (3-0-6)**
Prerequisites: *BIR 3211 Risk Management and Insurance*
BBA 1103 Fundamentals of Financial Accounting

Analysis of insurance accounting and financial statements of the non-life insurance company, valuation of insurance company asset, revenues, expenses, liabilities and policyholders' surplus, interpretation of basic financial statements, and Solvency Surveillance

BIR 3405 **Life Assurance Underwriting** **3 (3-0-6)**
Prerequisite: *BIR 3223 Life Assurance*

Elementary physiology and anatomy, proposals and medical report forms, main concept and process of life insurance underwriting, underwriting method, underwriting factors and underwriting aspects relating to impairments, diseases and physiological malfunctions.

BIR 3406 **Life Assurance Mathematics** **3 (3-0-6)**
Prerequisite: *BIR 3223 Life Assurance*

Concepts of life table, probability of death and survival, fundamentals of premium rating, analysis of components and essential factors of premium rate calculation, reserve calculation and various types of reserve in life insurance.

BIR 3407 **Claim Administration in Life Assurance** **3 (3-0-6)**
Prerequisite: *BIR 3223 Life Assurance*

Concepts of claim administration, roles and duties of claim analyst, regulatory requirements for claim administration, analysis of claim decision process for death claim, supplementary benefit claim, endowment claim, disability claim, annuity payment, surrenders of the policy, loans and dividends on the policy.

BIR 3408 **Life Assurance Agency Administration** **3 (3-0-6)**
Prerequisites: *BIR 3223 Life Assurance*
BBA1104 Fundamentals of Marketing

Life insurance agency office management concepts, agency organization and structure, ways to improve communication and workflow between insurer and agency offic s, ways to organize agency office to maximize efficiency and to provide more effective sales support for agency force, office productivity, agency expenses and budgetary control, compliance and sales practices, supervisory skills, people management techniques and agency office automation

BIR 4311 **Employee Benefit** **3 (3-0-6)**
Prerequisite: *BIR 3211 Risk Management and Insurance*

A study of the analysis, planning and administering of the employee benefit insurance plan. The topics include basic concepts in employee benefit planning, risk management of employee benefit plans, death benefits, medical health insurance, accidental death and dismemberment insurance, disability income benefits, social insurance, unemployment insurance, group insurance, and retirement benefit plans.

BIR 4312 **Reinsurance** **3 (3-0-6)**
Prerequisite: *BIR 3211 Risk Management and Insurance*

Nature and functions of reinsurance, main types of insurers and reinsurer, legal principles and outline of the international reinsurance market, facultative, and treaty for both proportional and excess of loss reinsurance including accounts, premium and loss reserves including reinsurance audits.

BIR 4313 **Essentials of Risk Management** **3 (3-0-6)**
Prerequisite: *BIR 3211 Risk Management and Insurance*

Losses, loss exposures on both personal and business fi m and risk management process, risk management techniques, risk financing and risk control, role of the risk manager in an organization, pre and post loss objective, current issues regarding risk management, medical expense benefit, disability benefit, theory of group insurance, master contract and certificate, various aspects and clauses under group insurance contract including marketing and distribution of group insurance and evaluation of current trends.

BIR 4321 **Digital Marketing in Insurance** **3 (3-0-6)**
Prerequisites: *BIR 3211 Risk Management and Insurance*
BBA1104 Fundamentals of Marketing

To apply marketing principle and digital technology in insurance industry with emphasis on analysis, prediction and application along with in-depth knowledge of online marketing. The implementation starts from product design, product development, marketing mix strategy i.e. product/price/place/promotion as well as customer relationship management.

BIR 4322 **Seminar in Insurance** **3 (3-0-6)**
Prerequisites: *Senior Standing and completion of 108 credits*

Comprehensive review of all aspects of risk and insurance, various cases of operations of insurance company, topics which are relevant to professional goals and interest of students and current issues in insurance industry with emphasis on research, class discussion, and presentation.

BIR 4401 **Financial Concepts for Life Assurance** **3 (3-0-6)**
Prerequisites: *BIR 3223 Life Assurance*
BBA 2002 Economic and Financial Environment

Managing solvency, and profitability of life insurance companies, with emphasis on financial management of insurance company, how life insurance companies pursue the key financial objectives, insurance financial statement analysis, product planning, product design and pricing for insurance company product, concept of how insurance company executives approach capital management and monitor the financial pe formance of Life insurance company.

BIR 4402 **Life Assurance and Financial Planning** **3 (3-0-6)**
Prerequisites: *BIR 3223 Life Assurance*
BBA 2002 Economic and Financial Environment

Introduction to financial planning and personal financial planning process, uses of life insurance, life annuities, health insurance and social security in the financial planning scheme, risk analysis concept together with integration of social security benefits, employerprovided benefits, individually purchased life insurance and investments into a comprehensive financial plan including life insurance planning and purchasing decision, financial health check/personal financial fact-finding as well as the investment planning.

BIR 4403 **Business Analytics and Insurance Management** **3 (3-0-6)**
Prerequisites: *BIR 3211 Risk Management and Insurance*
BBA 2102 Organization and Management
BBA 1102 Data and Information Literacy

The application of insurance business data, and using statistical models to transform data into business insights. The main objective is to determine which insurance datasets are useful and how they can be utilized to solve problems and increase efficiency, p oductivity, and revenue in insurance operation.

BIR 4404 **Information Management in Insurance** **3 (3-0-6)**
Prerequisites: *BIR 3211 Risk Management and Insurance*
BBA 1102 Data and Information Literacy

Data processing techniques used in pertinent functions in all branches of insurance, specific applications related to policy control, commission, premiums, renewals, branch/broker control and costing, cost analysis and financial analysis, new info mation technologies such as internet and World Wide Web.

BIR 4405 **Risk Control and Risk Financing** **3 (3-0-6)**
Prerequisites: *BIR 3211 Risk Management and Insurance*
BIR 4313 Essential of Risk Management

Two steps of risk management process (1) implementing the selected risk management techniques and (2) monitoring the results for effective control and coordination of the organization's total risk management effect.

BIR 4406 **Independent Study in Insurance** **3 (3-0-6)**
Prerequisite: *Consent of Department Chairperson*

Under the guidance of the department chairperson, a student must carry out an approved research project in Insurance. The depth and innovativeness of the research will determine the credit to be given.

BIR 4407 **Internship in Insurance** **3 (240 Hours)**
Prerequisite: *Consent of Department Chairperson*

Students will spend 8 weeks (30 hours/week) internship with selected insurance or related business organizations. The internship will focus mainly on insurance operations of such organizations. Upon completion of the program, the students will be evaluated by their supervisor and submit a detail report of the knowledge gained.

BMK 3201 **Consumer Behavior** **3 (3-0-6)**
Prerequisites: *BBA 1104 Fundamentals of Marketing*
BBA 2001 Human Behavior

The study of how consumers make decisions on how they select, buy and use products. Topics that relate to consumers' sensory and perceptual processes, learning and memory, self and personality dynamics, motivation and emotion, attitude change and persuasion are thoroughly discussed to learn about their application in the marketing field so as to understand and satisfy consumers' needs and wants. Consumer well-being and the digitization of consumer behavior are given emphasis to explore consumers' changing consumption patterns in recent times.

BMK 3202 **Digital Marketing** **3 (3-0-6)**
Prerequisite: *BBA 1104 Fundamentals of Marketing*

Fundamental concepts of digital marketing, including digital environment, cyber laws, ethical issues, challenges, trends, channels, tools, platforms, and digital strategy formulation to implement and enhance marketing performance of goods and services.

BMK 3203 **Brand Driven Innovation** **3 (3-0-6)**
Prerequisite: *BBA 1104 Fundamentals of Marketing*

The integration of branding, design and innovation, bringini brand strategy to life through a value proposition and tangible customer experience for the sustainable growth. Emphasizing on brand building process, brand insights, brand touch points, customer journey mapping, brand archetype and brand identity, brand personality, brand communications and essential brand strategies to maximize brand equity through continuous innovation.

BMK 3204 **Competitive Analysis and Strategy** **3 (3-0-6)**
Prerequisite: *BBA 1104 Fundamentals of Marketing*
and Completed 75 credits

An integrative marketing course that includes comprehensive analytical marketing concepts and theories for understanding an organization's internal resources, competitive positioning and relationship with customers, competitors, suppliers, distribution channels as well as analyzing competitive relevance towards macro-environmental factors from diverse industrial sectors; and provides guidelines to design practical business strategies based on an organization's distinctive competencies to create and sustain its competitive advantages.

BMK 3305 **Integrated Marketing Communications** **3 (3-0-6)**
Prerequisite: *BBA 1104 Fundamentals of Marketing*

Introduction to principles and practices of integrated marketing communications. Examine the roles and functions of various marketing communications mix including advertising, sales promotion, public relations, digital marketing, and direct marketing to build and maintain brand equity. Topics include communication process, managerial framework for IMC campaign planning, promotional objectives and budgets, creative strategy, offline and online media planning strategy

BMK 3306 **Marketing Channels and Logistics** **3 (3-0-6)**
Prerequisite: *BBA 1104 Fundamentals of Marketing*

This course emphasizes the vital role of the marketing mix, "place", in creating sustainable marketing competitive advantage. It includes marketing channel and logistics management concepts and strategies; target markets and channel design strategy; analysis and interfaces of channel strategies with logistics management; digital trends and contemporary issues in marketing channel and logistics influencing marketing management; practical and real-world applications of marketing channel concepts and strategies in today's borderless, globalized marketing environment.

BMK 3407 **Sales and Customer Relationship Strategies** **3 (3-0-6)**
Prerequisite: *BBA 1104 Fundamentals of Marketing*

The practical marketing strategy to manage customer accounts and to improve business relationships with customers both B2C and B2B, by acquiring, retaining and developing customer relationships. Emphasis is given on both conceptual knowledge and hands-on learning using practical project, including selling techniques and enhancing relationships in sales opportunity management, account relationship management and customer interaction management.

BMK 3408 **Sales Promotion and Display Strategies** **3 (3-0-6)**
Prerequisite: *BBA 1104 Fundamentals of Marketing*

A modern and concrete basic knowledge of retail sales promotion. Learn how to mix and match various sales promotion techniques to fit a specific product and situation to incentivize sales in the short term. The course also emphasizes on the effective uses of in-store display to attract customers and increase store traffic

BMK 3409 **Creative Strategy in IMC Campaign** **3 (3-0-6)**
Prerequisite: *BMK 3305 Integrated Marketing Communications*

This course focuses on the development of a complete and practical integrated marketing communications (IMC) campaign based on consumer insights, brand insights, and competitor insights. Students will explore a process-based approach to design creative communication, execute big idea, craft advertising, and other promotional campaigns. Emphasis will be given to the principles and tools to understand consumer journey in order to develop consistent and engaging message and media strategy at each touchpoint.

BMK 3410 **Digital Consumer Insights** **3 (3-0-6)**
Prerequisite: *BMK 3202 Digital Marketing*

Coverage of a broad range of theories, concepts and apply digital tools to highlight the potential of qualitative research to uncover behavior and insights of consumers to build a base knowledge that can be used to create strategies and competitive advantage in the evolving digital marketing landscape.

BMK 3411 **Content Marketing** **3 (3-0-6)**
Prerequisite: *BMK 3202 Digital Marketing*

Development and planning of content for brands which engage and entice with the use of various media such as text, photography, audio, and video in the digital format, hands-on exercises to determine the best practices in creating an effective content marketing plan.

BMK 3412 **Experiential Marketing** **3 (3-0-6)**
Prerequisite: *BBA 1104 Fundamentals of Marketing*

Public relations strategies, crisis management strategies to manage corporate image and brand image; communications and planning to appropriately craft messages and execute public relations activities beneficial to the organization. Emphasizing on event marketing, the practical experiences in organizing the marketing events, event planning and staff management, idea creation, promotion and design tactics, event environment management.

BMK 3413 **Lifestyle Marketing** **3 (3-0-6)**
Prerequisite: *BBA 1104 Fundamentals of Marketing*

Explore the principle and concept of lifestyle marketing. Students will learn how to market products in a way that embodies the interests, opinions, and attitudes of the target audience. Emphasis is on understanding the practical application of lifestyle marketing strategies to market food, fashion, wellness products.

BMK 4201 **Marketing Management** **3 (3-0-6)**
Prerequisites: *BBA 1104 Fundamentals of Marketing*
BBA 3101 Business Research
and Completed 90 credits

The course provides an opportunity for the students to sharpen their skills in making effective marketing plan in response to the needs of the market. Course topics include market-oriented strategic planning, market research and customer insights, target market selection and comprehensive marketing planning regarding product, pricing, distribution and integrated communications in both offline and digital media. Through the collaboration with real industry players, the course allows the students to effectively formulate marketing plans in practical manners in order to cope with the disruptive market environment in modern days.

BMK 4302 **Contemporary Issues in Marketing** **3 (3-0-6)**
Prerequisites: *BBA 1104 Fundamentals of Marketing*
and Completed 75 credits

This course is designed to improve students' awareness of contemporary issues in marketing and to develop their case analysis skills. A number of case studies and specific marketing issues will be discussed throughout the semester. A step by step approach will be taken to build up students' knowledge of and skills in case analysis throughout the course.

BMK 4303 **Marketing Research** **3 (3-0-6)**
Prerequisites: *BBA 1104 Fundamentals of Marketing*
BBA 3101 Business Research
and Completed 90 credits

A research project-based course designed to cover the whole marketing research processes and understand marketing research tools and techniques to translate a marketing decision problems into research questions and learn how to design a research plan, analyze the data and accurately interpret, making the research report and translating the results into practical recommendations.

BMK 4304 **Marketing Metrics and Decisions** **3 (3-0-6)**
Prerequisite : *BBA 1104 Fundamentals of Marketing*
and Completed 112 credits

The analyzing and planning in the area of marketing decision making. It includes principles, techniques and actual practices of market analysis, market forecasting, demand analysis, and evaluation of market potential. The emphasis is on the market analysis, sales projection, pricing analysis, salesforce and distribution decision as a part of administrative planning for profit, market campaign planning, and using metrics to analyze communication plan effectiveness for advertising, sales promotion, online advertising.

BMK 4401 **Sustainability Marketing** **3 (3-0-6)**
Prerequisite: *BBA 1104 Fundamentals of Marketing*

Sustainability discourses strategically applied in marketing to serve as basis for sustainable marketing activities that respond proactively to the need for environmental protection, social justice and economic growth. Theories and principles are discussed thoroughly to serve as a guide for companies to attain sustainable development and to inspire consumers to perform sustainable behaviors.

BMK 4402 **Service Marketing** **3 (3-0-6)**
Prerequisite: *BBA 1104 Fundamentals of Marketing*

A project-based course designed to provide core and practical knowledge in marketing for service-based business. Comprehensive understanding of the unique characteristics of various services; well-rounded situation analysis and research; expanded marketing mix for services; digital marketing tools and techniques; customer relationship management; service recovery strategies; and marketing activation.

BMK 4403 **Digital Media Strategies** **3 (3-0-6)**
Prerequisite: *BMK 3202 Digital Marketing*

This course focuses on media, targeting strategies and search engine optimization (SEO) that are applied to build an effective digital campaign. Students will learn the process of exposing target audience to various available digital media options and integration of digital communication tools; budget allocation; digital media planning and strategies that drive traffic, engagement, leads and sales

BMK 4404 **Digital Marketing in Practice** **3 (3-0-6)**
Prerequisites: *BMK 3410 Digital Consumer Insights and Completed 90 credits*

Integration, synthesis, and application of overall digital marketing knowledge, principles, and tactics in creating a practical learning digital business start-up project. A framework for developing a digital project includes overall market analysis, research, the project concept, creative digital marketing strategies, implementation and level up plan.

BMK 4405 **Marketing Internship** **3 (300 hours)**
Prerequisite: *BBA 1104 Fundamentals of Marketing and Completed 90 credits*

The practical marketing experience by working in marketing fi ms, retail business corporations, governmental entities, private or public organizations under the direct supervision of a designated faculty member. Students will apply marketing theoretical concepts to practice and gain valuable working experience and prepare for their future career.

BRE 3201 **Real Estate Business** **3 (3-0-6)**
Prerequisite: *BBA 1001 Business Exploration*

Overview of real estate business and professional practices, special terms, nature and description of real estate, various types of property, basic rights and interests in real estate, land-use controls, forms of ownership, various real estate fields of property management, development, investment, real estate finance and eal estate appraisal.

BRE 3202 **Real Estate Law** **3 (3-0-6)**
Prerequisite: *BBA 1003 Introduction to Microeconomics and Personal Finance (for Arts students only)*

General principles of real estate law and legal aspects relating to real estate business, property rights, subdivision regulations, ownership in real estate, transferring and registering title, regulations of land-use and city planning, housing and condominium development laws, construction laws and other contracts related to real estate transactions.

BRE 3203 **Real Estate Economics** **3 (3-0-6)**
Prerequisites: *BBA 1002 Microeconomics*
BBA 2002 Macroeconomics and Financial Environment of Business
or BBA1003 Introduction to Microeconomics and Personal Finance (for Arts students only)

Demand and supply of real estate, real estate business cycle, real estate cycle, real estate markets, urban land- use, urban land economics, market failure and remedies in real estate.

BRE 3204 **Building Design and Construction Techniques** **3 (3-0-6)**

Basic knowledge of techniques and process used to design and construct buildings, terms and symbols used in construction drawings, types of construction materials, construction technologies, cost estimation, process to construct building structure, basic construction scheduling techniques, architectural elements, finishing, and building mechanical systems

BRE 3205 **Real Estate Development** **3 (3-0-6)**
Prerequisite: *BRE 3201 Real Estate Business*

Methods in real estate development for various types of real estate, various participants in the real estate development process in both public and private sectors, land selection, development process, including conceptual development, feasibility study, real estate cycles, market analysis, and business strategy.

BRE 3301 **Real Estate Finance** **3 (3-0-6)**
Prerequisite: *BBA 2002 Macroeconomics and Financial Environment of Business*
BRE 3201 Real Estate Business

Financial techniques to sell and buy real estate property, types of financial institutions and sources of funds, types of loan, underwriting, analysis of project development loan and mortgage loan, factors and principal process in real estate lending, including various financial calculations used in real estate business, and government's current policies regarding real estate finance

BRE 3302 **Real Estate Appraisal** **3 (3-0-6)**
Prerequisite: *BRE 3201 Real Estate Business*

Introduction to real estate appraisal, definition of value, objectives of appraisal, data analysis, land (site) and building survey, appraisal report, with emphasis on the three basic approaches to calculate value: Cost Approach, Market Approach and Income Approach.

BRE 3303 **Commercial Property Management** **3 (3-0-6)**
Prerequisite: *BRE 3201 Real Estate Business*

Management of income producing properties, property manager roles and duties, process for making management plans, commercial lease management, lease negotiation in theory and practice, roles and right of landlord and tenant, landlord and tenant relationship management, management and maintenance of property

BRE 3411 **Real Estate Marketing** **3 (3-0-6)**

Application of knowledge and skills in marketing to the real estate industry,, industry analyzing and developing marketing plans, techniques for marketing commercial-investment properties; planning, process, and methods of marketing including marketing program, selling and negotiation strategy, information systems supporting marketing, roles of brokerage business including services, relationship to owner, responsibilities, brokers' code of ethics, and development of a broker profession

BRE 3412 **Sustainability in Real Estate** **3 (3-0-6)**

The site planning, building design, development, and operations of sustainable buildings, the efficiency of inputs and outputs of market production, the efficiency and effectiveness of property management, applications of sustainability in aspects of social, financial, and environmental, stability and durability of urban ecologies

BRE 3413 **Real Estate Investment Alternatives** **3 (3-0-6)**

Concepts and fundamentals for real estate investment, Methods, tools, & techniques for evaluating & selecting various real estate assets, including real estate investment vehicles, Key concepts and instruments for reducing real estate investment risk, Methods and tools for measuring the performance of real estate investments.

BRE 3421 **Contemporary Issues in Real Estate Appraisal** **3 (3-0-6)**

Various aspects of real estate appraisal experience and practices including professional appraisal ethics, case studies, workshops, and fieldtrips elated to real estate appraisal.

BRE 3422 **Implications of Real Estate Finance and Appraisal** **3 (3-0-6)**

Types of financial institutions and sources of funds, types of loan, underwriting, analysis of project development loan and mortgage loan, factors and principal process in real estate lending, and government's current policies regarding real estate finance. Introduction to real estate appraisal, definition of value, objectives of appraisal, with emphasis on the concepts of three basic approaches to calculate value: Cost Approach, Market Approach and Income Approach

BRE 4301 **Real Estate Investment Analysis** **3 (3-0-6)**
Prerequisite: *BRE 3301 Real Estate Finance*

Process of real estate investment and analysis, methods in real estate investment analysis, including traditional method and discounted cash flow method, prelim-financial feasibility study, real estate investment assumptions, real estate investment analysis of various real estate segments, real estate investment analysis report, other types of real estate investment vehicles.

BRE 4302 **Real Estate Project Management** **3 (3-0-6)**
Prerequisite: *BRE 3205 Real Estate Development*

Procedure and basic technique throughout project management life cycle to fulfill a real estate development project, planning and control project schedule, cost and quality, organization methods and project team, leadership, risk management, project feasibility analysis and project contract.

BRE 4411 **Advanced Real Estate Investment analysis** **3 (3-0-6)**
Prerequisite: *BRE 4301Real Estate Investment Analysis*

Comprehensive real estate feasibility analysis for both low-rise housing and condominium investments, analysis application through computer software packages with the aspects of market, finance, legal, construction, and taxation, analysis of investment risk, tax planning for investment, inflation and investment cycle, and basic strategies for investment portfolio.

BRE 4412 **Contemporary Issues in Real Estate Business** **3 (3-0-6)**
Prerequisite: *BRE 3205 Real Estate Development*

Comprehensive review of various special aspects of real estate development experience and practices, group and individual real estate research, and case study in relevant current issues.

BRE 4421 **Advanced Real Estate Appraisal** **3 (3-0-6)**
Prerequisite: *BRE 3302 Real Estate Appraisal*

Advanced techniques in valuation, including the residual method, discounted cash flow method, and various real estate appraisal theories, standard practice for appraisers, valuation of pending properties, fee simple, lease fee estate and leasehold estates, use of statistics, accounting, computer software and financial analysis in appraising eal estate.

BRE 4422 **Valuation for Special Purpose** **3 (3-0-6)**
Prerequisite: *BRE 3302 Real Estate Appraisal*

Methods and techniques for appraisal of assets used for special purposes such as intangible assets, valuation for statutory purposes e.g. valuation of assets for non-market assets, plant and machinery, concepts to support valuation of various intellectual properties, including patent, copyright, brand name, goodwill, and share value.

BRE 4431 **Contemporary Issues in Commercial Property Management** **3 (3-0-6)**
Prerequisite: *BRE 3303 Commercial Property Management*

Comprehensive review of various special aspects of commercial property management experience and practices, commercial property management research, case study in relevant current issues and fieldtrips related to commercial property management.

BRE 4441 **Independent Study in Real Estate** **3 (3-0-6)**
Prerequisite: *Consent of the Department Chairperson*

Under the guidance of the Department Chairperson, a student will carry out an approved research project in real estate business. Depth, detail and originality of the study will determine the project evaluation.

BRE 4451 **Internship in Real Estate Business** **3 (3-0-6)**
Prerequisite: *Consent of the Department Chairperson*

In the final semester, students may arrange for an Internship Program with a company related to real estate business for at least 300 working hours.Course evaluation based on daily progress record, overall training discussion report, and performance evaluation by the immediate supervisor.

BRE 4452 **Internship in Real Estate Appraisal** **3 (3-0-6)**
Prerequisite: *Consent of the Department Chairperson*

In the final semester, students may participate in an Internship Program with a company related to real estate appraisal for at least 300 working hours.Course evaluation based on daily progress record, overall training discussion report, and performance evaluation by the immediate supervisor.

BS 1001 **General Chemistry** **3 (3-0-6)**

Fundamental chemistry including atomic theory and electronic structure of atom, bonding theory, stoichiometry, periodic table as a survey of representative and transition elements and periodic properties, gas and kinetic theory of gas, acids/bases chemistry including acid base chemical equilibrium, oxidation-reduction and basic thermodynamics.

BS 1002 **General Chemistry Laboratory** **1 (0-3-1)**
Prerequisite or co-requisite : BS 1001 General Chemistry

Safety in laboratory and use of basic chemical instrument, experimentation techniques in measurement and accuracy, molecular structure, chemical reactions, determination of pH of solution and titration, relative quantity, colligative properties of solution, techniques and basic theory in qualitative analysis.

BS 1005 **Principles of Biology** **3 (3-0-6)**

Life, prokaryotic and eukaryotic cell structure and functions of organelle in the cells, cell division, and gamete production, pattern of inheritance, gene expression, energy and photosynthesis, animal cells and plant cells, ecology, behavioral science and evolution.

BS 1006 **Biology Laboratory** **1 (0-3-1)**
Prerequisite or co-requisite : BS 1005 Principles of Biology

Laboratory corresponding to BS 1005 Principles of Biology, general concepts of microscope usage, plant and animal cell structure, somatic cell division including the production of reproductive cells, energy and photosynthesis.

BS 1007 **Organic Chemistry** **3 (3-0-6)**

Fundamental theories of organic chemistry involving the classifica ion of organic compounds according to their functional groups, nomenclature and structure, reactions of organic molecules including synthesis and reaction mechanisms.

BS 1008 **Organic Chemistry Laboratory** **1 (0-3-1)**
Prerequisite or co-requisite : BS 1007 Organic Chemistry

Safety in laboratory and use of apparatus, physical characteristics of organic substances including melting point, boiling point, solubility, and analytical techniques of organic substances, separation, purification, and techniques used for the identification of functional g oups in organic compounds.

BS 1009 **Organic Chemistry** **3 (3-0-6)**

Introduction to the structures and chemical bonds of carbon compounds, nomenclature, types of organic reactions, free radical reactions, ionic reactions, stereochemistry, hydrocarbon compounds, benzene and benzene derivatives, alcohols, ethers, epoxides, aldehydes, ketones, carboxylic acids and carboxylic acid derivatives, phenol compounds, amines and azo dyes.

BS 1010 **Organic Chemistry Laboratory** **1 (0-3-1)**
Prerequisite or Corequisite : BS 1009 Organic Chemistry

Fundamental practice in organic chemistry concerning the properties organic compounds, separation or extraction, purification, distillation, significant tests for functional oups.

BS 1101 **Calculus I for Bioscience** **3 (3-0-6)**

Changing of value with respect to factors, differentials, second and higher order differential, and basic differentiation, basic integration, definite and definite integration, and higher order integration, applications of basic calculus, sketching the curves, optimization, surrounded area by curves, volume of geometrics and calculus questions.

BS 1103 **Calculus for Bioscience** **3 (3-0-6)**

Changing of value with respect to factors, differentials, second and higher order differential, basic differentiation, basic integration, indefinite and definite integration, higher order integration, applications of basic calculus, i.e. sketching the curves, optimization, surrounded area by curves, volume of geometrics and calculus questions, multivariable function, changing of value of multivariable function with respect to factors, chain rules for multivariable function, partial derivative and its application; 3-D geometrics function by rectangular coordinate, cylindrical coordinate and spherical coordinate; evaluation of the area and volume of those 3-D geometric shapes

BS 1201 **Physics for Bioscience** **3 (3-0-6)**

Basic knowledge of physics including units, vector, force and motion, Newtonian motion, work and energy, conservation of energy and momentum, fluids mechanics, internal energy and fundamental heat transfer, thermodynamics, waves and sound, electricity and magnetism, light and color and introduction to advance physics for bioscience.

BS 1202 **Physics Laboratory for Bioscience** **1 (0-3-1)**
Prerequisite or Corequisite : BS 1201 Physics for Bioscience

Laboratory course corresponding to BS 1201 Physics for Bioscience.

BS 2004 **Analytical Chemistry** **1 (0-3-1)**
Prerequisite : *BS 1001 General Chemistry*

Quantitative chemical analysis, steps involved in the preparation and analysis of a sample, analysis techniques using gravimetric and volumetric methods, especially, acid-base titration, precipitation titration, redox titration as well as spectroscopy methods.

BS 2005 **Analytical Chemistry Laboratory** **1 (0-3-1)**
Prerequisite or co-requisite : BS 2004 Analytical Chemistry

Chemistry analysis exercises emphasized on quantitative chemical analysis of chemical samples by combining theories and techniques, including chemical sample preparation and analysis techniques using gravimetric and volumetric methods, especially acid-base titration, precipitation titration, redox titration technique.

BS 2006 **Basic Biochemistry** **3 (3-0-6)**
Prerequisite : *BS 1007 Organic Chemistry*

Structure, function and metabolism of biomolecules including carbohydrates, lipids, amino acids, protein and nucleic acids, characteristics, classification and functions of proteins, enzymes and vitamins, the introduction to gene regulation and genetic engineering.

BS 2007 **Basic Biochemistry Laboratory** **1 (0-3-1)**
Prerequisite or co-requisite : BS 2006 Basic Biochemistry

Laboratory corresponding to BS 2006 Basic Biochemistry, preparation of buffers, analysis of biomolecules properties, use of laboratory equipment and instruments.

BS 2008 **Physical Chemistry** **3 (3-0-6)**
Prerequisite : *BS 1001 General Chemistry*

Unit conversions, physical properties of gas and kinetic theory of gas, energy and work, the first law of thermo-dynamics, entropy, the second and third laws of thermodynamics, free energy and applications of thermodynamics.

BS 2011 **Introduction to Microbiology** **3 (2-3-5)**
Prerequisites : *BS 1005 Principles of Biology*
BS 1006 Biology Laboratory

Overview of microbiology in both theoretical and practical aspects, eukaryotic and prokaryotic microorganisms, viral biology, growth and metabolisms of microorganisms, microbial genetic, classification and identification of microbes, roles of microbes to human, environment and in the industries, and corresponding laboratory sessions.

BS 2013 **Engineering Drawing for Bioscience** **1 (0-3-1)**

Drawing techniques, lettering, geometric construction, orthographic projection, dimensioning and section view, and isometric view.

BS 2014 **Analytical Chemistry** **3 (3-0-6)**
Prerequisite: *BS 1001 General Chemistry*

Principles of quantitative chemical analysis e.g., process for quantitative analysis, stoichiometry, solution preparation, analytical data analysis based on statistics, volumetric and gravimetric analysis and general principles of instrumental analysis by spectroscopy.

BS 2015 **Analytical Chemistry Laboratory** **1(0-3-1)**
Prerequisite or Corequisite: BS 2014 Analytical Chemistry

Chemistry analysis practices emphasizing on quantitative chemical analysis of chemical samples by combining theories and techniques, including chemical sample preparation and analysis techniques using gravimetric and volumetric methods, especially acid-base titration, precipitation titration, redox titration technique and spectroscopy.

BS 2016 **Basic Biochemistry Laboratory** **1 (0-3-1)**
Prerequisite or corequisite : BS 2006 Basic Biochemistry

Qualitative and quantitative analysis of biomolecules, including, carbohydrates, lipids, proteins, nucleotides and enzymes.

BS 2017 **Genetics** **3 (2-3-5)**
Prerequisite or Co-requisite : BS 2011 Introduction to Microbiology

Principles of classical genetics, Mendel's principles and exception of Mendel, sex determination, sex linkage and chromosome mapping, molecular genetics which includes the structure and functions of DNA, DNA replication, transcription, translation, control of gene expression and extrachromosomal inheritance, study of evolutionary genetics, quantitative and qualitative genetics, selection and breeding of microorganisms, genetics related to microbes, and corresponding laboratory sessions.

BS 2018 **Engineering Drawing for Bioscience** **1 (0-3-1)**

Basic and standard of drawing, lettering, applied geometry, theory and technique of orthographic drawing, pictorial drawing, dimensioning, section view, plant layout and assembly drawing

BS 2019 **Genetics and Its Food Application** **3 (2-3-5)**
Co-requisite : BS 2011 Introduction to Microbiology

Principles of classical genetics, Mendel's principles, exception of Mendel, chromosome mapping, molecular genetics which includes the structure and functions of DNA, extrachromosomal inheritance, central dogma, control of gene expression, evolutionary genetics, and quantitative and qualitative genetics. Introduction to genetically modified (GM) foods and its safety, detection of genetic contaminants using PCR and other food applications along with corresponding laboratory sessions.

BS 4001 **Ecology, Conservation and Environmentalism** **3 (3-0-6)**
Prerequisite : *BS 1005 Principles of Biology*

Biological productivity in ecosystem and limiting productivity and perturbation, interaction between species, factors in population growth and the ecological balance, protection activities of the environment from pollution or destruction concerning conservation, improvement and sustainability of natural resources.

BSC 3201 **Logistics and Supply Chain Management** **3 (3-0-6)**
Prerequisite: *BBA 2102 Organization and Management*

Logistics and supply chain management theory, segmentation, forecasting techniques, sourcing management, operations management, sales and operations planning, inventory management, warehouse management, logistics management, transportation, and technology in supply chain.

BSC 3202 **Supply Chain Innovation and Technology** **3 (3-0-6)**
Prerequisite: *BBA 2102 Organization and Management*

Technology introduction process, research and development control and management in supply chain, supply chain digital transformation and company's innovation strategy, product/process/technology life cycle, innovation process generation and implementation, agile project management in supply chain.

BSC 3203 **Lean Manufacturing and Agile Supply Chain** **3 (3-0-6)**
Prerequisite: *BSC 3201 Logistics and Supply Chain Management*

Lean manufacturing systems, manufacturing waste management, designing lean process, materials planning and control, production process aspects, numerical data linkages in supply chain, determination of production schedule and dispatching, production control system, implementation, inventory management, demand management, and agile supply chain.

BSC 3204 **I nternational Transportation and Distribution Management** **3 (3-0-6)**
Prerequisite: *BSC 3201 Logistics and Supply Chain Management*

International transportation modes selection and management system, transportation routing analysis and management, microanalysis of logistics and transportation services, distribution operations, transportation costing, distribution networks management, intermodal transportation, transportation mode interface, domestic and international transportation law, international commercial terms (incoterms), and Greater Mekong Subregion Cross-Border Transportation Agreement (GMS CBTA).

BSC 3205 **Warehousing and Material Handling** **3 (3-0-6)**
Prerequisite: *BSC 3201 Logistics and Supply Chain Management*

Warehousing operations and systems, warehousing pallet, case, and small items storage and retrieving systems, order profile, functional analysis, warehouse management system (WMS), layout, resources, and warehousing development system.

BSC 3301 **Business Analytics** **3 (3-0-6)**
Prerequisite: *SA 2001 Business Statistics II*

Identification, evaluation, and capture business analytic opportunities that create value. Basic analytic methods, case studies, how to use data, descriptive and predictive capabilities, forecasting techniques, the use of optimization to support business decision-making, and the concept of big data.

BSC 3401 **Industrial Engineering Management** **3 (3-0-6)**
Prerequisites: *SA 2001 Business Statistics II*
BBA 2102 Organization and Management

Management of engineering aspects of an operation, concept of re-engineering of process and product, application of time motion study, machinery utilization, development of work structure, work flow, and work calculation from engineering standpoint.

BSC 3402 **Quantitative Analysis** **3 (3-0-6)**
Prerequisites: *SA 2001 Business Statistics II*
BBA 2102 Organization and Management

Probability concepts, forecasting, mathematical decision making techniques, normal distribution theory, decision trees, game theory, simplex method, simulation, and linear programming.

BSC 4302 **Procurement and Supply Management** **3 (3-0-6)**
Prerequisite: *BBA 2105 Operations and Supply Chain Management*

Roles and objectives of procurement and supply functions, procurement and supply strategies, materials management, supplier selection and evaluation, strategic outsourcing, global sourcing, supply partnerships, price/cost analysis, bargaining and negotiations, procure to pay process, procurement policy, ethics and governance, and environmental sustainability.

BSC 4303 **Supply Chain Risk Management** **3 (3-0-6)**
Prerequisite: *BSC 3201 Logistics and Supply Chain Management*

Sources of supply chain risk and their impact on supply chain performance, supply chain risk management process, and strategies to help mitigate supply chain risk, and case studies.

BSC 4304 **Strategic Supply Chain Management** **3 (3-0-6)**
Prerequisite: *Senior standing (118 credits)*

Definition and different levels of strategies, supply chain strategy, process thinking, global supply chain design, supply chain mapping, supply chain cost management, relationship management, and performance measurement.

BSC 4305 **Seminar in Supply Chain** **3 (3-0-6)**
Prerequisite: *Senior standing (118 credits)*

Current logistics and supply chain conditions, problems, and solutions, class discussion, case studies, business exposure, guest speaker, research and presentation.

BSC 4403 **Internship in Supply Chain** **3 (3-0-6)**
Prerequisite: *Consent of the Department Chairperson*

Internship program with an industrial company for not less than 300 hours of work. Weekly progress reports and approved by the student's immediate supervisor must be submitted. A report submission and final presentation must be given.

BSC 4404 **Information Technology in Supply Chain** **3 (3-0-6)**
Prerequisites: *BBA 1102 Data and Information Literacy*
BSC 3201 Logistics and Supply Chain Management

Conceptual and practical issues in information systems to aid in decision-making in industry, information technology for resource planning and scheduling, supply chain decision support system. Execute logistic processes and transactions in SAP.

BT 2011 **Introduction to Biotechnology** **3 (3-0-6)**
Prerequisite : *BS 2006 Basic Biochemistry*
or Co-requisite : BS 2011 Introduction to Microbiology

Introduction and historical perspective of biotechnology, the relationship between traditional biotechnology and modern biotechnology, examples of application drawn from agriculture, medicine, and molecular biotechnology, commercial dimension of the discipline of biotechnology in market place.

BT 3015 **Industrial Fermentation** **3 (2-3-5)**
Prerequisite : *BS 2011 Introduction to Microbiology*

Selection of microbial culture, and the use of microorganism for the production of industrial products, food products, enzymes, antibiotics and organic compounds, cultural improvement, emphasizing on the metabolic regulation of the pathways that generate fermentation products from yeast and other microbial fermentations, and genetic manipulation of industrial microorganisms, and corresponding laboratory sessions.

BT 3016 **Enzyme Technology** **3 (2-3-5)**
Prerequisite : *BS 2006 Basic Biochemistry*

Structure and functions of enzymes, including enzyme kinetics, regulation and inhibition, effect of pH and temperature, production and extraction of enzymes by means of mechanical, physical or chemical disruption of plant, animal or microbial cells, techniques such as purification, immobilization and isolation of enzymes as catalysts, and corresponding laboratory sessions.

BT 3017 **Principles of Research** **3 (3-0-6)**

Introduction to research methodology, experimental design, hypothesis generation, literature review, collection and analysis of the data, use of spread sheet packages to perform statistical analysis, summarizing and writing a research report, presentation, and ethical principles of a researcher.

BT 3018 **Genetic Engineering** **3 (2-3-5)**

Prerequisites : *BS 2006 Basic Biochemistry*
BS 2007 Basic Biochemistry Laboratory
BS 2012 Genetics or BS 2014 Genetics and Its Food Application

Molecular biology and techniques of genetic engineering, application of enzymes, vectors, and host gene isolation, detection of recombinant genes, strategies of gene cloning, genomic libraries, cDNA synthesis, gene identification, application of genetic engineering, ethical issue in genetic engineering, and corresponding laboratory sessions.

BT 3019 **Principles of Research** **3 (3-0-6)**

Introduction to research methodology, experimental design on analysis of variance and multiple comparison tests, completely randomized, randomized block and latin square designs, factorial experiment, split plot design, analysis of covariance, hypothesis generation, literature review, collection and analysis of data, use of spread sheet packages to perform statistical analysis, summarizing and writing a research report, presentation, and ethical principles of a researcher.

CA 1001 **Introduction to Communication** **3 (3-0-6)**

Principles of communication, definition and types of communication, including principles of intrapersonal communication, interpersonal communication, small group communication, public communication and mass communication.

CA 1002 **Introduction to Photography and Cinematography** **3 (2-2-5)**

Basic theories and practice of photography and cinematography, uses of equipment, composition, principles of setting, types of lens through the applications in digital photography. Students will be assigned to create photographs suitable for various types of communication.

CA 1021 **Introduction to Advertising and Branding** **3 (3-0-6)**

Theories in advertising and branding, basic principles of advertising and branding, role of advertising and branding, products and services to consumers, analysis of products, markets and consumers. The course also covers process of the media selection, judgment of executions for advertising and branding, function and services of advertising and branding agency, including ethics and responsibility in the professions.

CA 1022 **Introduction to Public Relations** **3 (3-0-6)**

Basic principles of public relations, process of public relations, target group and equipment in public relations work, characteristics of public relations in organizations, such as business organizations, government departments and public charity organizations, including ethics for public relations.

CA 1023 **Introduction to Live Event Creation and Management** **3 (2-2-5)**

Basic principles and the process of communication through live shows, event and performance, etc. including work flow, personnel and job allocation needed in putting up live show as well as considerations to be made for a stage and a broadcast.

CA 1024 **Introduction to Digital Media Communication** **3 (2-2-5)**

The course addresses the influential histories of communications media and technological development, focusing on the shift from analog to digital practices and cultures that began mid-century and continues to the present, the development of motion picture, radio, television and new media, general program production, function and relationship between different personnel involved, including basic production of digital media projects.

CA 1025 **Computer Graphic Design** **3 (2-2-5)**

This course covers the basic concept of 2D computer graphic and how to transfer sketches to a computer such as designing an icons, vector and raster poster. Basic computer hardware, color theory and typography will be included into this course as well. Students will use standard computer and graphic software to reinforce communication skills

CA 2003 **Presentation Technique** **3 (2-2-5)**

Various techniques in presentation, public speaking and the use of audio-visual equipment in presentation to help students develop communication skills.

CA 2019 **Communication Arts Research** **3 (3-0-6)**
Prerequisite : *BG 1203 Fundamentals of Statistics*

Principles and methods of research process, framework, and methodology, including application of methods in research for development of projects in communication campaign.

CA 4010 **Law and Ethical Concerns for Communication** **3 (3-0-6)**

Freedom, rights, duties, responsibilities and ethical considerations of communication professionals, libel law, printing regulation, copyright law, advertising regulations and self-regulations, telecommunication and broadcasting regulations, internet regulations, rating and censorship of entertainment materials.

CE 2102 **Data Structures and Algorithms** **3 (3-0-6)**
Prerequisite : *BG1221 Computer Programming*

Various type of data structures, e.g., array, string, stack, queue, dequeue, tree, binary tree, B-tree, AVL – tree; data searching and sorting, storage allocation; coding; table handling.

CE 2103 **Object-Oriented Programming** **3 (3-0-6)**
Prerequisite : *BG1221 Computer Programming*

Object-oriented software coding paradigm and implementation through hands on experience using a cross platform compiler. Basic syntax, data structures, operators, loops, functions, arrays, strings, pointers. Class design, Object instances, data encapsulation (public, private, protected), operator overloading, pass by reference/value, use of inheritance and interfaces, using polymorphism with up/down casting, applying abstraction in the design process separating code into interface and implementation.

CE 2104 **Software Design and Development** **3 (3-0-6)**
Prerequisites : *CE 2103 Object-Oriented Programming*

Software design principles and practices; design patterns; software reuse; testing; event driven programming and concurrency; graphical user interface design and development; Team development.

CE 2703 **Introduction to Computer Systems** **3 (3-0-6)**

Digital computer organization, memory unit, input-output device units, A/D conversion, D/A conversion, computer interface, procedure control, multiutilization, multiprogramming, multiprocessing, on-line computer systems, processing program, system design.

CE 2704 **Digital Logic Design** **3 (3-0-6)**
Prerequisites : *BG 1213 Physics II*
BG 2208 Discrete Mathematics

Number system; logic combination: logic systems and Boolean algebra, comparator; Karnaugh map, tabulation method; combination logic circuit: adder, subtract, multiple output circuits, encoder, decoder, multiplexer, demultiplexer, ROMD, sequential circuits: synchronous and asynchronous circuits, flip-flops counter circuits, registers.

CE 2705 **Digital Logic Design Laboratory** **1 (0-3-2)**
Prerequisite or Co-requisite : CE 2704 Digital Logic Design

Experiments on the designs of Gate, digital and switching circuits; interconnection of logic modules, counter, control circuits, arithmetic units, memories and small computer circuits.

CE 2709 **Computer Architecture** **3 (3-0-6)**
Prerequisite : *CE 2703 Introduction to Computer Systems*
CE 2704 Digital Logic Design

Architecture of a general-purpose computer, design methodology, basic concepts of computer control, memory hierarchies, input-output organization, advanced computer architecture.

CE 3001 **Commercial Application Programming** **3 (3-0-6)**
Prerequisite : *CE 2101 Introduction to Data Structure*
or CE 2102 Data Structure and Algorithms

Language fundamentals, Library IDE (Integrated Development Environment) and high-level languages used in developing a commercial application.

CE 3003 **Mobile Applications Development** **3 (3-0-6)**
Prerequisite : *CE 2103 Objet-Oriented Programming*

Principles of mobile application design and development including mobile application development life-cycle, tools and frameworks for development, user interface design, user

CE 3103 **Computer Operating Systems** **3 (3-0-6)**
Prerequisites : *BG 1205 Calculus II*
CE 2101 Introduction to Data Structures
or CE 2102 Data Structures and Algorithms

Components and types of operating systems, command interpreter, management of main storage, file storage, data management, I/O management, device management; resource protecting; freestanding systems, disk operating systems, real-time operating systems, multiprocessor operating systems.

CE 3104 **Software Engineering** **3 (2-3-6)**
Prerequisites : *CE 2101 Introduction to Data Structures*
or CE 2102 Data Structures and Algorithms

Software design techniques; problem definition; function design; modular program; program design; hierarchy input and output process; detailed design; decision tables; pseudo code; debugging test data; software reliability; software maintenance; design and development of large scale software.

CE 3105 **Microprocessor Programming Using Assembly & C** **3 (3-0-6)**
Prerequisites : *CE 2101 Introduction to Data Structures*
or CE 2102 Data Structures and Algorithms

Computer architecture, operation and instruction; programming languages; assembly language programming; arithmetic programs; loops and arrays; mnemonic operations; subroutines; characteristic and operation of assemblers, interfacing assembly with the high-level language (C language), using C to interact with hardware.

CE 3106 **Programming Languages** **3 (3-0-6)**
Prerequisites: *CE 2101 Introduction to Data Structures*
or CE 2102 Data Structures and Algorithms
HTM 3102 Introduction to Tourism Management

Definition of language including specification of syntax and semantics; programming techniques of selected modern languages; language structures; data types; run-time environment.

CE 3109 **Database Management Systems** **3 (3-0-6)**
Prerequisites : *CE 2101 Introduction to Data Structures*
or CE 2102 Data Structures and Algorithms

Models and theories of database design: hierarchical, network, and relational/non-relational models; data description languages and relational query languages; query facilities, data integrity and file security; related database technologies such as XML, JSON, and noSQL databases.

CE 3111 **Sales PromotionDesign and Analysis of Algorithms** **3 (3-0-6)**
Prerequisites : *CE 2101 Introduction to Data Structures*
or CE 2102 Data Structures and Algorithms

Techniques of design and analysis of algorithms for internal and external sorting, searching and margins; NP-hard problems.

CE 3707 **Microprocessor Systems Design** **3 (3-0-6)**
Prerequisite : *CE 2709 Computer Architecture*

Microprocessor architecture; control unit; memory; input-output units; microprocessor construction; registers; index and stack pointers; addressing modes; interfacing techniques (RAM, ROM, ...); microprocessor programming.

CE 3901 **Digital Audio/Video Coding Technique** **3 (3-0-6)**

Basics technique of audio/video encoding.

CE 4002 **Introduction to Broadcasting Technology** **3 (3-0-6)**
Prerequisite : *CE 4228 Data Communication and Networking*

Current technology using in the broadcasting technology e.g. Broadcasts protocol, video editing technology.

CE 4108 **Operations Research** **3 (3-0-6)**
Prerequisite : *BG 2207 Engineering Mathematics*

Scientific methods of operations research, linear programming, dynamic programming, game theory, queuing theory, simulation, and applications of these techniques to industrial operations.

CE 4109 **Information Systems Analysis and Design** **3 (3-0-6)**
Prerequisites : *CE 2101 Introduction to Data Structures*
or CE 2102 Data Structures and Algorithms

Data and information; data processing system; information system design; data storage and data classification; er or detection; file and fo m design, sequential, indexed, VSAM, ISAM.

CE 4110 **Compilers** **3 (3-0-6)**
Prerequisite : *CE 3106 Programming Languages*

Programming language structures; compiling systems, lexical analysis, syntax and semantics analysis, parsors, symbol table, error diagnostics and recovery, code generation, examples of typical compilers.

CE 4114 **Data Mining** **3 (3-0-6)**
Prerequisite : *CE 3109 Database Management Systems*

Fundamental concepts of data mining; data mining methodologies; classification; association rules; clustering.

CE 4201 **Image Processing and Computer Vision** **3 (3-0-6)**
Prerequisites : *CE 1100 Computer Programming for Engineer*
or BG 1220 Fundamental of Computer Processing
or BG 1221 Computer Programming or Equivalent

Introduction to digital image processing including such topics as digital image representation, analysis of images represented in different formats, edge detection, image segmentation, object recognition, motion analysis.

CE 4207 **System and Network Programming** **3 (3-0-6)**
Prerequisites : *CE 2101 Introduction to Data Structures*
or CE 2102 Data Structures and Algorithms

Syntax and semantics of C++ applied to object oriented programming concept of abstract data type, classes, data hiding, polymorphism and inheritance. General introduction to UNIX operating system and UNIX file system, and use of UNIX system calls in C++

CE 4221 **Network Applications and Technology** **3 (3-0-6)**
Prerequisites : *CE 2101 Introduction to Data Structures*
or CE 2102 Data Structures and Algorithms

Internet/Intranet technologies, Web technologies, protocols, and applications including HTML, JavaScripts, modern scripting languages OGL, Java, Web Services, REST, XML, JSON, relational and nonrelational databases, security, Internet engineering effort, parameters of the technical Internet/Intranet environment, contributing technologies of today's Internet/Intranet, emerging Internet's applications and technologies.

CE 4223 **Advanced Computer Networks** **3 (3-0-6)**
Prerequisites : *CE 4222 Computer Networks*
or CE 4228 Data Communications and Networking

Hardware and software organization for computer communication networks, using the 7-layer Open System Interconnection Reference Model and IP protocol suite as a basis for study, typical designs for computer network protocols from the hardware through the communications software and application software levels, using LAN, TCP/IP and OSI protocols as examples including internetworking concept and technology.

CE 4224 **Telecommunication Network Laboratory** **1 (0-3-2)**
Prerequisite : *Completion of 90 Credits*

Setup and test LAN network (Ethernet), install and setup the Network Operating System, window NT, Novell NetWare, and UNIX, including network management system, network printer, file transfer etc. Setup and operate Internet Server and Client.

CE 4225 **Computer and Network Security** **3 (3-0-6)**
Prerequisites : *CE 4222 Computer Network*
or CE 4228 Data Communication and Networking

Security technique for both network and database. Cryptography technique; concept, scheme, secret key; public key, Hash algorithm, authentication and digital signature. Firewalls, World Wide Web security, and Internet security protocol are discussed in details in both theory and practice.

CE 4226 **Network Systems Analysis and Design** **3 (3-0-6)**
Prerequisites : *CE 4222 Computer Networks*
or CE 4228 Data Communications and Networking

Analysis and design of networks; methods to analyze the existing networks, redesign the existing network or design and evaluate the network; queuing theory, traffic analysis, security, reliability, availability and flexibility

CE 4227 **Mobile and Wireless Networks** **3 (3-0-6)**
Prerequisites : *CE 4222 Computer Networks*
or CE 4228 Data Communications and Networking

Wireless communication system; theory, principle of mobile communication system; characteristic and impact of radio propagation; modulation techniques; speech coding; diversity channel coding; multiplexing technique; interconnection components for mobile communication system; standards of current mobile communication, 3G, 4G, 5G and beyond; cellular systems: multiple access and interference management, capacity of wireless channels, multiuser capacity; MIMO system; wireless data networks with an emphasis on protocols above the physical layer.

CE 4228 **Data Communication and Networking** **3 (3-0-6)**
Prerequisites : *TE 3000 Principles of Communications*
or TE 3003 Fundamental of Communication Systems

Introduction to data communications and networks; layered network architecture; point-to-point protocols and links; delay models in data networks; medium-access control protocols; flow control; error control; local area network; switching network; routing in data networks; network security; cloud network, architecture and system; standards.

CE 4229 **Introduction to Cloud Computing** **3 (3-0-6)**
Prerequisites : *CE 4222 Computer Networks*
or CE 4228 Data Communications and Networking

Introduce the concepts of Cloud Computing as new computing paradigm. The course will expose students with various terminology, principles, and applications. Also, students will learn technological aspects of distributed systems and databases, virtualization, data parallelism, performance analysis, cloud services, networking, and security.

CE 4301 **Fundamental of Internet of Things** **3 (3-0-6)**
Prerequisites : *CE 4221 Network Applications and Technologies*
EE 3705 Microprocessors and Microcontrollers

Introduction to the Internet of Things (IoT) including microcontroller or microprocessor based systems that can control physical world; key components of IoT and networking; full stack software development; IoT design considerations and constraints; interfacing between devices and physical world.

CE 4302 **Introduction to Big-Data** **3 (3-0-6)**
Prerequisites : *CE 3109 Database Management Systems*

Big data analysis, tools, and techniques; Management of structured and unstructured data; Processing and Querying large data sets.

CE 4713 **Advanced Computer Architecture** **3 (3-0-6)**
Prerequisite : *CE 2709 Computer Architecture*

Microcomputer, minicomputer and mainframe architectures; computer systems organizations pipeline processors, stack, multi-processors.

CE 4714 **Fault-Tolerant Computer** **3 (3-0-6)**
Prerequisite : *CE 2704 Digital Logic Design*

Maintainable and diagnosable design techniques; test generation algorithms; Boolean difference; simulation for design verification; self-checking logic circuits; error detection and correction codes; redundancy techniques; design of simplified testing

CE 4715 **Artificial Intelligenc** **3 (3-0-6)**
Prerequisites : *CE 2101 Introduction to Data Structures*
or CE 2102 Data Structures and Algorithms
CE 2703 Introduction to Computer Systems

Intelligent Agents, Problem solving by searching, DFS, BFS, A* search, Greedy search, proposition logic, first order logic, forward chaining backward chaining, basic probability and Bayesian logic, Fuzzy logic, Decision networks, learning: Supervised learning, theory of learning, neural networks, support vector machines, machine language translation and visual perception.

CE 4901 **Computer Engineering Project I** **1 (0-3-2)**
Prerequisite : *Completion of 100 credits*

Study and development of project in Computer and Network Engineering. Students must submit reports at the end of the semester.

CE 4902 **Computer Engineering Project II** **2 (0-6-3)**
Prerequisite : *CE 4901 Computer Engineering Project I*

Continuation of project done in Computer Engineering Project I. Report is also required at the end of the semester.

CE 4903 **Advanced Topics in Computer Engineering** **3 (3-0-6)**
Prerequisite : *Completion of 90 credits with the consent of the Chairperson*

Topic of current interest and new developments on computer engineering.

CE 4904 **Special Problems in Computer Engineering** **3 (3-0-6)**
Prerequisite : *Completion of 90 credits with the consent of the Chairperson*

Investigation of special problems assigned by the instructor with the consent of the Faculty; a written report is required.

CE 4907 **Computer Engineering Industrial Training** **3 (0-9-6)**
Prerequisite : *Consent of the Chairperson*

Student needs to apply for internship from Company that dealing in Computer Engineering field. Student need to submit a report regarding their duty assigned to the responsible faculty.

CGI 1201 **Computer Graphics Design Studio I** **3 (2-2-5)**

Fundamentals of design and sketch development to create basic concept design such as shape and form, object, layout and composition.

CGI 2203 **Computer Graphics Design Studio II** **3 (2-2-5)**
Prerequisite : *CGI 1201 Computer Graphics Design Studio I*

Fundamentals of concept design in 2 dimension drawing and application to the 2 dimensional designs such as character, page layout, and application to other media.

CGI 2204 **Introduction to 3D Modeling** **3 (1-4-4)**
Prerequisites : *ART 1208 Computer Graphics Foundation*
ART 1007 Figure Drawing

Principles of 3-D space and 3 dimensional modeling techniques, such as object modeling, procedures for texture mapping, lighting and rendering, construction of basic digital 3-D models of character and environment. Final render of 3D model is required for class to analyze and criticize in terms of technique and aesthetics.

CGI 2205 **Motion Graphics Design** **3 (1-4-4)**
Prerequisite : *ART 1208 Computer Graphics Foundation*

Concepts related to motion graphics using still images, live-action video, and three-dimensional computer graphics in conjunction with software programs such as Adobe After Effects, Adobe Premiere, Adobe Photoshop, Vegas, and various sound tools.

CGI 2207 **Animation Concept and Story telling** **3 (2-2-5)**
Prerequisite : *ART 1007 Figure Drawing*

Introduction to diversity of animation aesthetics from industrial processes to individual personal expression, historical contexts and methods as well as contemporary trends and techniques. oral and written critique supported by practical investigation into personal aesthetic choice, examination of a number of approaches for adaptation of story content to cinematic form, how to transpose ideas through 2-D storyboards and animatics to 3-D asset creation for pre-visualizing storyline.

CGI 2208 **Computers Graphics Design Studio III** **3 (2-2-5)**
Prerequisite : *CGI 2203 Computer Graphics Design Studio II*

Techniques and concepts of animation such as, 2D animation, stop motion, turn table for character and walk cycle.

CGI 2235 **Introduction to Motion Picture** **3 (2-2-5)**

Fundamentals of video production techniques and overview of film and moving images. By combining theory and hands-on exercises, students are expected to develop the technical, analytical and critical foundations necessary in the video preproduction, production and postproduction process. Students may be required to produce a variety of short film p ojects.

CGI 2236 **Introduction to Sound Design** **3 (1-4-4)**

Sound design principles as applied to motion pictures and interactive systems, phenomenology of sound with an introduction to acoustics, exploration of creative use of sound, introduction to field recording, use of digital audio workstations, use of original sound recordings from an extensive sound library.

CGI 3025 **CGI Internship** **1 (120 hours)**
Prerequisite : *CGI 3210 Computer Graphics Design Studio IV*

Professional practice by working in a company which provides design business such as graphics design, computer graphics, photography and/ or advertising design. This course requires 120 hours working and satisfactory performance evaluated by a company supervisor.

CGI 3209 **3D Animation** **6 (1-10-7)**
Prerequisites : *CGI 2204 Introduction to 3D Modeling*
CGI 2208 Computer Graphics Design Studio III

3-D Animation with emphasis on weight, pose and mechanics of character movement, use of 2-D animation skills to thumbnail and creation of rough animations that help push their 3-D poses, basic principles of modeling and rigging as applied to a series of very different characters. Students explore basic tools and apply them to various anatomical problems to find modeling and rigging solutions for character motion.

CGI 3210 **Computer Graphics Design Studio IV** **3 (2-2-5)**
Prerequisite : *CGI 2208 Computer Graphics Design Studio III*

Development of a uniqueness of story, sense of style and material as alternative for formulated traditional animation or digital animation, employ imagery and design theory such as compositions, value and colors to narrate the story and complete the design for animation and film p oduction.

CGI 3211 **Cinematic Lighting and Rendering** **3 (1-4-4)**
Prerequisite : *CGI 2204 Introduction to 3D Modeling*

Lighting and rendering issues needed in the animation production work flow, technical and aesthetic overview of lighting for studio, presentation, cinema and visual effects, as well as tonal evaluation of images, color temperature and color theory, technical issues which include shadows, soft shadow control, light types, lighting setup and control, raytracing, mental ray.

CGI 3212 **Computer Graphics Design Studio V** **3 (2-2-5)**
Prerequisites : *CGI 3210 Computer Graphics Design Studio IV*
CGI 2207 Animation Concept and Storytelling

The course prepares students for professional careers by enhancing their collaboration expertise through projects. Development of student skills in communication, management, critical thinking, and problem-solving. Developing and conceptualize creative and design challenges. Students projects will vary on multiple aspects in mock-up of industry environment.

CGI 3213 **Digital Image for Digital Production** **3 (1-4-4)**
Prerequisites : *ART 1007 Figure Drawing*
CGI 2203 Computer Graphics Design Studio II

Digital image principles as applied to digital production, exploration of creative use of images in the real production of animation, film and visual e fects with emphasis on techniques of photo retouching.

CGI 3214 **Movement Analysis and Integration** **3 (1-4-4)**
Prerequisite : *CGI 3209 3D Animation*

Character emotion and physical movement, realistic movements simply from a movement of a bouncing ball to a much more complicated walk cycle, professional choreography, how human body moves with the correct speed and gravity.

CGI 3220 **Digital Compositing** **3 (1-4-4)**
Prerequisite : *CGI 3230 Cinematography for Visual Effects*

Students will learn to composite with digital photography based on the concepts of traditional compositing ideas. Students will learn to use digital SLR cameras, apply digital darkroom techniques, creatively manage transparency, and develop an understanding of lighting and perspective with the use of compositing software.

CGI 3227 **Lip Sync and Facial Expressions for Animation** **3 (1-4-4)**
Prerequisite : *CGI 3209 3D Animation*

The course emphasized on facial expression and lip sync techniques, animating with the recorded dialogue, referencing footage, Timing and Spacing, lip syncing, fundamental of emotion, graph editor; working with camera movement will be analyzed and discuss in class.

CGI 3228 **Introduction to Rigging** **3 (1-4-4)**
Prerequisites : *CGI 2204 Introduction to 3D Modeling*
CGI 2208 Computer Graphics Design Studio III

This course teaches students how to design and create basic rigging and set up 3D characters for animation production. Students will design character based or mechanical model on two-dimension sketches and drawings starting from an idea to fully develop that is ready to be used in various fields such as games and animation.

CGI 3230 **Cinematography for Visual Effects** **3 (1-4-4)**
Prerequisites : *CGI 2202 Introduction to Motion Picture*
CGI 2204 Introduction to 3D Modeling
CGI 2208 Computer Graphics Design Studio III

Student will learn the foundation of cinematography for visual effects industry from pre-production to post-production including green screen shooting, various scale objects and set extension.

CGI 3231 **Digital Material for Texturing** **3 (1-4-4)**
Prerequisites : *CGI 2204 Introduction to 3D Modeling*
CGI 2208 Computer Graphics Design Studio III
CGI 3213 Digital Image for Digital Production

Student will learn the foundation concept in texturing material object base on aged and profile of hard surface to organic object, at the end of the class students will be able to applied the seem less, 2D and 3D texture to the 3D object.

CGI 3233 **Advanced 3D Modeling and 3D Visualization** **3 (1-4-4)**
Prerequisite : *CGI 2204 Introduction to 3D Modeling*

Advance Process and technical oriented in 3D modeling to visualize the design in the professional way. The courses will analyze and criticize in terms of technique and aesthetics.

CGI 3234 **Character Design** **3 (1-4-4)**

Introducing the basic to advance theory about designing characters for various purposes. Student will learn to create functional character designs while developing their skills in drawing and using computer software. Student will practice designing variety styles for characters and what it needs to make appealing and iconic character design.

CGI 3236 **Visual Effects** **3 (1-4-4)**
Prerequisite : *CGI 3230 Cinematography for Visual Effects*

Techniques of compositing especially rotoscoping, chroma-keying, matte creation, how to seamlessly blend CG and live action film together and render it with professional multi-pass rendering and time-based compositing techniques.

CGI 4223 **Art Thesis I** **3 (2-2-5)**
Prerequisites : *CGI 3212 Computer Graphics Design Studio V*
CGI 3025 CGI Internship
BG 2000 English III

Students are required to choose their own topics related to their field of study and develop a project. The project has to be approved by the Computer Generated Imagery Thesis Committee. Students must complete the project and present it to the committee with all documents included.

CGI 4224 **Computer Graphics Design Portfolio** **3 (2-2-5)**
Prerequisite : *CGI 3212 Computer Graphics Design Studio V*

Preparation of students for professional situations through the creation of individual demo reels, interactive portfolio, video on-line, cross-platform developments and issues concerning aesthetics, resumes, web sites and portfolios by emphasizing on business structure, studio hierarchy in both areas (animation studio and interactive studio), production bidding, media distribution, employee evaluation and professional growth, aspects of business in order for students to attain and sustain a professional career.

CGI 4225 **Art Thesis II** **6 (1-10-7)**
Prerequisite : *CGI 4223 Art Thesis I*

The class project continues from CGI 4223 Art Thesis I. In this class students will concentrate on their technical orientation related to their project's achievement. Technical and aesthetic skill set of the advanced skill will be discussed through the exploration of projects. Students continue to develop content delivery, story and technical mastery with emphasis on the identification and utilization of individual strengths in the context of a production environment. Students must finish their final project and organize their Art Thesis Exhibition in public.

CGI 4229 **Advanced 3D Character Animation** **3 (1-4-4)**
Prerequisite : *CGI 3227 Lip Sync and Facial Expression*

This course emphasized on how to develop their animation skills, techniques and principles of animation. The course is focusing on the animation pipeline and workflow following the actual animation production. Students will be able to analyze animation and discuss as professionals.

CGI 4232 **Matte Painting for Visual Effects** **3 (1-4-4)**
Prerequisites : *CGI 2207 Animation Concept and Story Telling*
CGI 2208 Computer Graphics Design Studio III

Student will learn the foundation of matte painting. Students are introduced to the digital tool set and technique for create 2D image use for background and set extension for matte painting, including 2.5D and camera projection technique

CN 0400 **Chinese for Beginners I** **3 (3-0-6)**

Chinese sound system and pronunciation, focusing on Pinyin (Chinese Romanization system), basic Chinese characters and simple conversation.

CN 0401 **Chinese for Beginners II** **3 (3-0-6)**
Prerequisite: *CN 0400 Chinese for Beginners I*

Basic vocabulary and sentence patterns to develop the listening and speaking skills in daily life.

CN 1400 **Introduction to Chinese** **3 (3-0-6)**

Mandarin sound system, pronunciation, writing of Chinese characters, fundamental Chinese grammar and everyday sentence patterns.

CN 1401 **Chinese I** **3 (3-0-6)**
Prerequisite: *CN 1400 Introduction to Chinese*

Basic conversations and texts concerning everyday life to broaden basic vocabulary and Chinese grammar.

CN 1430 **Listening and Speaking in Chinese I** **1 (1-0-2)**

Practice of listening and speaking simple sentences and daily-life conversations with emphasis on correct pronunciation.

CN 1431 **Listening and Speaking in Chinese II** **1 (1-0-2)**
Prerequisite : *CN 1430 Listening and Speaking in Chinese I*

Practice of listening and speaking conversations in everyday situation focusing on fluency

CN 2401 **Chinese II** **3 (3-0-6)**
Prerequisite : *CN 1401 Chinese I*

Conversations and texts in the intermediate level to expand the number of vocabulary and knowledge of grammatical structures.

CN 2402 **Chinese III** **3 (3-0-6)**
Prerequisite : *CN 2401 Chinese II*

Reading texts on Chinese life and culture focusing on advanced grammatical points and oral expressions.

CN 2431 **Chinese Oral Comprehension and Expression I** **2 (2-0-4)**
Prerequisite : *CN 1431 Listening and Speaking in Chinese II*

Listening to topics related to general interests and oral practice of summary on the selected topics.

CN 2432 **Chinese Oral Comprehension and Expression II** **2 (2-0-4)**
Prerequisite : *CN 2431 Chinese Oral Comprehension and Expression I*

Listening to conversations and texts related to Chinese culture and current situations and practice of recounting events and stories from the selected topics and actual experience.

CN 3403 **Chinese IV** **3 (3-0-6)**
Prerequisite : *CN 2402 Chinese III*

Reading of academic texts, practice of writing a short paragraph, and introduction to literary Chinese: vocabulary, expressions, sentence structures, and idiomatic usage.

CN 3420 **Integrated Chinese Skills** **3 (3-0-6)**
Prerequisite : *CN 3403 Chinese IV*

Enhancement of four Chinese language skills in daily and business application.

CN 3433 **Chinese from Audio-Visual Media** **3 (3-0-6)**
Prerequisite : *CN 3436 Business Conversation I*

Modern Chinese ways of life from audio-visual aids, and practice of recounting, analytical and discussion skills.

CN 3436 **Chinese Business Conversation I** **3 (3-0-6)**
Prerequisite : *CN 2432 Chinese Oral Comprehension and Expression II*

Practice of conversations on topics related to business context.

CN 3437 **Chinese Business Conversation II** **3 (3-0-6)**
Prerequisite : *CN 3436 Chinese Business Conversation I*

Further practice of conversations on business topics and development of fluency and accuracy of the speech.

CN 3441 **Chinese Reading and Oral Report** **3 (3-0-6)**
Prerequisite : *CN 2402 Chinese III*

Development of reading skills of texts related to current social, economic situations and practice of gathering information and presenting oral reports.

CN 3450 **Introduction to Chinese Writing** **3 (3-0-6)**
Prerequisite : *CN 2402 Chinese III*

Practice of writing different kinds of sentences including simple, compound and complex sentences, book reports, summaries, diaries, letters and essays in the given topic.

CN 3451 **Communicative Writing in Chinese** **3 (3-0-6)**
Prerequisite : *CN 3450 Introduction to Chinese Writing*

Practice of writing descriptions, passages, notes, announcements, invitation, agenda, minutes, product description, product instructions and advertisement.

CN 3463 **Introduction to Chinese Culture** **3 (3-0-6)**
Prerequisite : *CN 3403 Chinese IV*

Development of Chinese culture from the Xia dynasty to the modern era focusing on significant historical events, ways of life and main accomplishments in the science, arts and literature and specific features of Chinese influence on the world

CN 3470 **Translation I: Chinese-Thai** **3 (3-0-6)**
Prerequisite : *CN 2402 Chinese III*

Methods and techniques of translation from Chinese to Thai and practice of translation of sentences, paragraphs, articles and texts.

CN 3481 **Chinese for Tourism** **3 (3-0-6)**
Prerequisite : *CN 2402 Chinese III*

General knowledge and Chinese terminology in tourism industry, description of Thailand's tourist attractions in Chinese, duties and responsibilities of tour guides and practice of Chinese oral communication as a tour guide.

CN 3483 **Chinese for Service Industries** **3 (3-0-6)**
Prerequisite : *CN 2402 Chinese III*

Vocabulary, expressions, and conversations used in service industries: airlines, hospitals, restaurants, banks, and Immigration.

CN 3484 **Chinese for Office Management** **3 (3-0-6)**
Prerequisite : *CN 2402 Chinese III*

Knowledge and skills for office management in Chinese, work etiquettes, practice of spoken Chinese in office and writing messages, work schedules, memoranda, agenda and minutes

CN 3485 **Chinese for Hotel Services** **3 (3-0-6)**
Prerequisite: *CN 2402 Chinese III*

General knowledge and Chinese terminology in hotel industry, duties and responsibilities of personnel in hotel industry and practice of Chinese communication in hotel industry context.

CN 4433 **Public Speaking in Chinese** **3 (3-0-6)**
Prerequisite : *CN 3437 Chinese Business Conversation II*

Basic principles and practice of public speaking for persuasive purposes, selection and evaluation of materials for speech, thought organization, voice and non-verbal communicative means.

CN 4436 **Advanced Business Conversation in Chinese** **3 (3-0-6)**
Prerequisite : *CN 3437 Chinese Business Conversation II*

Practice of conversations for business purposes and oral practice of presenting the information, idea and argumentation concisely and systematically.

CN 4440 **Reading in Business Chinese** **3 (3-0-6)**
Prerequisite : *CN 3403 Chinese IV*

Development of reading proficiency in business- elated materials, writing summaries and reviews.

CN 4442 **Reading in Chinese Newspapers** **3 (3-0-6)**
Prerequisite : *CN 3403 Chinese IV*

Chinese newspaper reading skills and understanding of expressions and styles used in news writing.

CN 4452 **Business Writing in Chinese** **3 (3-0-6)**
Prerequisite : *CN3451 Communicative Writing in Chinese*

Technical terms and formats in business writings, various forms of correspondences and business correspondences including resumes and applications.

CN 4460 **Survey of Chinese Literature** **3 (3-0-6)**
Prerequisite : *CN 3403 Chinese IV*

Overall development of Chinese literature from the beginning to the present day, and reading selections in prose, poetry, fiction and drama

CN 4471 **Translation II: Thai-Chinese** **3 (3-0-6)**
Prerequisite : *CN 3470 Translation I: Chinese-Thai*

Methods and techniques of translation from Thai to Chinese and practice of translation of sentences, paragraphs, articles and texts.

CN 4491 **Seminar on Selected Topics** **3 (3-0-6)**
Prerequisite : *Consent of Instructor*

Discussion of selected topics in using Chinese or business Chinese and current issues of interest.

CN 4493 **Business Chinese Internship** **3 (0-9-3)**
Prerequisite: *Completion of at least 105 credits and approval from the Department*

Opportunity to practice of Chinese and application of business knowledge in the real business settings, either private or public organizations under the direct supervision of a designated supervisor and Faculty members.

CSX 1001 **Basic Mathematics and Statistics** **3 (3-0-6)**

Basic foundation in mathematics and statistics such as real numbers and sets, algebra, linear equations and inequalities, analytic geometry, functions, trigonometry, conic sections, matrix algebra, sequences and series, data and statistics, and methods for summarizing and describing sets of data.

CSX 2001 **Introduction to Information Technology** **3 (3-0-6)**

Components of IT systems, its' usage and applications, computer hardware and software and its' operations, communication systems and computer networks basic, applications of current technology, emerging ITrelated
technologies.

CSX 2002 **Calculus** **3 (3-1-7)**
Prerequisite: *CSX1001 Basic Mathematics and Statistics*

Rate of change, limits, finding limits and continuity, derivatives of function, chain rule, techniques of differentiation and its application, L'Hopital's rule. Integration, integration techniques and application of integrals.

CSX 2003 **Principles of Statistics** **3 (3-1-7)**
Prerequisite: *CSX1001 Basic Mathematics and Statistics*

Basic probability theory, random variables, sampling distributions, statistical inference for one population and two populations, Analysis of Variance, and analysis of categorical data.

CSX 2004 **UI/UX Design and Prototyping** **3 (3-0-6)**

Overview of interactive systems, user capabilities, interface technology, design thinking process, user stories and scenarios, wireframes and storyboards, prototyping, interaction design, usability design and testing.

CSX 2005 **Design Thinking** **3 (3-0-6)**

Overview of design process, problem interpretation, ideation, experimentation, solution discovery, design thinking approach to develop products, services, or solutions for complex problems; design thinking methodology, techniques, and supporting tools.

CSX 2006 **Mathematics and Statistics for Data Science** **3 (3-1-7)**
Prerequisite: *CSX 2003 Principles of Statistics*

Linear algebra such as vector spaces in n-space, inner product, norm and distance, orthogonal vector, vector product, Orthogonal functions and Fourier series, including various techniques in multivariate data analysis such as multiple regression analysis, discriminant analysis, logistic regression analysis, principal component analysis, factor analysis, and cluster analysis.

CSX 2007 **Data Science** **3 (3-0-6)**
Prerequisite: *CSX 2006 Mathematics and Statistics for Data Science*

Comprehensive problem-solving mindset, principles, techniques and tools to deal with various facets of data science practices including data preparation and visualization, exploration, description and prediction required for knowledge extraction in both science and business domains.

CSX 2008 **Mathematics Foundation for Computer Science** **3 (3-0-6)**

Discrete mathematics as the basis of computer science, set theory, relation and function, recursive functions, logic and logical proving, mathematical reasoning, graph theory, tree, algebraic structure, probability, model of computation and automata.

CSX 2009 **Cloud Computing** **3 (3-0-6)**

Cloud computing concepts and capabilities, cloud service models; IaaS, PaaS and SaaS, cloud containers, virtualization technologies, infrastructure migration approaches, cloud security and protection mechanisms, cloud resource management and monitoring capabilities, current trends and research in cloud computing.

CSX 3001 **Fundamentals of Computer Programming** **3 (3-0-6)**

History of computer, components of a computer system, coding and numbering systems, algorithm and development process of algorithms and expression of algorithms in terms of flowchart and pseudo code, implementation of algorithms using one of the high level languages that are used widely in the industry with emphasis on the nature and structure of the language, techniques of programming for both numerical and nonnumerical processing, structure of the programming languages and how to develop structured programming.

CSX 3002 **Object-Oriented Concepts and Programming** **3 (3-0-6)**
Prerequisite: *CSX 3001 Fundamentals of Computer Programming*

Different software development methods emphasizing on object oriented methods, fundamental concepts of object oriented programming, inheritance, polymorphism, encapsulation, object oriented programming tools, class libraries, application development using object oriented concept, analysis and design of object-oriented data architecture.

CSX 3003 **Data Structure and Algorithms** **3 (3-0-6)**
Prerequisite: *CSX 3002 Object-Oriented Concepts and Programming*

Analysis of complexity of algorithms, various data structures including array, string, stack, queue, dequeue, tree, graph, set and heap, applications and analysis of algorithms developed employing the data structures mentioned above including time and memory requirement analysis of various searching and sorting algorithms.

CSX 3004 **Programming Languages** **3 (3-0-6)**
Prerequisite: *CSX 3002 Object-Oriented Concepts and Programming*

Computer programming languages on comparative basis with special consideration on syntax, semantics, and implementation, emphasizing on suitability of programming languages for various data manipulations and situations: exception handling, subroutines, visibility rules, concurrency and memory management

CSX 3005 **Computer Networks** **3 (3-0-6)**

Fundamentals of computer networks, network devices and services, role of protocol layers, protocol basics and network protocols, inter-operability issues, Open System Interconnection (OSI) reference model and TCP/IP, addressing and naming schemes, network types and topologies, wired and wireless networks, network media, Local Area Network (LAN) and Wide Area Network (WAN) technologies, network security basics.

CSX 3006 **Database Systems** **3 (3-0-6)**
Prerequisites: *CSX 3002 Object-Oriented Concepts and Programming*

Database systems and database management, types of database systems emphasizing on relational database, functional dependency, normalization, query optimization, integrity and security of database systems, and concurrency control.

CSX 3007 **Computer Architecture** **3 (3-0-6)**

Computer system components, combinatory circuits, sequential circuits, micro-operations using flip flop, registers, adder and counter, computational operations and control of micro-operations, design of memory unit, design of set of instructions, design of parallel processing as well as SISD, SIMD, MISD, and MIMD architectures.

CSX 3008 **Operating Systems** **3 (3-0-6)**

Components and functions of operating systems, uniprogramming, multiprogramming, multitasking, multithreading, resource management functions of operating systems, process scheduling algorithms, device management algorithms, virtual memory management, and classical problems related to operating systems such as deadlock, starvation and concurrency.

CSX 3009 **Algorithm Design** **3 (3-0-6)**
Prerequisites: *CSX 2008 Mathematics Foundation for Computer Science*

Techniques for designing algorithms using divide and conquer, greedy method, dynamic programming and backtracking by emphasizing on analysis of efficiency, design techniques for NP p oblem domain.

CSX 3010 **Senior Project I** **3 (3-0-6)**
Prerequisite: *Third-year student status with at least 72 credits completed*

Specific project which requires students to design and develop a concrete program or system, analyze the problem, define the solution and design the system by applying the various computer science concepts. The advisor whom the students select will guide them throughout the project development. The students must give presentation which includes oral examination.

CSX 3011 **Senior Project II** **3 (3-0-6)**
Prerequisite: *fourth-year student status with at least 100 credits completed*

System development project from the industry, students have to work with the companies under the supervision of their advisor throughout the project. The students must give presentation which includes oral examination.

CSX 4101 **Information System Analysis and Design** **3 (3-0-6)**

The information system development life cycle, methodologies in information system analysis and design, tools and techniques used in information system analyze and design.

CSX 4102 **Software Engineering** **3 (3-0-6)**

Software life cycle, analysis of requirements, structured software design, development, implementation, testing, and maintenance of software, reusable software, documentation and software manuals, and software project management.

CSX 4103 **Requirement Engineering** **3 (3-0-6)**
Prerequisite: *CSX 4101 Information System Analysis and Design*

Software life cycle, analysis of requirements, structured software design, development, implementation, testing, and maintenance of software, reusable software, documentation and software manuals, and software project management

CSX 4104 **Software Testing** **3 (3-0-6)**
Prerequisite: *CSX 4101 Information System Analysis and Design*

Detailed activities involved in testing a software, different approaches in testing various components of a software, appropriate testing methods for different problems, and utilization of testing reports effectively in order to improve quality of a software both during software development and after software implementation.

CSX 4105 **IT Project Management** **3 (3-0-6)**

Project planning, budgeting, prototyping, implementing, and monitoring; resource management, terms of reference, service level agreement, dispute resolution, ICT system development methodologies in practice

CSX 4106 **Enterprise Architecture** **3 (3-0-6)**

Enterprise Architecture basic elements, Enterprise Architecture Framework, Enterprise Architecture Domains, Architecture Development Method and Enterprise Continuum.

CSX 4107 **Web Application Development** **3 (3-0-6)**
Prerequisite: *CSX 3002 Object-Oriented Concepts and Programming*

Web application design and development, model view controller (VMC) framework, Hypertext Markup Language (HTML), dynamic HTML (DHTML), scripting language, such as VB Script, Jscript, etc., knowledge and skills required to develop web application using n-tiers architecture, designing, building, and deploying web application.

CSX 4108 **iOS Application Development** **3 (3-0-6)**
Prerequisite: *CSX 3002 Object-Oriented Concepts and Programming*

Development fundamentals for handheld devices, mobile user experience and usability, designing and implementing applications efficiently under the restrictions of limited resources, programming development frameworks and life cycle on iOS Platform, iOS Software Development Kits (SDK), Xcode, development environment (IDE) and Objective-C programming language for iPhone/iPad, and deployment of application on iPhone/iPad.

CSX 4109 **Android Application Development** **3 (3-0-6)**
Prerequisite: *CSX 3002 Object-Oriented Concepts and Programming*

Development fundamentals for handheld devices, mobile user experience and usability, designing and implementing applications efficiently under the restrictions of limited resources, programming development frameworks and life cycle on Android Platform, and deployment of application on Android devices

CSX 4201 **Artificial Intelligence Concepts** **3 (3-0-6)**
Prerequisite: *CSX 3002 Object-Oriented Concepts and Programming*

Fundamental concepts in AI and its purpose as well as different disciplines in the field, mathematical theorem proving, natural language processing, image processing, robotics, expert system and various techniques used in knowledge representation, searching, induction and heuristic algorithms, case studies related to specific AI applications including expert system, language translation, voice processing, and others, use of popular programming languages such as Prolog and LISP to solve AI related problems.

CSX 4202 **Data Mining** **3 (3-0-6)**
Prerequisite: *CSX 3002 Object-Oriented Concepts and Programming*

Fundamental concepts of data mining, widely used techniques/algorithms and tools, preprocessing, exploratory data analysis, classification, clustering, association analysis and egion discovery.

CSX 4203 **Machine Learning** **3 (3-0-6)**
Prerequisite: *CSX 3002 Object-Oriented Concepts and Programming*

Construction of computer programs that will automatically improve their performance through experience, primary approaches to machine learning, including inductive inference of decision trees, case-based learning, neural network learning, statistical learning methods, and Bayesian learning.

CSX 4204 **Biometrics** **3 (3-0-6)**
Prerequisite: *CSX 3002 Object-Oriented Concepts and Programming*

Introduction to biometrics, physiological biometrics, fingerprint biometrics, face biometrics, iris biometrics, hand geometry, palmprint, behavioural biometrics, gait biometrics, gesture biometrics, voice biometrics, signature recognition, multimodal biometrics, biometric system security, biometric standards, BioAPI specifications

CSX 4205 **Big Data Analytics** **3 (3-0-6)**
Prerequisite: *CSX 2006 Mathematics and Statistics for Data Science*

Foundational techniques and tools required for big data analytics, deployment of structured approach to big data analytics projects, visualization techniques and tools to analyze big data and create statistical models, usage of tools such as Hadoop, MapReduce, Spark, and Graph.

CSX 4206 **Data Warehousing and Business Intelligence** **3 (3-0-6)**
Prerequisite: *CSX 2006 Mathematics and Statistics for Data Science and CSX 3006 Database Systems*

Fundamental and evolution of data warehouse concepts including data warehouse architecture, development methodology, data modeling, data conversion, OLAP, ETL processes, data access, business intelligence applications.

CSX 4207 **Decision Support and Recommender Systems** **3 (3-0-6)**
Prerequisite: *CSX 2006 Mathematics and Statistics for Data Science*

Recommender systems concepts, classical techniques for building recommender systems such as collaborative based, content-based, knowledge-based and hybrid recommendation approaches, techniques and approaches used to evaluate the quality of the recommendations, guidelines on matching recommendation technologies and domains, recent developments and applications of recommender systems.

CSX 4208 **Deep Learning** **3 (3-0-6)**
Prerequisite: *CSX 4203 Machine Learning*

Introduction to deep learning concepts and techniques including perceptron, artificial neural networks, activation function, learning techniques, backpropagation, problem of traditional neural network; vanishing/exploding gradient, regularization, preprocessing, deep feedforward networks, convolutional networks, recurrent neural networks, and their applications.

CSX 4209 **Intelligent System Development** **3 (3-0-6)**
Prerequisite: *CSX 3002 Object-Oriented Concepts and Programming*

Foundations of intelligent systems, intelligent agents, problem-solving by searching, stochastic searches, learning, genetic algorithms, and neural-networks.

CSX 4210 **Natural Language Processing and Social Interactions** **3 (3-0-6)**
Prerequisite: *CSX 3002 Object-Oriented Concepts and Programming*

Human language from a computational perspective, syntactic analysis, semantic interpretation, and discourse processing (both symbolic and statistical approaches), information extraction, natural language generation, and applications of NLP in social interactions.

CSX 4301 Network Design 3 (3-0-6)
Prerequisite: *CSX 3005 Computer Networks or by the consent of the instructor*

Network topology and design methodology, hierarchical network design approach, campus and data center networks design, enterprise network design, software-defined networking, software-defined access, multiservice/multitenant technologies.

CSX 4302 **Cisco Networking Workshop** **3 (3-0-6)**

Models of the Internet and computer networks, IP addressing, Ethernet concepts, media, and operations, operations of routers and switches in a small network, simple LANs implementation, basic network configurations for outers and switches.

CSX 4303 **Network Security** **3 (3-0-6)**
Prerequisite: *CSX 3005 Computer Networks or by the consent of the instructor*

Network security principles, threats and vulnerabilities, security threats mitigation and countermeasures, network security protocols, technologies and tools/appliances, networks intrusion detection and forensics technologies, cryptographic and authentication systems, capability and access control mechanisms, current trends and research in security policies and technologies.

CSX 4304 **Network Management** **3 (3-0-6)**
Prerequisite: *CSX 3005 Computer Networks or by the consent of the instructor*

Network management principles and protocols, five functional areas of network management: fault management, configuration management, accounting management, performance management, and security management (FCAPS), security information and events management (SIEM), fault diagnosis and isolation, performance monitoring, service level agreement (SLA).

CSX 4305 **Heterogeneous Wireless Networks** **3 (3-0-6)**
Prerequisite: *CSX 3005 Computer Networks or by the consent of the instructor*

Integration of heterogeneous wireless technologies, architecture of heterogeneous wireless networks (HWNs), radio resource and interference management, capacity and coverage enhancement, mobility and resource management, location management and network selection mechanisms in HWNs.

CSX 4306 **Internet of Things** **3 (3-0-6)**
Prerequisite: *CSX 3005 Computer Networks or by the consent of the instructor*

Introduction to Internet, Internet of Things, technological trends leading toward IoT, embedded system and its interface, common hardware components of IoT devices, IoT devices' software and hardware interaction, IoT protocols, IoT and cloud service/computing.

CSX 4307 **Business Continuity Planning and Management** **3 (3-0-6)**

Emergency preparedness techniques necessary to maintain business continuity, critical processes, planning for business continuity, risk assessment, impact analysis, mitigation strategies, response, recovery and continuation activities.

CSX 4401 **Business Systems** **3 (3-0-6)**
Prerequisite: *CSX 2001 Introduction to Information Technology*

Business systems and their interrelationships including finance, accounting, sales, marketing, human resources, law and operations, inputs and outputs of information systems, potential for integration of the systems, and information systems security.

CSX 4402 **Sales and Distribution Management System** **3 (3-0-6)**
Prerequisite: *CSX 4401 Business Systems*

Introduction to Sales and Distribution Management System; fundamental processes in sales and distribution; logistic modules covering from sales forecast, sales promotion, price list, sales order, order management, inventory transactions related to sales, order delivery.

CSX 4403 **Manufacturing Management System** **3 (3-0-6)**
Prerequisite: *CSX 4401 Business Systems*

Introduction to Manufacturing Management System, manufacturing processes, bill of materials (BOM), routing and work center, manufacturing resource planning (MRP), capacity planning, production scheduling, shop floor planning, work in p ocess (WIP).

CSX 4404 **Supply Chain Management System** **3 (3-0-6)**
Prerequisite: *CSX 4401 Business Systems*

Introduction to Supply Chain Management System, supply chain strategies, supply chain network design principles, planning and managing inventories, procurement and sourcing, innovative supply chain business models, supply chain performance.

CSX 4405 **Finance and Accounting Information System** **3 (3-0-6)**
Prerequisite: *CSX 4401 Business Systems*
and ACT 1601 Fundamentals of Financial Accounting

Introduction to Finance and Accounting Information System, the application of Accounting Information System (AIS) in businesses and organization, understanding of how AIS is used to record accounting transactions and how it facilitates business processes and transaction processing, hands-on experiences using accounting software in designing and configuring an accounting information system for small-to-medium sized businesses.

CSX 4406 **Customer Relationship Management System** **3 (3-0-6)**
Prerequisite: *CSX 4401 Business Systems*

Introduction to Customer Relationship Management System, customer lifecycle management, customer lifetime value, processes and technologies for managing the relationships with potential and current customers and business partners, analytics in CRM, CRM data warehouse, CRM tools.

CSX 4407 **Enterprise Application Development** **3 (3-0-6)**
Prerequisite: *CSX 3006 Database Systems*

Architecture and platform of choice for building and deploying n-tier, web-based, transactional, and component-based enterprise applications, high-level overview of enterprise application architecture, individual programming API's and technologies that constitute at web tier and business tier, security, persistence, transaction.

CSX 4408 **Enterprise Database System** **3 (3-0-6)**
Prerequisite: *CSX 3006 Database Systems*

Introduction to the enterprise-level database systems, database architecture, DBMS installation and configuration issues, performance optimizing, monitoring and tuning, user management and database security, back-up, and recovery.

CSX 4409 **Blockchain Technology** **3 (3-0-6)**

Introduction to blockchain concept, how blockchain can help disrupting businesses, blockchain technological components, public and private blockchain, Bitcoin, coin mining, consensus protocols, blockchain security, cryptocurrencies, Initial Coin Offerings (ICOs), blockchain infrastructure and implementation, practical work on Ethereum and Hyperledger.

CSX 4501 **Theory of Computation** **3 (3-0-6)**
Prerequisite: *CSX 2008 Mathematics Foundation for Computer Science*

Methods of computation, sequential computation, parallel computation, logic circuits, finite-state machine, deterministic and non-deterministic machine, regular and non-regular set, push-down automata, Turing machine, computability and non-computability, halting problem, examples of class P and class NP problems, theories and techniques for various computational problems which are the basis of computer science.

CSX 4502 **Tech Startup** **3 (3-0-6)**

Overview of tech startup, innovations, design thinking, ideation, persona, user interface design, UX/UI, lean startup, lean canvas, value propositions, UVP, agile manifesto, business modeling, entrepreneurship, marketing, pitching, growth hacking, angel investors, venture capital.

CSX 4503 **Information Systems Security** **3 (3-0-6)**

Fundamentals of computer security including hardware security, software security, database security, computer networks and telecommunication security, physical protection and microcomputer security and viruses protection, cryptographic technology, disaster recovery and contingency planning, intrusion detection and other applications, legal and ethical issues in computer security.

CSX 4504 **Digital Marketing** **3 (3-0-6)**

Overview of digital marketing, affiliate marketing, digital marketing tools, social media marketing, search engine marketing, pay-per-click, search engine optimisation, branding, sentiment analysis, influencer marketing, website, inbound marketing, content marketing.

CSX 4505 **Digital Transformation** **3 (3-0-6)**

Fundamental operations of businesses and industries, paradigms and management practices of digitalcentric businesses, digital revolution, management disciplines for successful business transformation, digital technologies enabling development of new operational process, customer experience and business model, use of digital technologies for established organizations or new ventures.

CSX 4506 **Image Processing** **3 (3-0-6)**
Prerequisite: *CSX 3003 Data Structures and Algorithms*

Introduction to digital image processing including such topics as digital image representation, compression techniques, coding techniques, analysis of images represented in different formats, as well as optical character recognition techniques based on image processing to recognize alphabetic.

CSX 4507 **Information Retrieval and Search Engines** **3 (3-0-6)**

Principles of retrieval systems, dictionaries, indexing, various strategies and models for information retrieval, scoring and ranking, evaluation of information retrieval, web search.

CSX 4508 **Quantitative Research for Digital Business** **3 (3-0-6)**
Prerequisite: *CSX 2003 Principles of Statistics*

Conducting quantitative research in business research including of defining research problems, questionnaire design, sampling methods, data gathering techniques, data analysis and reporting.

CSX 4600 – 4699 **Selected Topics** **3 (3-0-6)**
Prerequisite: *Junior or senior students with the consent of the instructors*

Special topics that are appropriate for detailed study and research. The topic selected depends on the students' needs and the instructors' requirements and is in accordance with the current changes in computer science in that period.

DEX 0011 **Preparation for Design** **Non-Credit (20 Hours)**

Basic freehand sketch techniques, principles of perspective sketch, and graphic presentation, basic Two – dimensional and Three – dimensional visual composition

DEX 1111 **Introduction to Creative Culture and Trend** **2 (2-0-4)**

Contemporary issues in design within the context of creative culture that aims to promote an understanding and appreciation of design works through an investigation of the development, role, and influences of designers on our society

DEX 1112 **Photography and Cinematography** **2 (2-0-4)**

Basic photography and cinematography histories, fundamental concepts and techniques, usage of photographic equipment and materials, basic software and hardware used in post-production for digital photography and cinematography to create various types of communication

DEX 1201 **Global History of Art and Design** **2 (2-0-4)**

Introduction to the global history of art and design which shapes and reflects cultural, social, religious and political concern. The course ranges from the early modern to contemporary eras, exploring fine and applied arts, architecture, design, and visual cultures.

DEX 1211 **Introduction to Environmental Design** **2 (2-0-4)**

An introduction to environmental concepts and influences on design aspects. The course includes the understanding of major factors affecting the design of built-environment such as human factors and the environment factors

DEX 1221 **Design Thinking/Method** **2 (2-0-4)**

Evolution of design thinking from the first generation, second generation, and new design methods through an exploration and a critical examination of influential design methods from the period of Industrial Revolution to present in order to provide a broad perspective of plausible design strategies.

DEX 2121 **Graphic Communication and Presentation** **2 (2-0-4)**

Essential methods of presentation, emphasizing upon concepts, theories and skills of using various media and techniques, ranging from two-dimensional presentation to three-dimensional modeling for communicating ideas.

DEX 2221 **Design Studio** **4 (4-0-8)**

Introduction to the role of designed objects in our everyday experience with emphasis on the understanding of relationship between functions, aesthetic, and human needs and behavior through basic surveys and analyses of product-related problems in corresponding objectoriented projects.

DEX 3001 **Selected Topics in Design, Creativity and Communication Concepts 3 (3-0-6)**

Exposure and exploration of selected topics in design, creative and communication concepts. The topics will be announced semester by semester.

DEX 3002 **Selected Topics in Design, Creativity and Communication Practices I3 (2-2-5)**

Exposure and exploration of selected topics in design, creative and communication practices. The topics will be announced semester by semester.

DEX 3003 **Selected Topics in Design, Creativity and Communication Practices II** **3 (1-1-4)**

Exposure and exploration of selected topics in design, creative and communication intensive practices. The topics will be announced semester by semester.

DM 2401 **Media Context Analysis** **3 (3-0-6)**
Prerequisite : *CA1024 Introduction to Digital Media Communication*

A study of media content, this course will teach the students how to analyze various forms of media and the impact it has on the society. They will understand the evolution of the content, why changes taking place and where the industry trend is going in the future.

DM 2402 **Narrative** **3 (3-0-6)**
Prerequisite: *CA1024 Introduction to Digital Media Communication*

A study of story-telling, this course will explore various genre and narrative structure. Student will be taught the four types of literary elements (plot, theme, setting, and character). Students will also learn how to format their own plot professionally before it can be applied to a digital media project.

DM 2403 **Digital Media Production and Management** **3 (2-2-5)**
Prerequisite : *CA1024 Introduction to Digital Media Communication*

A study of digital media and motion picture workflow, in this course, the students will learn about the production process and management for digital media. They will also be taught role and responsibilities for each production crew as well as production related terminologies.

DM 2404 **Digital Media Design** **3 (2-2-5)**
Prerequisite : *CA 1025 Computer Graphic Design*

Introduction to the fundamental of art and design for digital media which starts with the understanding of the basic principles of design. The essential learning offers in this course will furnish understudy of a visual dialect that enables aptitude in design communication and art direction

DM 3400 **Internship (For DM Students Only)** **3 (200 Hours)**

Students will apply to study with professionals in digital media industry. Students will learn the day-to-day process of creating digital media by professionals within the industry and receive hands on experience working in the field. They will also be asked to analyze and eport on their experience.

DM 3401 **Cinematography** **3 (2-2-5)**
Prerequisite : *CA1024 Introduction to Digital Media Communication*

This course is designed to give students an introduction to the technical and conceptual aspects of cinematography through short format filmmaking. This class will explore the tools and techniques that will help them communicate the visual language of cinematography. Students will receive hands-on experience with a professional cinematographer while completing group and individual projects.

DM 3402 **Editing Concept** **3 (2-2-5)**
Prerequisites : *CA1024 Introduction to Digital Media Communication*

A study of various editing technique used in production, this course will teach the student how to combine shots together that will tell a coherent story. It will start with the basic types of editing which are continuity editing and montage, but will also explore various cutting techniques and the effect it has on the story-telling as well as the emotional response from the audience.

DM 3403 **UI and UX Design** **3 (2-2-5)**
Prerequisites : *DM 2401 Media Context Analysis*

The study of designing for interactive media, this course will emphasize on how to create user friendly design with clear and easy to understand user interface that will result in positive feedback from users. The students will learn how to conduct observational research as well as prototype testing to ensure that the message is clear and their design is successful.

DM 3404 **Digital Motion Graphic** **3 (2-2-5)**
Prerequisite : *CA 1025 Computer Graphic Design*

A study of motion graphic, this course will teach about various effects and animation techniques used in post-production. The students will learn how to animate element such as text and vector in order to incorporate them with the footage. They will also use compositing software to create various type of visual effect in a professional way.

DM 3405 **Website and Application Design** **3 (2-2-5)**
Prerequisite : *CA 1025 Computer Graphic Design*

This course is an introduction to web design and application design. Students will learn how to plan the project planning process, how to critique the web and application project, and how to design and create website based on the grids system and text-formatting to enhance the web pages and application design. Student are introduced to developing website by using HTML (Hypertext Markup Language) and CSS (Cascading Style Sheet) and understanding the purpose of designing application and website.

DM 3406 **Sound Design for Digital Media Communication** **3 (2-2-5)**
Prerequisite : *CA1024 Introduction to Digital Media Communication*

This course offers principles of sound design, music appreciation, sound recording on set, automated dialogue replacement (ADR), sound editing and mastering. Students will become familiarize with the audio equipment, including but not limit to, wireless microphone, boom microphone, and the recording studio.

DM 3424 **Digital Content Creation** **3 (3-0-6)**

The course focuses on concepts and principles of digital media, the effect of the media on society, down to idea generation and presentation in digital platform. Students will learn how to transform ideas into writing, video, and audio forms to reach the prospective audience and new media users.

DM 3425 **Lighting** **3 (2-2-5)**
Prerequisite : *DM 3401 Cinematography*

This course is designed to give students an overall competency in motion picture lighting, combining the art of seeing with the science of exposure control. Students learn how to light the actors on the set for the master shot, the close-up, reverse angle and cross key-light setups, as well as lighting for movement and for blue screen effects.

DM 3426 **Innovation and Digital Technology** **3 (3-0-6)**

This course focuses on trend and upcoming innovation and digital technology; student learns the characteristics, roles and functions of innovation and digital technology and implements the knowledge to the digital media for communication.

DM 4401 **Digital Media Communication Workshop I** **6 (4-4-10)**
Prerequisite : *BG 2000 English III*
DM 3404 Digital Motion Graphic
CA 2019 Communication Arts Research
DM 3405 Website and Application Design

A study of pre-production process, this course is the first half of the senior project for digital media communication students. The students must show their understanding of how the market distributes content across wide range of media platforms, including film, television and new media. Alongside the practical skills the students will gain from this course, they will also explore how to manage production process, create successful project pitches and work collaboratively within creative teams.

DM 4402 **Digital Media Communication Workshop II** **6 (4-4-10)**
Prerequisite : *BG 2000 English III*
DM 4401 Digital Media Communication Workshop I

A study of the entire work process of media production, this is the second half of the senior workshop for digital media students. The students will be asked to follow through on their pitch from Digital Media Communication Workshop I and create a complete creative work in a form a movie, documentary, or an interactive application; using all their knowledge acquired from their years of studying within the department.

DM 4403 **Seminar in Digital Media Communication (For DM Students Only)** **3 (3-0-6)**

A study of new media trend and communication technology, this course will help students understand various current issues related to media and the impact they have on society and culture by studying with professional within the industries.

DM 4421 **Advanced Photography and Digital Imaging** **3 (2-2-5)**
Prerequisite : *CA 1002 Introduction to Photography and Cinematography*

Intensive course for students who are interested in professional photography in digital media industry. Classical theories and new approaches are the main content of the course. Students will receive training to help them achieve their professional goal.

DM 4422 **Advanced Directing** **3 (2-2-5)**
Prerequisite : *DM 3403 UI and UX Design*

A study of solving problem with user-centered design with user research to create the best solution. Students will learn to create personas, user flows, wireframes, and visual mockups using prototype tools. Students will also have to perform variety of methods of usability testing and become comfortable with presenting, selling, defending, and critiquing their work in professional level.

DM 4423 **Advanced UI and UX Design** **3 (2-2-5)**
Prerequisite : *CA 1021 Introduction to Advertising and Branding*

A study of advertising and popular culture. Students will explore advertising from various perspectives of culture and popular culture. The course involves the understanding how these cultures affect creativity and audience and how influencer marketing works in popular cultu e.

DM 4424 **Selected Topic in Digital Media (For DM Students Only)** **3 (2-2-5)**

Students will learn about the latest in digital media technology development in communication, as well as the effect it has on culture and society. The content of this course will continue to evolve in order to keep up with the digital media trend.

ECO 2200 **Introduction to Economics** **3 (3-0-6)**

Economic concepts and theories in making decisions at individual, market, and aggregate levels focusing on consumer decision, pricing mechanism, demand and supply analysis, market equilibrium, theory of the fi m, perfectly and imperfectly competitive market structures, national income accounts, unemployment, inflation, and fiscal and monetary policie

EE 2201 **Electric Circuits** **3 (3- 0-6)**
Prerequisite : *BG 1205 Calculus II*
BG 1213 Physics II

Circuit elements, node and mesh analysis, circuit theorems, resistance, inductance, and capacitance, first and second o der circuits, phasor diagram, AC power circuits, three- phase systems.

EE 2202 **Electric Circuits Laboratory** **1 (0-3-2)**
Prerequisite : *BG 1214 Physics Laboratory II*
EE 2201 Electric Circuits

Laboratory works to be done according to EE 2201 Electric Circuits.

EE 2203 **Signals and Systems** **3 (3-0-6)**
Prerequisite : *BG 2207 Engineering Mathematics*
EE 2201 Electric Circuits

Continuous-time and discrete-time signal and system; linear time-invariant system (LTI); signal analysis using Fourier transform, Laplace transform, and Z-transform; applications of signal and system; modern techniques in signal and system analysis.

EE 2401 **Electromechanical Energy Conversion** **3 (3-0-6)**
Prerequisite : *EE 2201 Electric Circuits*

Principles of magnetic circuits, definition and interpretation of parameters, calculation of simple and complex magnetic circuits; principles of DC generator, induced electromotive force, armature winding, excitation, armature reaction, commutation, characteristics of DC generators; principles of DC motors and their characteristics, start and speed control of DC motors, principles of transformers, phasor diagram of transformer testings, transformer heat exchanger and ventilation; transformer banking in three phases system, auto transformer.

EE 2402 **Electromechanical Energy Conversion Laboratory** **1 (0-3-2)**
Prerequisite : *EE 2401 Electromechanical Energy Conversion*

Laboratory works to be done according to EE 2401 Electromechanical Energy Conversion.

EE 2605 **Engineering Electronics** **3 (3-0-6)**
Prerequisites : *BG 1213 Physics II*

Semiconductor devices; current-voltage and frequency characteristics; analysis and design of diode circuits; analysis and design of BJT, MOS, CMOS and BiCMOS transistor circuits, operational amplifier and its applications, power supply module.

EE 2606 **Engineering Electronics Laboratory** **1 (0-3-2)**
Prerequisite or Corequisite : EE 2605 Engineering Electronics

Laboratory works to be done according to EE 2605 Engineering Electronics.

EE 3301 **Electromagnetic Fields** **3 (3-0-6)**
Prerequisite : *BG 1205 Calculus II*
BG 1213 Physics II

Electrostatic fields; conductors and dielectrics; capacitance; convection and conduction currents; magnetostatic fields; time-varying elect omagnetic fields; Maxwell's equations

EE 3402 **Electrical Machines** **3 (3-0-6)**
Prerequisite : *EE 2401 Electromechanical Energy Conversion*

Magnetic circuits; principles of electromechanical energy conversion; energy and coenergy in magnetic circuits; single phase and three phase transformers; principles of rotating machines; DC machines; AC machines construction; synchronous machines; single phase and three phase induction machines; protection of machines.

EE 3403 **Electrical Machines Laboratory** **1 (0-3-2)**
Prerequisite : *EE 3402 Electrical Machines*

Laboratory works to be done according to EE 3402 Electrical Machines.

EE 3404 **Feedback Control Systems** **3 (3-0-6)**
Prerequisite : *EE 2203 Signals and Systems*

Linear control systems, open-loop and closed loop automatic control system, fundamental equations, transfer functions, signal flow diagram and zero plot, root locus method, bode diagram, Nichol chart, system stability, phase and gain margin, leading and lagging compensation, transient and steady –state analysis of the system.

EE 3405 **Digital Control Systems** **3 (3-0-6)**
Prerequisite : *EE 3406 Control Systems*

Computer-based control, control theory, basic digital control scheme, principles of signal conversion, basic discrete-time signals, time-domain models for discrete-time systems, z-transform technique, stability on the z-plane, sampling as impulse modulation, sampled spectra and aliasing, filtering, principles of discretization, z-domain description of sampled continuous-time plants, implementation of digital controllers, z-plane specifications of control system design, digital compensator design using frequency response plots, and digital compensator design using root locus plots.

EE 3406 **Control Systems** **3 (3-0-6)**
Prerequisite : *EE 2203 Signals and systems*

Mathematical models of systems; transfer function; system models on time domain and frequency domain; dynamic models and dynamic responses of systems; first and second order systems; open-loop and closed-loop control; feedback control and sensitivity, types of feedback control; concepts and conditions of system stability, methods of stability test.

EE 3601 **Electronic Circuit Design** **3 (3-0-6)**
Prerequisite : *EE 2603 Electronics Circuits Analysis*
or EE 2605 Engineering Electronics

Components of design process of electronic circuits; multiple-input Operational Amplifiers circuit design; power supply design; voltage regulator circuit design; wave shaping circuit design, Bipolar Junction Transistor (BJT) amplifier design, Field-effect Transistor (FET) amplifier design; power amplifier design; digital logic families and their circuits design.

EE 3602 **Electronic Circuits Design Laboratory** **1 (0-3-2)**
Prerequisite : *EE 3601 Electronic Circuit Design*

Laboratory works to be done according to EE 3601 Engineering Electronic Circuit Design

EE 3606 **Electrical Instruments and Measurements** **3 (3-0-6)**
Prerequisite : *EE 2201 Electric Circuits*
EE 2601 Electronic Devices and Circuits
or EE 2605 Engineering Electronics

Units and standard of electrical measurement; instrument classification and characteristics; measurement analysis; measurement of dc and ac current and voltage using analog and digital instruments; power, power factor, and energy measurement; the measurement of resistance, inductance, and capacitance; frequency and period/time - interval measurement; noises; transducers; calibration.

EE 3704 **Embedded Systems** **3 (3-0-6)**
Prerequisite : *EE 3705 Microprocessors and Microcontrollers*

Architecture, features and instruction sets of microcontrollers and DSP processors, interfacing techniques, requirements of power applications, external memory, peripherals, timers, DAC and ADC, sampling and real time considerations, programming, data acquisition. Introduction and development of micro-electro-mechanical (MEMS) technology.

EE 3705 **Microprocessors and Microcontrollers** **3 (3-0-6)**
Prerequisites : *CE 2704 Digital Logic Design*

Fundamental of microprocessors and microcontrollers : architecture, hardware, software, and interfacing.

EE 4201 **Network Theory** **3 (3-0-6)**
Prerequisite : *EE 2201 Electric Circuits*

Components of electric circuits; non-time-varying linear circuit, steady-state analysis for sinusoidal signals, graph network theory, mesh and node analysis, state equation, natural frequency, network function, four terminal network, positive-real function, driving point synthesis with R-R, R-C-L., one-port and two-port synthesis, Foster and Maclaurin network synthesis.

EE 4301 **Introduction to Electromagnetic Compatibility** **3 (3-0-6)**
Prerequisite : *EE 3301 Electromagnetic Fields*

Concepts of Electromagnetic Interferences (EMI) and EMC definitions, sources of EMI and their characteristics, EMI couplings, EMI mitigation and control, EMC standards, EMC testing techniques.

EE 4305 **Digital Signal Processing** **3 (3-0-6)**
Prerequisite : *EE 2203 Signals and Systems*

Continuous-time and discrete-time signals, spectral analysis; decimation and interpolation; sampling rate conversion; DFT; probabilistic methods in DSP; design of FIR, IIR digital filters, multirate systems and filter Banks; Discrete Wavelet Transform; introduction to some DSP applications such as image processing, speech and audio processing, array processing and further current applications.

EE 4401 **Electric Drive** **3 (3-0-6)**
Prerequisite : *EE 3402 Electrical Machines*

Development of electric drives, moment of electric drives, types of duties, electric braking, energy relation during starting and braking, calculation of motions of electric machines using analytical and graphical methods, calculations of motor ratings, important tracking machines, electric circuits and controls of traction machines, sample calculations, industrial applications of electric motors.

EE 4403 **Basic Mechatronics** **3 (3-0-6)**
Prerequisite : *ME 2210 Engineering Mechanics*
or ME 2211 Engineering Mechanics I
or EE 2401 Electromechanical Energy Conversion

Introduction to mechatronics with emphasis on PLC or industrial robots that used in automated manufacturing. Basic knowledge of Pneumatic and Hydraulic equipments will be overviewed.

EE 4501 **Power System Analysis** **3 (3-0-6)**
Prerequisite : *EE 3402 Electrical Machines*

Transmission and distribution networks calculation; load flow; load flow control; symmetrical short circuit analysis; unsymmetrical short circuit analysis; power system stability; economic operation.

EE 4503 **Electrical System Design** **3 (3-0-6)**
Prerequisite : *EE 2401 Electromechanical Energy Conversion*

Basic design concepts, codes and standards, power distribution schemes, electrical wires and cables, raceways; electrical equipment and apparatus, load calculation, power factor improvement and capacitor bank circuit design, lighting and appliances circuit design, motor circuit design; load, feeder, and main schedule, emergency power system, short circuit calculation, grounding system for electrical installation.

EE 4504 **Illumination Engineering** **3 (3-0-6)**
Prerequisite : *EE 2201 Electric Circuits*

Physical radiant and photometric quantities, measurements of light, radiation from incandescent sources, gaseous conduction and phosphorescence, lamps and lighting fitting, light properties of construction materials, interior and exterior lighting calculations.

EE 4505 **Power System Protection** **3 (3-0-6)**
Prerequisite : *EE 4501 Power System Analysis*

Fundamental of protection practices; instrument transformer and transducers; protection devices and protection systems; overcurrent and earth fault protection; differential protection; transmission line protection by distance relaying; transmission line protection by pilot relaying; motor protection; transformer protection; generator protection; bus zone protection; introduction to digital protection devices.

EE 4506 **High Voltage Engineering** **3 (3-0-6)**
Prerequisite : : *EE 3301 Electromagnetic Fields*

Uses of high voltage and over voltage in power systems; generation of high voltage for testing; high voltage measurement techniques; electric field stress and insulation techniques, breakdown of gas; liquid and solid dielectric; high voltage testing techniques; insulation coordination.

EE 4518 **Electrical Power Generation, Transmission and Distribution** **3 (3-0-6)**
Prerequisite : *EE 3402 Electrical Machines*

Load curve, diesel power plant, steam power plant; gas turbine power plant, combined cycle power plant, hydro power plant, nuclear power plant, renewable energy sources, type of substation, substation equipment, substation layout, lightning protection, grounding system.

EE 4600 **IC Technology** **3 (3-0-6)**
Prerequisite : *EE 2603 Electronics Circuits Analysis*
or EE 2605 Engineering Electronics

Crystal growth and sample preparation, magnetic cleaning, epitaxial processes, oxidation, diffusion, ion implantation, CVD, metallization, sputtering, lithography, etching, assembly, packaging, IC devices and components such as resistance, capacitors, diode etc., MOSIC, bipolar transistor IC.

EE 4602 **Industrial Instrumentation and Control** **3 (3-0-6)**
Prerequisite : *EE 3404 Feedback Control Systems*
or EE 3406 Control Systems

Analog and digital equipment and measuring instruments; various types of transducers, data processing and displays; study of techniques of system control in industry in order to be able to do some analysis, design, equipment selection and maintenance for the control system in industry.

EE 4603 **Industrial Electronics** **3 (3-0-6)**
Prerequisite : *EE 3601 Electronic Circuit Design*

Solid-state devices in industry; sensors, light detector, time etc. and their applications, multiphase solid-state rectifie , voltage control, magnetic amplifie , integrated circuits, digital circuits, sequential control, digital control.

EE 4606 **Industrial Electronics** **3 (3-0-6)**
Prerequisite : *EE 3601 Electronic Circuit Design*

Solid-state devices in industry; sensors, light detector, time etc. and their applications, multiphase solid-state rectifie , voltage control, magnetic amplifie , integrated circuits, digital circuits, sequential control, digital control.

EE 4701 **Microprocessor Interface Techniques** **3 (3-0-6)**
Prerequisite : *EE 3705 Microprocessors and Microcontrollers*

Revision of 8-bit, 12-bit, 16-bit microprocessors, hardware, using programming in instruction sets. Emphasis will be placed on techniques of interfacing microprocessor to computer systems : (ISA, Serial communication port, Parallel communication port, PCI, SCSI, IDE, A/D & D/A converters). Project work piece and report are required to complete the course requirements.

EE 4705 **Power Electronics** **3 (3-0-6)**
Prerequisite : *EE 2603 Electronic Circuits Analysis*
or E 2605 Engineering Electronics
EE 3402 Electrical Machines

Characteristics of power electronics devices, power diode, thyristors, power bipolar; MOSFET, IGBT, characteristics of magnetic material, power transformer core, ferrite core, iron powder core, converters, ac to dc converter, dc to dc converter, ac to ac converter, dc to ac converter.

EE 4706 **Power Electronics Laboratory** **1 (0-3-2)**
Prerequisite : *EE 4705 Power Electronics*

Experiments to be done according to EE 4705 Power Electronics

EE 4901 **Electrical and Electronics Engineering Project I** **1 (0-3-2)**
Prerequisite : *Completion of 100 credits*

Study and development of project in electrical and electronics engineering. Students must submit a report at the end of the semester.

EE 4902 **Electrical and Electronics Engineering Project II** **2 (0-6-3)**
Prerequisite : *EE 4901 Electrical and Electronics Engineering Project I*

Continuation of project done in electrical and electronics engineering Project I. Report is also required at the end of the semester.

EE 4903 **Advanced Topics in Electrical and/or Electronics Engineering** **3 (3-0-6)**
Prerequisite : *Completion of 90 credits with the consent of the Chairperson*

Topics of current interest and new developments on Electrical and/or Electronics Engineering.

EE 4904 **Special Problems in Electrical and/or Electronics Engineering** **3 (3-0-6)**
Prerequisite : *Completion of 90 credits with the consent of the Chairperson*

Investigation of special problems assigned by the instructor with the consent of the Faculty : a written report is required.

EE 4907 **Electrical Engineering Industrial Training** **3 (0-9-6)**
Prerequisite : *Consent of the Chairperson*

Student needs to apply for internship from Company that dealing in Electrical Engineering field. Student need to submit a full report regarding their duty assigned to the responsible faculty.

EN 2230 **Listening and Speaking** **3 (3-0-6)**
Prerequisite: *BG 1002 English II*

Intermediate English skills in listening and speaking within the contexts of daily usage, academic and business

EN 3212 **Communicative Writing Development** **3 (3-0-6)**
Prerequisite: *BG 2000 English III*

Effective writing skill development, language structure improvement, and conventions of academic writing.

EN 3213 **Business Communication in English** **3 (3-0-6)**
Prerequisite: *BG 2000 English III*
or EN 3212 Communicative Writing Development

Overview of organizational communication, basic principles of Corporate Social Responsibilities (CSR) and business English communication using various forms of media.

EN 3214 **Fundamental Writing Development** **3 (3-0-6)**
Prerequisite: *BG 2000 English III*

Fundamental writing skill development, language structure improvement and conventions of academic writing

EN 3234 **English Pronunciation** **3 (3-0-6)**
Prerequisite : *BG 2000 English III*

Correct American English pronunciation with emphasis on individual sounds, sounds in words, phrases, and sentences for speech intelligibility in academic, social and professional settings.

EN 3272 **Art of Translation** **3 (3-0-6)**
Prerequisite: *BG 2000 English III*

The purposes, types of text, methods and techniques of translation from English into Thai and from Thai into English, development of skills in analyzing sentence patterns of Thai and English languages, use of words, idioms and structures for accuracy in meaning and style of original document, and development of competency to produce equivalent texts in Thai and English

EN 3281 **English for Tourism** **3 (3-0-6)**
Prerequisite : *BG 2000 English III*

Practice in English for correct and efficient communication in all aspects of travel and tourism

EN 3283 **English for International Trade** **3 (3-0-6)**
Prerequisite : *BG 2000 English III*

English communicative skills and general concepts of import/export and international business.

EN 3287 **English for Office Managemen** **3 (3-0-6)**
Prerequisite : *BG 2000 English III*

English skills and proficiency for office management, practice in office work arrangement, meeting organization and minutes taking, appropriate work etiquette and professionalism.

EN 3288 **English for Airline Business** **3 (3-0-6)**
Prerequisite : *BG 2000 English III*

English communicative skills used in airline business, basic knowledge of the aviation industry and airline works, and specific te minology for airline business.

EN 3289 **English for Music Business** **3 (3-0-6)**
Prerequisite : *BG 2000 English III*

English communicative skills for effective learning and participating in music related topics. Discussion of music terminology and journalistic texts of various music genre and music business.

EN 3290 **English for Entrepreneurship** **3 (3-0-6)**
Prerequisite : *BG 2000 English III*

Study and practice English for work and negotiation to become skilled entrepreneurs in business start-ups.

EN 3291 **Intercultural Business Communication** **3 (3-0-6)**
Prerequisite : *BG 2000 English III*

Basic elements of culture and communication skills with an emphasis on cross-cultural interpretation and interpersonal communication.

EN 3292 **Grammar Essentials for Professional Life** **3 (3-0-6)**
Prerequisite : *BG 2000 English III*

Review of the rules of grammar, identifying common grammar errors and refining business writing styles

EN 3293 **English for Human Resources** **3 (3-0-6)**
Prerequisite : *BG 2000 English III*

The development of communication and English language skills needed to perform in a variety of human resources situations including the enhancement of human resources terminologies and phrases used in the international human resources context.

EN 3294 **English for Hotel Services** **3 (3-0-6)**
Prerequisite: *BG 2000 English III*

Practice in English as used in hotel administration, reception, services and business contacts.

EN 3295 **English for Online Business** **3 (3-0-6)**
Prerequisite: *BG 2000 English III*

English communication skills associated with online business concepts and practice including the use of language in blogging, e-commerce, and online advertising. Discussion of online business terminology and various genres of online texts.

EN 3296 **English for Diplomatic Affairs** **3 (3-0-6)**
Prerequisite: *BG 2000 English III*

Use of spoken and written communication in bilateral and multilateral discussions and correspondence in various aspects of diplomatic affairs.

EN 4232 **Business Conversation** **3 (3-0-6)**
Prerequisite: *EN 3213 Business Communication in English*
or BG 2001 English IV

Practice in conversation on topics related to business, development of efficiency in the oral application of the language in business settings, and effective problem-solving in small groups

EN 4233 **Public Speaking in English** **3 (3-0-6)**
Prerequisite: *BG 2001 English IV*

Develop skills for effective public speaking in English .Focus on methods and practices for better informative and persuasive speaking, speech organization and visual aids

EN 4241 **Critical and Analytical Reading** **3 (3-0-6)**
Prerequisite : *BG 2001 English IV*

Development of critical and analytical reading skills, identification of various types of rhetorical strategies, analysis of global current socio-economic and humanitarian issues.

EN 4254 **Academic Writing (Only for foreign students)** **3 (3-0-6)**
Prerequisite : *BG 2001 English IV*

Advanced writing skills for communication within academic and business contexts in an internationally accepted documented format.

EN 4256 **Introduction to Business Research Writing** **3 (3-0-6)**
Prerequisite : *EN 3212 Communicative Writing Development*

Methodology and tools in business research, practice in writing for clarity and efficiency with correct terminology, and summaries in business research documents.

EN 4259 **New Media Literacy** **3 (3-0-6)**
Prerequisite: *BG 2001 English IV*

Analysis of various forms of new media including domestic and international meddia, business content, columns, editorial, and feature stories with the impact of new media on society both online and offline

EN 4262 **Reading of Modern Viewpoints** **3 (3-0-6)**
Prerequisite : *BG 2001 English IV*

Reading and discussions of texts representing recent thoughts and views on human civilization, global citizenship, international affairs and analysis of articles published in a variety of fields

EN 4272 **Translation in Business English** **3 (3-0-6)**
Prerequisite : *BG 2001 English IV*
or EN 3270 Translation : English-Thai
or EN 3271 Translation : Thai-English

Translation of business contents in printed materials and media from English into Thai and Thai into English.

EN 4292 **Business Article Writing** **3 (3-0-6)**
Prerequisite : *BG 2001 English IV*

Theories and practice of business article writing for various types of media.

EN 4294 **Business English Internship I** **3 (3-0-6)**
Prerequisite: *By consent of the instructor*

Practice English communication skills in a real world setting and gain practical experience in one of business fields such as hotel, tourism, airline, etc

EN 4295 **Business English Internship II** **3 (3-0-6)**
Prerequisite: *By consent of the instructor*

In-depth practice English communication skills in a real world setting and gain extensive practical experience in one of business fields such as hotel, tourism, airline, etc

EN 4296 **Advanced Listening and Note-taking in Business** **3 (3-0-6)**

Prerequisite: *BG 2001 English IV*
or EN 3213 Business Communication in English

Advanced listening and note-taking skills in a variety of business context such as business interviews, international news, and international business conferences.

ENX 1111 **Digital Mindset and Sustainability** **2 (2-0-4)**

Training of attitudes and behaviors to foresee the impact of digital disruptions and also build new culture that enables people in organization to create new business possibilities and learn how to sustain business through digital mindset and innovation.

ENX 1112 **Entrepreneurial Inspiration** **1 (1-0-2)**

Process of being mentally stimulated to be an entrepreneur including self-discovering, goal setting, opportunity identification, self-preparation and development, life-long learning, and acknowledgement of the social value of their businesses.

ENX 1113 **Business Innovation and Design Thinking** **2 (2-0-4)**

Systematic approach to business innovation and creative problem solving that can be used in developing new products, new services and new organizations of business. Design thinking tools are introduced to have self-development to become innovative thinker and to uncover business opportunities.

ENX 1121 **Digital Consumer Insights** **2 (2-0-4)**

Coverage of a broad range of theories, concepts and apply digital tools to highlight the potential of qualitative research to uncover behavior and insights of consumers to build a base knowledge that can be used to create strategies and competitive advantage in the evolving digital marketing landscape.

ENX 1211 **Leadership for a Digital Age** **2 (2-0-4)**

Training of leadership skills that empower people to lead others and create self-organized teams that optimize business operation in digital age.

ENX 1212 **Global Strategy and Communication** **2 (2-0-4)**

An introductory course to the global business environment, provides a systematic understanding of globalization and its implication to businesses, the principles, practices and processes of conducting businesses in a globalized environment, introduces decision making tools and framework to formulate strategic decisions for businesses. Emphasizes on developing soft skills in making professional presentations and communication in a competitive multicultural global setting. The course is designed to be delivered in a blended format which involves a combination of in-class activities and online interactions.

ENX 1221 **Digital Marketing** **2 (2-0-4)**

Fundamental concepts of digital marketing, including digital environment, cyber laws, ethical issues, challenges, trends, channels, tools, platforms, and digital strategy formulation to implement and enhance marketing performance of goods and services.

ENX 1222 **Business Networking and Incubation** **3 (3-0-6)**

Business networking that enables students to know and learn from others' experiences and to incubate them to be a successful entrepreneur with strong business network and partnership for growth and sustainability.

ENX 2111 **Lifestyle and Experiential Marketing** **2 (2-0-4)**

Principle and concept of marketing that enable students to understand how to market the products by focusing on (i) the practical application of lifestyle marketing strategies that embeds the interests, opinions, and attitudes of the target customers in marketing products; and (ii) event marketing that utilizes the practical experience in organizing the marketing events, event planning, idea creation, promotion and design tactics, and event management.

ENX 2121 **Global Business and Commercialization** **3 (3-0-6)**

Process of developing and introducing new products and brands for different culture markets, global product and brand strategies, brand valuation and impacts on building global brand image, global pricing strategies, international competition and negotiation on pricing, global marketing plan, market selection techniques and global positioning strategies.

ENX 2211 **Brand-Driven Innovation** **2 (2-0-4)**

The integration of branding, design and innovation, bringgni brand strategy to life through a value proposition and tangible customer experience for the sustainable growth. Emphasizing on brand building process, brand insights, brand touch points, customer journey mapping, brand archetype andbrand identity, brand personality, brand communications and essential brand strategies to maximize brand equity through continuous innovation.

ENX 2221 **Entrepreneurial Finance** **2 (2-0-4)**

Integrated set of theories and application of finance for entrepreneurs are emphasized. Finance issues for entrepreneurs related to capital raising, short-term and long-term financial plan, and financial management are included.

ENX 2222 **Entrepreneurial Accounting** **2 (2-0-4)**

Integrated set of theories and application of accounting for entrepreneurs are emphasized. Accounting issues for entrepreneurs related to fundamental accounting, cash flow and balance sheet management, and managerial accounting are included.

ENX 2223 **Economics for Entrepreneur** **2 (2-0-4)**

Integrated set of theories and application of economics for entrepreneurs are emphasized. Economic issues for entrepreneurs related to the cost-benefit analysis, opportunity cost, technology, gross domestic product, aggregate demand, and factors affecting macroeconomic environment are included

ENX 2301 **Workshop I** **Non-Credit**

Individual/group project on an area or a topic of interest

ENX 2302 **Workshop II** **Non-Credit**
Prerequisite ENX 2301 Workshop I

Implementation of the proposed individual/group project on an area or a topic of interest

ENX 3410-3419 **Selected Topic in Law** **3 (3-0-6)**

Contemporary concepts, approaches, applications and practices of law

ENX 3420-3429 **Selected Topic in Health and Wellness** **3 (3-0-6)**

Contemporary concepts, approaches, applications and practices in health and wellness

ENX 3430-3439 **Selected Topic in Biotechnology** **3 (3-0-6)**

Contemporary concepts, approaches, applications and practices in biotechnology including agricultural and food applications

ENX 3440-3449 **Selected Topic in Digital Technology** **3 (3-0-6)**

Contemporary concepts, approaches, applications and practices in digital technology

ENX 3450-3459 **Selected Topic in Engineering Technology** **3 (3-0-6)**

Contemporary concepts, approaches, applications and practices in engineering technology

ENX 3460-3469 **Selected Topic in Design** **3 (3-0-6)**

Contemporary concepts, approaches, applications and practices in design including architecture, interior design, industrial design and fashion design.

ENX 3470-3479 **"Selected Topic in Creative Arts"** **3 (3-0-6)**

Contemporary concepts, approaches, applications and practices in creative arts including music, dance, drama, photography, graphic design, visual arts and creative writing

ENX 3480-3489 **Selected Topic in Language and Culture** **3 (3-0-6)**

Contemporary concepts, approaches, applications and practices in language, literature, history culture and the economy

FR 1500 **Introduction to French** **3 (3-2-7)**

Introduction to fundamental grammar, practice of reading and writing short essay and dialogues on various areas, use of oral comprehension and expressions.

FR 1501 **French I** **3 (3-2-7)**
Prerequisite: *FR 1500 Introduction to French*

Higher level of grammar, reading basic texts and dialogues concerned with everyday life in French-speaking countries and practice of writing paragraph.

FR 1510 **French I** **4 (3-2-6)**

Introduction to French language through listening, speaking, reading, and writing activities, Practice of basic grammar and pronunciation.

FR 1511 **French II** **4 (3-2-6)**
Prerequisite: *FR 1510 French I*

Development of basic listening, speaking, reading, and writing skills in French for everyday life situations. Practice of grammar and pronunciation.

FR 2501 **French II** **3 (3-2-7)**
Prerequisite : *FR 1501 French I*

In-depth grammatical structure, reading texts and dialogues concerned with everyday life in French-speaking countries and practice of writing short articles.

FR 2502 **French III** **3 (3-2-7)**
Prerequisite : *FR 2501 French II*

Advanced grammar structure, reading texts and dialogues concerned with everyday life in French-speaking countries and practice of writing short articles with complex sentences.

FR 2512 **French III** **4 (3-2-6)**
Prerequisite: *FR 1511 French II*

Development of intermediate listening, speaking, reading, and writing skills in French for everyday life situations. Practice of grammar and pronunciation.

FR 2513 **French IV** **4 (3-2-6)**
Prerequisite : *FR 2512 French III*

Development of upper intermediate listening, speaking, reading, and writing skills in French focusing on professional contexts.

FR 2514 **French Pronunciation** **3 (3-0-6)**
Prerequisite: *FR 2512 French III*

French speech sound system: vowels, consonants, elision, enchainment and liaison, symbols of IPA and transcriptions; listening and pronunciation drills.

FR 3501 **Business French I** **3 (3-0-6)**
Prerequisite : *FR 2502 French III*

Understanding of various contexts in business communication, practice of reading, speaking and writing by using business vocabulary.

FR 3512 **Business Communication in French** **3 (3-0-6)**
Prerequisite : *FR 2502 French III*

Review of technical terms in business, various types and forms of letters, practice of listening, reading and writing texts and letters in business context.

FR 3514 **Writing Workshop** **2 (1-2-2)**
Prerequisite : *FR 2513 French IV*

Practice of writing short essays, then articles, brochures, etc.

FR 3530 **Oral Comprehension and Expression** **3 (3-0-6)**
Prerequisite : *FR 2502 French III*

Practice of listening, oral comprehension and discussion, technique of giving opinion and argument on various topics.

FR 3532 **French Conversation and Discussion (for foreign students)** **3 (3-0-6)**
Prerequisite : *FR3530 Oral Comprehension and Expression*

Practice of speaking skills on daily life and business topics, through individual presentations, group and panel discussion pattern.

FR 3537 **Communicative Skills in French** **3 (3-0-6)**
Prerequisite : *FR 2501 French II*

A thorough structure review, vocabulary enrichment, and development of the four core competencies. It focuses on real-life language use.

FR 3539 **French for Workplace Communication** **3 (3-0-6)**
Prerequisite : *FR 2512 French III*

Development of 4 French skills in workplace communication.

FR 3570 **Translation : French-Thai (or FR3532 French Conversation and Discussion - for foreign students)** **3 (3-0-6)**
Prerequisite : *FR 2502 French III*

Translation of sentences, paragraphs and articles from various sources : extracts from articles, newspapers, books, advertisement and websites, selection of proper words, idioms and structures to convey the accurate meanings and style levels of the original documents.

FR 3581 **French for Tourism** **3 (3-0-6)**
Prerequisite : *FR 2502 French III*

Use of the French language in tourism, a field trip with the professional guide, general knowledge of tourism business and role play in the selected situation.

FR 3583 **French for Hotel Services** **3 (3-0-6)**
Prerequisite : *FR 2513 French IV*

Various dialogues of French as used in hotels and restaurants, reception, services and message taking from inside and outside calls, French-Thai foods and beverages, French wine.

FR 4344 **Reading French Media** **3 (3-0-6)**
Prerequisite: *FR 3501 Business French I*

Readings and analyses various articles, with the study of the vocabulary and the context of the articles on the current interest and business oriented. A study of French language press in particular: newspapers, magazines and articles through the internet.

FR 4502 **Business French II** **3 (3-0-6)**
Prerequisite : *FR 3501 Business French I*

In-depth study of business French and advanced French vocabulary through practice of listening, speaking, reading and writing skills.

FR 4540 **Reading in Business French** **3 (3-0-6)**
Prerequisite : *FR 2502 French III*

Techniques of reading articles in business contexts, interpretation of factors and purposes used in the articles, developing outlines and short synopses of selected material and leading discussions on the assigned topics.

FR 4541 **Business French Internship** **3 (3-0-6)**
Prerequisite : *Consent of instructors*

Practice French communication skills in a real world setting and gain practical experience in one of business fields such as hotel, tourism, airline, etc

FR 4572 **Translation in Business French** **3 (3-0-6)**
Prerequisite : *FR 3501 Business French I*

Practice of translation from French into Thai : various types of articles and business data from newspapers, texts, magazines and internet articles, etc.

FR 4573 **Aspect of French-Speaking Countries** **3 (3-0-6)**
Prerequisite : *FR 2502 French III*

French speaking countries' life style and culture, thought patterns, mentality, civilization and interdisciplinary studies.

FR 4590 **Seminar** **3 (3-0-6)**
Prerequisite : *Consent of Instructor*

Various problems in using Business French. Workshop and panel discussions.

FR 4591 **Selected Topics in French Studies** **3 (3-0-6)**
Prerequisite : *FR 2502 French III*

Critical analysis of French language or culture on assigned topics.

FT 3100 **Introduction to Food Technology** **2 (2-0-4)**
Prerequisite : *BS 2006 Basic Biochemistry*

Roles of food industry in relation to modern societies, scientific principles and operations involved in the preservation and manufacture of foods, food composition, nutrition labeling and marketing of a representative range of commercial foods, current consumer issues such as the safety of food additives, food irradiation, consumer protection, new product development, food regulations and future trends in food supplies.

FT 3103 **Food Microbiology** **3 (2-3-5)**
Prerequisite : *BS 2011 Introduction to Microbiology*

Microorganisms in food safety and spoilage, their growth parameters, main characteristics of common food-borne pathogens e.g. bacteria, viruses, parasites and fungi, contamination routes and surviving in foods, subsequent diseases and possible means for controlling, a background to practically identify and examine the organisms, and corresponding laboratory sessions.

FT 3105 **Human Nutrition** **3 (3-0-6)**
Prerequisite : *BS 2006 Basic Biochemistry*

Importance of nutrition in daily life, dietary nutrients, chemical composition, food sources, roles and functions in human body, the digestion, absorption, and metabolism of nutrients, diseases associated with nutrient deficiency, and appropriate nutrition for people through the life cycle for example pregnancy and lactation, infancy, childhood, and adolescence, adulthood and the later years.

FT 3106 **Industrial Food Processing I** **3 (2-3-5)**
Prerequisite : *FT 3100 Introduction to Food Technology*

Fundamental knowledge of commercial food processing, thermal processing, low temperature processing, freezing, dehydration, irradiation and chemical preservation, food variables, food quality and raw material preparation, minimal process and waste treatment in food factory, and corresponding laboratory sessions.

FT 3108 **Food Chemistry I** **3 (2-3-5)**
Prerequisite : *BS 2004 Analytical Chemistry*
BS 2006 Basic Biochemistry

Basic food components, water, carbohydrate, protein and lipid, their chemistry governing properties and functions in different foods, changes of food components during processing and storing, chemical spoilages and prevention, and corresponding laboratory sessions.

FT 3109 **Food Chemistry II** **3 (2-3-5)**
Prerequisite : *FT 3108 Food Chemistry I*

Chemistry of pigments, odor and food additives, factors affecting properties, functions, sources and mechanism in different foods, chemical reaction of enzymes, changes and contamination of toxic substances in foods, theory, selection, analysis techniques of food with scientific instrument, and corresponding laboratory sessions.

FT 3110 **Food Law and Regulation** **1 (1-0-2)**

A general overview of the laws, regulations, history and policies that govern food regulation in Thailand, practical applications of the food laws and regulations including regulatory compliance, administrative procedure, food and color additive approval, an introductory knowledge of international food regulation, food standards, codex, risk analysis, and nutritional labeling. Halal and Kosher regulation

FT 3111 **Food Engineering I** **3 (2-3-5)**

Mass and energy balance. Basic knowledge in fluid mechanics, heat and mass transfer, and rate kinetics. Design and engineering principles of various unit operations used in food industries. Topics including pumps, flow measurement devices, heat exchangers, evaporators, dryers, refrigerators, freezers, particulate solids and mixers, size reduction units, homogenizers, and corresponding laboratory sessions.

FT 3112 **Food Engineering II** **3 (3-0-6)**
Prerequisite : *FT3111 Food Engineering I*

Engineering principle, design and applications in food industry includes mass and energy balance under chemical and biological reaction, heat and mass transfer under unsteady state conditions. Concepts of engineering in modern heat exchanging systems, boilers, freeze drying, colligative properties of foods, food rheology, extrusion, food frying, separation process and non-thermal processing of foods.

FT 4108 **Industrial Food Processing II** **3 (2-3-5)**
Prerequisite : *FT 3106 Industrial Food Processing I*

Processing technologies of food products, fruit and vegetable, cereal, meat and poultry, fishery, bakery, confectionery, dairy, appropriated packaging, and factors affecting product qualities during storage and transportation, basic plant layout, advanced food processing, and corresponding laboratory sessions.

FT 4110 **Food Marketing and Management** **3 (3-0-6)**
Prerequisite : *BG 2403 Introduction to Economics*

Basic principles of marketing and management of food products, environmental factors in food industry, consumer's buying behavior, food marketing research, product development, pricing strategy, distribution channel, and promotion strategy with examples and case studies of food products. Understand food entrepreneurship

FT 4112 **Food Quality Control** **3 (2-3-5)**
Prerequisite : *SA 1201 Statistics I*
FT 3106 Industrial Food Processing I

Food production as a systematic and controlling process, acceptance sampling plans for analysis and control of quality, chemical, physical and microbiological qualities of food and food products and how to measure them, quality management, quality control, quality assurance and quality improvement, quality assurance systems in food factory; and corresponding laboratory sessions.

FT 4113 **Food Product Development** **3 (2-3-5)**
Prerequisite : *FT 4108 Industrial Food Processing II*

New products and new product development process for food industry, how to generate and convert product idea concept into actual product ready for commercialization which include idea screening, product concept development, product formulation and process development, product quality testing, shelf life evaluation, product launching and evaluation, food entrepreneur cases, and corresponding laboratory sessions.

FT 4115 **Fruit and Vegetable Technology** **3 (2-3-5)**
Prerequisite : *FT 4108 Industrial Food Processing II*
or AI 4208 Processing of Agricultural Products II

Chemical and physical structure of fruits and vegetables, postharvest changes and handling methods of fresh fruits and vegetables, and commercial processing methods for preservation of fruits and vegetables, advanced technologies in fruit and vegetable processing, and corresponding laboratory sessions.

FT 4116 **Food Toxicology** **3 (2-3-5)**
Prerequisites : *FT 3103 Food Microbiology*
FT 3105 Human Nutrition
FT 3109 Food Chemistry II

Chemistry and biochemistry of toxins naturally occurring in food from plants and animals, toxins from microorganism, food additives, and chemical contaminants, routes of entry, metabolism, manifestation of the toxin in body, and corresponding laboratory sessions.

FT 4117 **Dairy Technology**
Prerequisite : *FT 4108 Industrial Food Processing II*
or AI 4208 Processing of Agricultural Products II

Milk production and quality in terms of composition, structure, properties and microbiology of milk, principles of commercial practices in processing of milk and dairy products, advanced technology used in dairy industries, and corresponding laboratory sessions.

FT 4120 **Food Additives** **3 (2-3-5)**
Prerequisite : *FT 3109 Food Chemistry II*

Types of food additives from nature and synthesis, amino acids, antioxidants, antimicrobial agents, enzymes, polysaccharides, food colors, and food flavo , functional food ingredients, phytochemicals, flavonoids, phenolic compounds, laws and regulations, their significant in commercial food processing, and corresponding laboratory session.

FT 4121 **Meat Poultry and Fishery Technology** **3 (2-3-5)**
Prerequisites : *FT 4108 Industrial Food Processing II*
or AI 4208 Processing of Agricultural Product II

Chemical and physical structure of animal muscles used for human consumption, postmortem changes in muscles and factors affecting the quality of muscle products, pigment development and changes in animal tissues, deterioration and spoilage of animal tissues during processing and storage, and production of different meat, poultry and fishery p oducts, and corresponding laboratory sessions.

FT 4122 **Confectionery Technology** **3 (2-3-5)**
Prerequisite : *FT 4108 Industrial Food Processing II*

Classification, quality and property of raw materials, characteristics, manufacturing process, and market trend of various sugar and chocolate confectioneries and corresponding laboratory sessions.

FT 4123 **Food Sanitation** **3 (2-3-5)**
Prerequisite: *FT 3103 Food Microbiology*

Principles of cGMPs of food processing, plant layout, receiving raw material, food handling, warehouse controlling, cleaning, pest controlling, water treatment and personnel hygiene, theory and practices on principles of Hazard Analysis of Critical Control Points (HACCP) to produce safe food product; and corresponding laboratory sessions.

FT 4124 **Lipid Technology** **3 (2-3-5)**
Prerequisites : *FT 4108 Industrial Food Processing II*
or AI 4208 Processing of Agricultural Product II

Chemistry and biochemistry of triglycerides and related lipid substances, biosynthesis and degradation of lipids, industrial production of fats and oils including extraction, degumming, and refining, deordorization, crystallization, and hydrogenation, microbial and enzymatic modification of lipids, corresponding laboratory sessions involving with analytical methods and quality control of the edible fats and oils and their products and corresponding laboratory sessions.

FT 4125 **Beverage Technology** **3 (2-3-5)**
Prerequisite : *FT 4108 Industrial Food Processing II*

Technology for the production of carbonated and non-carbonated, alcoholic and non-alcoholic beverages, the roles of beverages in human life, the manufacturing processes, quality control for production of safe beverages, packaging and beverage packages, and corresponding laboratory sessions.

FT 4126 **Food Packaging** **3 (3-0-6)**
Prerequisite : *FT 4108 Industrial Food Processing II*
or AI 4208 Processing of Agricultural Products II

Chemical, physical and biological properties of packaging materials, production techniques and quality control of food packages, paper, glass, tin plate, plastic films, aluminum foil, laminates and composite materials, criteria in selecting proper package to extend shelf life of different types of food and current trends in development of food package.

FT 4127 **Cereal Technology** **3 (2-3-5)**
Prerequisite : *FT 4108 Industrial Food Processing II*
or AI 4208 Processing of Agricultural Products II

Composition, structure and significance of various kinds of cereals, manufacturing technologies, quality control, storage of cereal and cereal products, and development of new products from cereal, and corresponding laboratory sessions.

FT 4128 **Food Safety and Sanitation** **3 (2-3-5)**
Prerequisite: *FT 3103 Food Microbiology*

Principles of food safety and sanitation in food processing and food service. A study of the physical, chemical and microbiological hazard in food that result from improper processing, packaging, handling and storage, cleaning of food plant equipment and facilities. GMP, HACCP, and other related system

FT 4131 **Selected Topic** **3 (2-3-5)**

Discussion and advanced study of a selected topic in the field of food technology including corresponding laboratory sessions.

FT 4132 **Color and Flavor Technology** **3 (2-3-5)**
Prerequisites : *BS 2004 Analytical Chemistry*
BS 2005 Analytical Chemistry Laboratory

Chemistry of various colorants, their properties, physiological changes, measurement methods, and affecting factors, flavor chemistry, properties of flavo , development and extraction process of flavor from plants, animals, and via food processing, and application of colors and flavors in various products and corresponding laboratory sessions

FT 4133 **Introduction to Wine Appreciation** **3 (3-0-6)**

Introduction to the major wine-producing regions of the world and traditions involved in wine making, history of wine, different components of wine sensory properties (appearance, aroma, and flavor), wine evaluation techniques, factors influence sensory properties of wine, terms on wine label, food and wine pairing, wine etiquette and responsible consumption, and hands on experience in wine tasting and pairing.

FT 4134 **Food Health and Beauty** **3 (3-0-6)**

Clear and correct information concerning food and its effect on human body. The content includes basic information about human nutrition, food science principles, processing of different food groups, latest trend in food products and services, effect of nutrients on health and beauty, fact about the nutrition, health, and beauty claim in food products, different pattern of eat healthfully.

FT 4135 **Sensory Analysis** **3 (2-3-5)**
Prerequisites : *BT 3017 Principles of Research*

Definition and basic of sensory analysis, anatomy and physiology of the sensory systems (sight, taste, smell, touch, and hearing), physiological and psychological factors on sensory analysis, sensory analysis methods (discrimination/difference tests, affective test, and descriptive test), consumer behavior and principle of consumer test, scale used in sensory analysis, data analysis and the interpretation of the analysis and corresponding laboratory sessions

FT 4136 **Advance Product Development** **3 (2-3-5)**
Prerequisites : *FT 4113 Food Product Development*

Definition and the importance of product development and managing of new product development. Nutritional product development, selection of raw material to meet with nutritional specification, fortification, nutritional labelling, up-scaling of the production, cost calculation and pricing strategy, product strategy and management, supply chain management, intellectual property, and business plan for new product. Entrepreneurship in food business.

FT 4137 **Technology of Confectionery and Thai Sweet** **3 (2-3-5)**
Prerequisites : *FT 4108 Industrial Food Processing II*

Definition and category of sugar confectionery, chocolate, and Thai sweets, importance, selection, and preparation of raw materials, characteristics of products, shelf life, including current and novel technology used in manufacturing process and corresponding laboratory session.

FT 4138 **Phytochemicals and Functional Foods** **3 (2-3-5)**
Pre-requisite : *FT 3109 Food Chemistry II*

Chemical, beneficial and active properties of specific fatty acids, dietary fibers and phytochemicals as well as specific antioxidants and probiotic cultures, marketing positioning of functional foods, food product development and controlling regulations with corresponding laboratory sessions.

FT 4190 **Special Project** **3 (0-9-4)**
Prerequisite : *BT 3017 Principles of Research*

A project involving an aspect of food technology, design of study, collection and analysis of experimental data will be done under the faculty member's supervision. A written report and presentation of the research work in a seminar is compulsory.

FT 4191 **Field Trip** **1 (0-3-1)**

Visit to food and agro-industrial production facilities to view specific aspects of processing and management. A written report of the tour is required.

FT 4192 **Seminar** **1 (1-0-2)**

Method in preparing and performing a scientific presentation, demonstration of scientific research paper presentation from veteran speakers in the field of biotechnology, food technology and agro-industry, and student presentation of a selected paper of interest from scientific jou nals.

FT 4194 **Internship** **Non-credit**

Practical experience from training in food technology or biotechnology related industry, government sector and/or academic institute of no less than 300 hours to develop skills and confidence after graduation

GE 1101 **Thai Civilization** **3 (3-0-6)**

Foundation and evolution of the Thai race from prehistoric, and historical periods in the Sukhothai, Ayudhaya, Thonburi, and Rattanakosin periods. Thai culture and society during the present period under King Rama IX. The implementation of the Self-sufficiency Economy and other oyal projects.

GE 1102 **Introduction to Philosophy** **3 (3-0-6)**

History of Western, Greek, modern, and contemporary philosophy, focusing on metaphysics, epistemology, life value and application.

GE 1104 **Thai Historical Perspectives** **3 (3-0-6)**

Foundation and evolution of the Thai race from prehistoric, and historical periods in the Sukhothai, Ayudhaya, Thonburi, and Rattanakosin periods. Thai culture and society during the present period under King Rama IX. The implementation of the Self-sufficiency Economy and other oyal projects.

GE 1201 **Information and Literacy Skills** **1 (1-0-3)**

Definition and importance of information literacy skills, values of information, determination of information need, selection of effective techniques in gathering information, evaluation, syntheses information utilization, media literacy.

GE 1202 **General Psychology** **3(3-0-6)**

Various psychological theories and factors, processes and conditions that form one's characters, behaviors, attitudes, and emotions.

GE 1203 **Society, Politics and Economics** **3 (3-0-6)**

Culture and relationship between culture and individual, factors in social and cultural changes, social changes, contemporary social problems and social control, political and economic functions, the causes and consequences of World War I, II and the Cold War, political and economic changes, globalization and related problems.

GE 1204 **Physical Education** **1 (1-0-2)**

Improving physical fitness and psychomotor skills, creating unity among students, and developing the sportive mind

GE 1205 **ASEAN Ways** **3 (3-0-6)**

Understanding ASEAN, valuing concepts of identity and diversity, connecting global and local issues, relationship among ASEAN member states, importance of working with other nations to overcome challenges, economic and resource policies, and practices to promote the well-being of nations and individuals.

GE 1206 **Philosophy of Sufficiency Economy** **3 (3-0-6)**

Philosophy of the Sufficiency Economy concept and its pillars, ways of life in urban society in accordance with the philosophy, Sufficiency Economy process-driven society and daily life, applying Sufficiency Economy Philosophy to everyday life, Sufficiency Economy for sustainable development, Royal projects in accordance with the philosophy.

GE 1207 **Fundamental Psychology** **3 (3-0-6)**

Theories of psychology; sensations, perception, memorizing and forgetting processes; language and thought; motivation, stress and its effect on human behaviors; responding to difficult life situation

GE 1301 **Environmental Science** **3 (3-0-6)**

General science, scientific approaches, understanding the interrelationships of the nature, identification and analysis of environmental problems, application and alternative solutions for preventing and solving the environmental problems.

GE 1302 **Ecology and Sustainability** **3 (3-0-6)**

General science, scientific approaches, understanding the interrelationships of the nature, identification and analysis of environmental problems, application and alternative solutions for preventing and solving the environmental problems.

GE 1403 **Communication in Thai** **3 (3-0-6)**
Prerequisite: *for Thai students*

Skills in Thai usage, listening, speaking, reading and writing, main ideas finding, information search by state-of-the-art tools, effective public speaking.

GE 1405 **Thai Language and Culture** **3 (3-0-6)**
Prerequisite: *for international students*

Thai language for basic communication, Thai cultural and traditional patterns, customs and ways of life, festivals and local culture in different parts of Thailand.

GE 1406 **Burmese Language** **3 (3-0-6)**

Basic Burmese language skills in listening, speaking, reading, and writing. Burmese language uses in daily life.

GE 1407 **Russian Language** **3 (3-0-6)**

Basic Russian language in alphabet, vocabulary, and grammar for communication; basic skills in listening, speaking, reading and writing.

GE 1408 **Thai Usage** **3 (3-0-6)**
Prerequisite: *Required course for international students*

Enhance listening and speaking skills in daily life, write and read Thai consonants, vowels, tones, and grammar and create accurate basic sentences

GE 2101 **World Civilization** **3 (3-0-6)**

Development of human society, rise and fall of civilizations, achievements and heritages of Western and Eastern civilizations since ancient times in order to understand their roots; globalization impacts on modern societies; cross-cultural society.

GE 2102 **Human Heritage and Globalization** **3 (3-0-6)**

Development of human society, rise and fall of civilizations, achievements and heritages of Western and Eastern civilizations since ancient times in order to understand their roots; globalization impacts on modern societies; cross-cultural society.

GE 2103 **Art of Reasoning** **3 (3-0-6)**

Fundamental analysis of logical elements and rational applications for daily life emphasizing on deductive and inductive methods of validity and fallacy.

GE 2104 **Thai Buddhism** **3 (3-0-6)**

General concepts of Buddhism, history of Buddhism in Thailand and influences of Buddhism towards Thai Buddhists' way of life.

GE 2105 **Introduction to World Religion** **3 (3-0-6)**

World religions, both Western and Eastern : Judaism, Christianity, Islam, Hinduism, Sikhism, and Buddhism, theories of religions, ethical theories, understanding of cultural varieties and religious ways of life.

GE 2106 **Logical Thinking and Application** **3 (3-0-6)**

Analytical study of complicate logic through symbolization, justification of argumentative validity via contingency of statements, and consistency of premises in Logical Formulae.

GE 2107 **Applied Philosophy in Social Sciences and Humanities** **3 (3-0-6)**

Applied philosophy, value of life and real-life applications in social sciences and humanities; including political philosophy, social philosophy, philosophy of language, philosophy of education, philosophy of religion, philosophy of mind, feminist philosophy, and moral philosophy.

GE 2202 **Ethics** **3 (3-0-6)**

Teachings of major world religions, the role of conscience, self-development in the moral arena, building self-esteem, self-knowledge, and good habits, distinguishing the right from the wrong, doing the right and refraining from the wrong, attaining a more fulfilling life

GE 2203 **Art of Living** **3 (3-0-6)**

Self-exploration, understanding ways to improve self-esteem, analyzing real-life problems, conflict and stress, breaking bad habits, power of positive thinking, designing plans to live a happy life.

GE 2205 **Communication and Multicultural society** **3 (3-0-6)**

Communication skills, effective interaction with other people, human relationships in a multicultural society, interpersonal intelligence, skills in learning and living with others.

GE 2206 **Personality Development** **3 (3-0-6)**

Improvement of one's self-confidence and self-esteem, think positively towards themselves, how to make friends, international table manners, dressing up oneself to match one's personality, keeping healthy, applying makeup, public speaking, interpersonal relationship skills.

GE 2207 **Sport, Health and Wellness Development** **3 (3-0-6)**

Knowledge and understanding of sports, exercise, health promotion and fitness, principle of sport spectating, selection of sport activities, self-care for good health and wellness development.

GE 2208 **Thai Politics and Government** **3 (3-0-6)**

Thai politics from monarchy to democracy, political reforms, development of democracy, involvement of civil and private sectors, election, political ethics.

GE 2301 **Lifestyles in Dynamic World** **3 (3-0-6)**

Relationship between lifestyle choices and impacts of these choices on individual's health and the global environment, scientific approaches to nutrition, supplements, sleep, rest, exercise, and sexuality. Evaluation of individual healthy and eco- friendly lifestyles.

GE 2302 **Climate Change and Human Life** **3 (3-0-6)**

Scientific foundations of global climate change, linkages between global climate change and impacts to human health and their way of life, application of mitigation and adaptation strategies to minimize the impacts of climate change on health and life.

GE 2303 **Building Brilliant Brain** **3 (3-0-6)**

Scientific knowledge about daily living factors promoting brilliant brain function, applying neuroscience research findings to brain healthy nutrition, fitness, attention adjustment and memory to improve individual's brain performance, creativity and success in everyday learning.

GE 3401 **Public Speaking in Thai** **3 (3-0-6)**

Basic knowledge and skills in communication in Thai, principles and techniques of effective speaking, practical experience, and development of speakers' personality.

GL 1101 **Elements of Spoken Language** **3 (3-0-6)**
Prerequisite : *BG 1001 English I*

Essential elements of spoken language, concepts and principles of phonetics, use of International Phonetic Association (IPA) system of phonetic transcription and practice in speech sound production and identification, analysis of p oblems of pronunciations.

GL 2101 **Introduction to Language** **3 (3-0-6)**
Prerequisite: *BG 2000 English III*
or GL 1101 Elements of Spoken Language

A multi-disciplinary study of language in all its aspects including its characteristics, its structure,and meaning of utterances as well as language variation, language learning and language change.

GL 3102 **Introduction to Linguistics** **3 (3-0-6)**
Prerequisite : *BG 2000 English III*
or GL 1101 Elements of Spoken Language

Characteristics, functions, concepts and principles of the human language, four major structural components of language and the relationship to one another; language change, language acquisition and the relationship of language and society.

GL 3104 **Language, Culture and Society** **3 (3-0-6)**
Prerequisite : *GL 3102 Introduction to Linguistics*

Relationships between language, Culture, and Society in an international environment; issues related to language, society, and culture, language variations in different contexts, World Englishes, cross-cultural communication.

GL 3106 **Trends in Business English** **3 (3-0-6)**
Prerequisite: *BG 2000 English III*

Current trends in business English and related topics, case studies, workshops, panel discussions in the era of globalisation and digitalization

GS 1004 **Arts of Delineation** **3 (2-2-5)**

Elementary concepts and techniques of freehand perspective sketch and rendering, training in perception of materials, form and spaces, various media and techniques of creation of artistic forms in light, shade and shadow, emphasizing upon conceptual development of personal skills.

GS 1005 **Graphic Presentation** **3 (2-2-5)**

Essential methods of presentation, emphasizing upon concepts, theories and skills of using various media and techniques, ranging from two- dimensional presentation to three-dimensional modeling for communicating ideas.

GS 1008 **Applied Mathematics** **3 (3-0-6)**

Theory and application of algebra, geometry, trigonometry, exponential, logarithms, analysis and calculus.

GS 1106 **Creative Culture and Trends in Design** **3 (3-0-6)**

An introduction to creative culture and trends regarding its development and cumulative inheritances from various industries that drive multidimensional movements in our contemporary design world varying from individual level to social level.

IE 1110 **Engineering Materials** **3 (3-0-6)**

Study of relationship between structures, properties, production processes and applications of main groups of engineering materials i.e. metals, polymers, ceramics and composites, phase equilibrium diagrams and their interpretation, mechanical properties and materials degradation.

IE 2110 **Introduction to Manufacturing with Plastics** **3 (3-0-6)**
Prerequisite : *IE 1110 Engineering Materials*

Theory and concept of manufacturing processes and equipment used to convert thermoplastic and thermoset plastic resin (excluding elastomers) into plastic parts. Six of the major conversion processes will be studied including extrusion, injection molding, blow molding, compression molding, thermoforming, and layup molding. Safety, failure modes, and energy considerations are studied. Design and mechatronic systems of machinery used to make plastic products are discussed.

IE 3100 **Manufacturing Processes** **3 (3-0-6)**
Prerequisite : *IE 1110 Engineering Materials*

Theory and concept of manufacturing processes such as casting, forming, machining and welding; material and manufacturing processes relationships; fundamental of manufacturing cost.

IE 4101 **Manufacturing and Information Technology** **3 (3-0-6)**
Prerequisite : *Senior Standing*

Basics of CAD/CAM; CAD modeling methods; Computer Aided Manufacturing, solid modeling; materials properties and fundamentals of Automation; Automation technology; Flexible manufacturing systems, knowledge based engineering; robotics technology; machine tools technology.

IE 4201 **Engineering Management** **3 (3-0-6)**
Prerequisite : Completion of 90 credits with the consent of the Chairperson

Modern management principles, methods of increasing productivity, human relation, industrial safety, commercial laws, basic of engineering economy, finance, marketing, p oject management.

IE 4203 **Engineering Economics** **3 (3-0-6)**
Prerequisite : Completion of 90 credits with the consent of the Chairperson

Methods of comparison, depreciation, evaluation of replacement, risk and uncertainty, estimating of income, tax consequences, processes of decision making for investment of challenging projects.

IN 2106 **Contemporary Issues in Design** **3 (3-0-6)**

The comparative survey of contemporary design issues in relation with culture and social context concerned by analytical discussion through interdisciplinary designed case studies or practices.

IN 2202 **Interior Architectural Design I** **6 (2-8-8)**
Prerequisite : *AR 1104 Fundamental of Architectural Design*

Integration of artistic sensibility, creativity, and the understanding of human factors through basic living spaces. The practice processes an individual concept, analysis of human relations to space, and a practical solution to our contemporary living.

IN 2204 **Interior Architectural Design II** **6 (2-8-8)**
Prerequisite : *IN 2202 Interior Architectural Design I*

Practices on small scaled, more complex, multi-users programs, student's hand-drawing and drafting skills, including the production of spatial model for conceptual and professional communication.

IN 2305 **Interior Architectural Design Methods** **3 (3-0-6)**

Design activity and its inherited methods, influential design methods to broaden students' perspective of how to design in order to achieve the qualified interior a chitectural design.

IN 2306 **History of Interior Architecture** **3 (3-0-6)**
Prerequisite : *AR 2106 History of Architecture I*

History and the evolution of space planning, interior architecture, decorative details, and furniture design from ancient Egypt through the 19th century in Europe, styles and characteristics of each period as a reference to future developments.

IN 3102 **Advanced Computer - Aided Design** **3 (3 - 0 - 6)**

Advanced study of computer aided design and the primary introduction to the creation of work with a design and technology context, narrative, computation, and interactivity. Students have to develop their investigations and interests as well as a space for exploration, experimentation, and methodologies.

IN 3200 **Theory and Concept in Interior Architecture** **3 (3-0-6)**

Significant theories of architecture as well as interior architecture as a discipline, the development over the Western History from the 15th century to the early 20th century, reviewing the ideas, philosophies, concepts and design execution through illustrated lectures and discussion based on analysis of interior architectural space and design.

IN 3203 **Interior Architectural Design III** **6 (2-8-8)**
Prerequisite : *IN 2204 Interior Architectural Design II*

Human perception, behavior activity, scale, and the use of materials in small scale commercial space, graphic design media such as signage in relation to interior environment.

IN 3207 **Interior Architectural Design IV** **6 (2-8-8)**
Prerequisite : *IN 3203 Interior Architectural Design III*

Complex commercial, business, and hospitality spaces design, human interactions and communication in public space planning, existing building conditions, new trends and details of furniture finishing materials and lighting technology which are incorporated in design.

IN 3301 **Interior Construction Technology I** **3 (2-2-5)**

Basic consideration namely : human ecology, which includes anthropometric and ergonomic principles, basic construction methods, materials and finishes and typical details which include skeleton structure of floo , wall, ceiling and staircase wall, ceiling and staircase.

IN 3303 **Interior Construction Technology II** **3 (2-2-5)**
Prerequisite : *IN 3301 Interior Construction Technology I*

Advanced construction methods that relate to complex volumes of interior space, which include principles of skeleton structures and modern material and installation techniques, framed structure of regular and raised floors with various aspects of installation of finishing material namely wood, metal, plastic and glass, focusing on interior architecture working drawing following specifications and construction documents

IN 3304 **Lighting Design** **3 (2-2-5)**

Factors that influence lighting design decisions, including properties of materials as they relate to light, codes and law, reading and using catalogs, documentation, and health effects of light, technical and practical aspects of lighting design, including the physics of light, lab technology, the use and design of natural and artificial light throughout history to establish a broad understanding of the culture and historical implications of light, application of photometric data and calculation.

IN 3305 **Furniture Design** **3 (2-2-5)**

Specific proponents, movements and conceptual approaches relevant to key furniture designers from the industrial revolution to contemporary period, forms development, design process, aesthetics quality, fashion and trend. Creative projects are assigned to encourage students to emerge in-class knowledge and their creativities to implement an innovative, quality, and practical design.

IN 3306 **Interior Material Application** **3 (2-2-5)**

Systematic approach to selecting essential interior design elements, color and materials : types, properties, applications, and practicality as well as awareness of ecological problems, sustainability, and suggestions for future substitution for materials.

IN 4102 **Methods of Research and Data Processing** **3 (3-0-6)**

Processes of selecting and preparing materials for research, learning to recognize, collect data and analyze case study, utilizing of fundamental design research to achieve effective design solution.

IN 4203 **Interior Architectural Design V** **6 (2-8-8)**
Prerequisite : *IN 3207 Interior Architectural Design IV*

Advanced design focusing on critical observation and experiment to create design concept for large scale commercial and institutional designs, the balance between visionary concept and practical solution, awareness of environmental system and universal design.

IN 4205 **Interior Architectural Design VI** **6 (2-8-8)**
Prerequisite : *IN 4203 Interior Architectural Design V*

Commercial and institutional designs, projects which are structured to complex programs with universal users, understanding and concern of the assigned building condition, architectural and social contexts, building codes and regulations. The course provides opportunity for collaborative team working experience.

IN 4304 **Practicum in Interior Architecture** **Non-credit (240 Hours)**

A 240 working hour professional training at an interior architecture fi m in order to expose students to all kinds of hand-on experiences and knowledge in the real interior architecture business world.

IN 4305 **Seminar in Interior Architecture** **3 (3-0-6)**

Development of interior design from the past to present, academic and practical thinking, obstacles and setbacks relating to the profession and their solutions.

IN 4306 **Furniture Production Methods** **3 (2-2-5)**
Prerequisite : *IN 3305 Furniture Design*

Process of making furniture, scale, proportion, basic joinery, materials selection, and assembly techniques. Through lectures, demonstrations and field trips and making of full-scale piece of furniture, students are encouraged to explore diverse interdisciplinary approaches to creative problem solving.

IN 5200 **Pre-Thesis in Interior Architecture** **3 (0-6-3)**

Independent study on interior architectural issue and program based on student's individual interest. The student collects the analytical information on the chosen existing building and study context, case study, specific user behavior, and etc. which are beneficial to his/her topic. The student is required to work consistently under the supervision of the assigned advisor throughout the semester.

IN 5203 **Interior Architectural Design VII** **6 (2-8-8)**
Prerequisite : *IN 4205 Interior Architectural Design VI*

Student's experience of public large scale design project, managing to initiate and execute complex design program under the time constraint, the design process reinforcing critical and analytical thinking through the search for marketable concept and practical solution. The quality of construction drawings is observed and revised to form student's draftsmanship and realistic vision to professional design.

IN 5205 **Thesis in Interior Architecture** **9 (0-18-9)**
Prerequisite : *IN 5200 Pre-Thesis in Interior Architecture*
IN 5203 Interior Architectural Design VII

A student self-initiated design project under the thesis advisor supervision which investigates the specific type of interior space, collecting and analyzing project condition, case studies, user behaviors before design process.

IN 5300 **Professional Ethics and Practices** **3 (3-0-6)**

Ethical conduct of the professionals in the field, relationship between client and designer, designer and staff, an understanding fi e protection material regulation in building laws, study building law which relate to interior design sections , bidding and contracts, and work supervision.

IN 5400 **Elements of Thai Architecture** **3 (2-2-5)**

Different elements of Thai architecture as in building bodies, roofs and structures, analysis of different forms and spaces of Thai traditional architecture, conducting research on Thai design, architectural characteristics, appropriate functions and apply to use in interior design.

IN 5401 **Interior Architecture Cost Estimation and Control** **3 (3-0-6)**

Budgeting and cost estimating of a finished interior by making quality survey of materials, estimating labor cost and construction period, practice of cost controlling within a given budget, payment and penalty schedules.

IN 5404 **Individual Study in Interior Architecture** **3 (3-0-6)**

Study and research of individual's interests pertaining to interior architecture under the approval of an advisor.

IN 5411 **Advanced Lighting** **3 (2-2-5)**

Advanced theoretical lighting, color and illumination practical functions and aesthetic senses for interior architecture. Practicing lighting design in different scale and perspective which site excursion and seminar are provided.

IN 5416 Introduction to Exhibition Design 3 (2-2-5)

Introduction to exhibition design, strategies in designing for exhibitions and trade show booths, various issues ranging from programs, space design, conceptual development of a thematic approach, and creation of a presentation system for products, artifacts, or artwork activities as business practices specific to the trade show and exhibit design industry, and the effective use of computer renderings and presentation skills.

IN 5417 Arts Appreciation 3 (3-0-6)

Aesthetic appreciation, diverse branches of arts at differential periods, conceptual idea of imaginative interpretation, imitation of nature and also environment which urges inspiration to influence the artists' philosophical life and his vision, materials and process of creation, including history of arts which can be applied in the subjects of design. Student will gain experiences from out-door study as extra lecture on visiting art gallery and art exhibition.

IN 5418 Advance visualization techniques 3 (2-2-5)

The course focuses on developing professional skill in the processes of advanced 3-D modeling and animation, using the digital tools. Students will gain more advanced techniques to generate a structural of spatial visualization. Digital models presentation and communication will be explored in effective.

IN 5419 Advance Construction Document for Interior Architecture 3 (2-2-5)

The objectives of the course are to introduce the art, science, and practice of completely working drawing of interior architecture building service and detailing to the interior design filed in all aspects of design, installation, and maintenance associated with building services. Included air-conditioning, heating and ventilating, water services, sanitary works, energy management systems, solar collectors, electrical distribution systems, electrical equipment, materials, lighting.

IND 1101 Visual Design 3 (2-2-5)

Visual language, basic design elements, and design composition used in conveying desired messages of 2 dimensional and 3 dimensional designs with emphasis on actual application through a series of corresponding projects.

IND 1102 Introduction to Design Culture and Trend 3 (3-0-6)

Contemporary issues in design within the context of creative culture that aims to promote an understanding and appreciation of design works through an investigation of the development, role, and influences of designers on our society.

IND 1103 Interior Design Rendering 3 (2-2-5)

Essential methods of interior design presentation, emphasizing upon concepts, theories and skills of using various media and techniques, ranging from two- dimensional presentation to three-dimensional modeling for communicating ideas.

IND 1104 Human Factors for Design 3 (3-0-6)

Basic knowledge of interior design and furniture dimensions, ergonomics, and design trends, in collaboration with user-centered design philosophy. User's perception through multidimensional facets including physical, psychological, and social aspects in designing to achieve the appropriate health, safety, and comfort of users.

IND 1301 Basic Drawing 3 (2-2-5)

Practices of drawing used in architecture and design profession i.e. orthographic projection, perspective projection, shade and shadow and drawing technique in pencil.

IND 1302 **Design Fundamentals** **3 (2-2-5)**
Prerequisite : *IND 1101 Visual Design*

Theory and architectural components and the basic design relationship between forms and function in order to fulfill the pe fection of architectural design.

IND 1303 **Computer Applications for Interior Design** **3 (2-2-5)**

Computer as a tool in assisting design process, drafting, and presentation through practicing of computer applications such as AUTOCAD, and basic 3 dimensional modeling application

IND 1304 **Principles of Building Construction** **3 (2-2-5)**

Basic knowledge on timber skeleton constructions, reinforce concrete and masonry construction for small residential building, including principles of structural system, building components such as columns, floo , staircase, and basic construction materials through studio works in model making and drawings via both pencil-sketch and computer application drawing.

IND 1305 **Design Fundamentals II** **3 (2-2-5)**

Interior design principles and related theories to articulate optimal design for both aesthetics and fuctional purposes of human activities and behaviors.

IND 2101 **Design Methods** **3 (2-2-5)**

Contemporary interior design process and its method and concept to provide a perspective of plausible design strategies.

IND 2102 **Human Factors** **3 (2-2-5)**

Physical, psychological, and social interaction aspects related to humans especially in capabilities, limitations, and relationships to their surroundings such as sensation and perception, ergonomics, and universal design essential in designing for health, safety and comfort.

IND 2103 **Interior Design Theory and Practice** **4 (3-2-5)**

Significant design theories and concepts bridging with design methods and contribute to contemporary interior design process in order to provide a broad perspective of plausible applied design strategies.

IND 2304 **Basic Computer-Aided Design** **4 (3-2-5)**

Computer as a tool in assisting design process, basic drafting, construction drawings, elementary applications in two-dimension drawing, three-dimensional modeling and graphic presentation.

IND 2305 **Interior Construction and Technical Drawing** **3 (2-2-5)**

Introduction to anthropometry and design principles in the construction of interior design through fundamental structural elements, working drawing techniques, symbols, construction terminology and definitions, and material use

IND 2306 **Material and Applications for Interior Design** **3 (2-2-5)**

Systematic approach in variety of material selections and factors including interior design elements, colors, material and applications, ecological material, and new innovative material. Experiment in the alternated creative possibility in composing variety of color schemes, material for interior design presentation.

IND 2201 **Interior Design I** **6 (2-8-8)**
Prerequisite : *IND 1302 Design Fundamentals*

Vital understanding of human-spatial relationship through investigations and analyses of users' need and behaviors and explorations of volumetric interior space via small scale residential projects ranging from a single user to multiple users.

IND 2202 **Interior Design II** **6 (2-8-8)**
Prerequisite : *IND 2201 Interior Design I*

Exploration of more complex programming both in functions as well as in users' requirements through projects that involve multiple users and conjoining of different functions, with emphasis on design concept communication via interior design graphic standards through more rigorous project drawing requirements.

IND 2301 **History of Interior Design** **3 (3-0-6)**

Interior design history through chronological exploration of the evolution of architectural design, space planning, interior design and furniture decoration from ancient to the 20th century with emphasis on styles and characteristics of each period as a reference to future developments.

IND 2302 **Building Construction** **3 (2-2-5)**

Basic knowledge on standard timber construction-skeleton structure with short span beams for small building, standard reinforce concrete and masonry construction for medium public building, including principles of structural system, building components such as columns, floo , staircase and basic construction materials through studio works.

IND 2303 **Furniture Production and Fabrication Technology** **3 (2-2-5)**

Basic knowledge of furniture design and furniture production including, history and their implement culture, furniture component, ergonomics, design trend, conceptual and aesthetic approaches, form development process, occupation of existing tool and technique to produce practical furniture design, fabrication technology including, system, structure, and material selections in furniture, modular furniture.

IND 3101 **Theory and Concept in Design** **3 (3-0-6)**

Significant design theories and concepts that have led to effective designs in order to provide an understanding in concept derivation as well as insights for critical analysis of current design trends and trend forecasting. The theories include : Design Semiotics, Phenomenology, Design Hermeneutics, Functionalism, Rationalism, Environmentalism, and Critical Theory.

IND 3102 **Design Research and Development** **3 (3-0-6)**

Essential knowledge in how to conduct design-based research that yields balancing results in interior design innovation, ease of manufacturing, and profitability through understanding of the liaison between business market research and interior design research.

IND 3201 **Interior Design III** **6 (2-8-8)**
Prerequisite : *IND 2202 Interior Design II*

Exploration of commercial interior design and its intrinsic components including activities, human perception, human behavior in public realms, materials and fabrications in public spaces, environmental graphic design, as well as rules and regulations in public spaces through small-scale commercial interior design projects.

IND 3202 **Interior Design IV** **6 (2-8-8)**
Prerequisite : *IND 3201 Interior Design III*

Exploration of more complex commercial and hospitality interior design, which includes established and emerging theories and design principles, material fabrications and lighting technology, interior design codes, and constraints and conditions of involved building.

IND 3203 **Pre-Senior Project I** **3 (3-0-6)**
Prerequisite: *IND 2202 Interior Design II*

Individual research analysis and integration of market approach and topic of interest pertaining to interior design and propose new approaching value interior concept concerning with interior environmental, trend, social and culture context, and innovate concept idea for senior project underthe supervision and approval of advisor. The research topics of this course are including with the senior project research, data collection, and data analysis for interior design.

IND 3204 **Pre-Senior Project II** **3 (3-0-6)**
Prerequisite: *IND 3201 Interior Design III and IND 3203 Pre-Senior Project I*

Individual research analysis integration of market approach and topic of interest pertaining to interior design and propose new approaching value interior concept concerning with interior environmental, trend, social and culture context, and innovate concept idea for senior project under the supervision and approval of advisor. The research topics are including branding approach, spatial interpretation and interior schematic design.

IND 3301 **Interior Construction** **3 (2-2-5)**

Basic interior construction through construction methods, typical interior finishes, details and material uses based on consideration of human ecology, anthropometric and ergonomic principles.

IND 3302 **Interior Material and Technology** **3 (2-2-5)**

Systematic approach in variety of material selections and factors including interior design elements, colors, material and applications, ecological material, and new innovative material. Experiment in the alternated creative possibility in composing variety of color schemes, material presentation board.

IND 3303 **Building System Study** **3 (2-2-5)**

Basic factors about building systems which interior designers need to understand and co-operate the project sufficiency with the other parties in the design team, information of each different type of small and medium public building which is related to interior design process such as; structure system, mechanical system, electrical system, sanitary system, air conditioning system, security control, audio visual system, communication system, fi e protection system, building code, etc.

IND 3306 **Lighting Design** **3 (2-2-5)**

Lighting design, history and its implement culture, lighting components, aesthetic sense, health effects of light, properties of light, light technology, codes and law, reading and using light catalogs, practical aspects of lighting design, lighting application and concern throughout various kinds of experimental project.

IND 3307 **Practicum in Interior Design** **1 (1-2-1)**

Ethical conduct on professional interior design, duty and personality's brief for a practicum with minimum 240 working hours in professional training at interior design fi m to expose students to all kinds of professional experiences in the real sector of interior design business and related field.

IND 3308 **Brand and Marketing in Interior Design** **3 (2-2-5)**

Fundamental knowledge and analysis of market demand, necessary preliminary marketing idea approach for design, branding design and effective communication and presentation skills for design based on marketing approach.

IND 4201 **Interior Design V** **6 (2-8-8)**
Prerequisite : *IND 3202 Interior Design IV*

Advanced study in interior design, which includes critical analyses of design environment, universal design, and environmental site considerations in order to initiate corresponding design programming and design execution through large scale commercial and institutional projects. This course also provides an opportunity for trans-disciplinary collaborative work focusing on increasing project feasibility.

IND 4202 **Senior Project** **6 (0-12-6)**
Prerequisite : *IND 4201 Interior Design V*
IND 4304 Pre-Senior Project

Individual study of well-contemplated design project through analyses of design environment, which include emerging design trends, social-cultural context, and environmental concerns resulting in a viable business plan and design schematics for a complex prototype interior design project of appropriate function, aesthetic, scale.

The design and evaluation processes of IND 4202 (Senior Project) are as listed below.
1. Pre - Design (programming)
2. Conceptual Design
3. Preliminary Design
4. Design Development
5. Final Presentation"

IND 4301 Design Management 3 (3-0-6)

Project management skills and the process of organizing, fundamental of design business for entrepreneur and project management principles, risk awareness, design thinking process from conceptualization to implementation. Recent worldviews and movements, to develop students' creativity through design thinking and brainstorming to meet client's needs and project time frame.

IND 4303 Professional Ethics and Practice 3 (3-0-6)

Ethical conduct on professional interior design, client's brief, service offered, design team, proposal for interior design project including, preparation of documents, written format, categories and contents scope of design works, scope of design services, estimated budget, work schedule forecast, determined design fees and contract types, contract documents, tender process, site inspection, license and regulations.

IND 4304 Pre-Senior Project 6 (2-8-8)

Individual research analysis integration of market approach and topic of interest pertaining to interior design and propose new approaching value interior concept concerning with interior environmental, trend , social and culture context, and innovate concept idea for senior project under the supervision and approval of advisor.

IND 4305 Internship in Interior Design 6 (480 Hrs.)

Ethics and proper characters in workplace. The 480 working hours in professional training at interior design fi m under instructure and stakeholder visualization and evaluation to expose students to professional experiences in the real sector of interior design.

IND 4306 Advanced Lighting Design 3 (2-2-5)

Theoretical lighting, color, and illumination for interior design, practical functions, aesthetic sense, technical detailed drawing for lighting design session which is needed to be combined into interior design works, lighting design in different interior project scale and type, professional presentation technique for the lighting design package. Site excursion and seminar are also provided.

IND 4307 Interaction Design 3 (2-2-5)

A seminar and workshop on interaction design, which is the study of systems and devices that a user can interact. The practice typically on embedding information and digital technology into various outputs. The discussion about human behaviors, social interactions, and the impact of digital media on built environments. A space for exploration, experimentation, and implementation pertain to development of learner interests.

IND 4401 Seminar in Interior Design 3 (3-0-6)

Design environmental topics or events that are in trend including, interior design, fine arts, furniture design, lighting design, design-related business management, entrepreneurship in interior design business and other related fields. The approach will be topics analysis in class and special lectures from guest lecturers in specialized area from the faculty members from other public or private universities, representatives from design enterprises, or private sectors.

IND 4402 Advanced Computer-Aided Design 3 (2-2-5)

Advanced study of computer-aided design including all necessary update software to enhance the creative thinking of interior design students, interior space for exploration, experimentation, methodologies, design and technology context, narrative, computation, and interactivity.

IND 4403 **Model Making and 3D Exploration** **3 (2-2-5)**

Elementary concepts, tools and material of sculpturing and crafting by hand skills, training in perception of material, texture, form, scale, volume, 3D and spatial visualization, various media and techniques of the alternated creative possibility, emphasizing upon aesthetic form and conceptual development of personal skills.

IND 4404 **Home Textile and Soft Furnishing** **3 (2-2-5)**

Variety of types, colors, texture, and pattern of the home textile, alternated creative possibility, aesthetic appearance, and other factors including strength, durability, performance, and maintenance, the range of textile available in market and process of choosing textile to properly fit the certain usage for all required interior design works.

IND 4405 **Thai Architecture Study** **3 (3-0-6)**

Thai architecture and ornaments that have emerged throughout the history, analysis of space, form, decorated motifs, and functions which are reflected in Thai culture and characteristics applied to the Thai contemporary interior design without losing the mainstream of Thai characteristics.

IND 4406 **Advanced Lighting** **3 (2-2-5)**

Theoretical lighting, color, and illumination for interior design, practical functions, aesthetic sense, technical detailed drawing for lighting design session which is needed to be combined into interior design works, lighting design in different interior project scale and type, professional presentation technique for the lighting design package. Site excursion and seminar are also provided.

IND 4407 **Decorative Art** **3 (2-2-5)**

Variety of decorative art related to interior design that has emerged throughout the history, perception of arts with aesthetic appreciation, conceptual idea of imaginative interpretation, critical thinking of the artist's philosophy, inspiration, material, creative technique, and cultural influence to the art.

IND 4408 **Individual study in Design** **3 (2-2-5)**

Individual study and research analysis on a topic of interest for new approach of theory, philosophy and interdisciplinary design pertaining to design and related design field concern with social and cultural context and environmental .

IND 4409 **Branding Experience in Art and Design** **3 (2-2-5)**

The study approaching on a branding experience in design from a professional with up to date topic of interest pertaining to art and design.

IND 4410 **Furniture Design and Production** **3 (2-2-5)**

Basic knowledge of furniture design and furniture production including, history and their implement culture, furniture component, ergonomics, design trends, conceptual and aesthetic approaches, form development process, occupation of existing tool and technique to produce practical furniture design, fabrication technology including, system, structure, and material selections in furniture, modular furniture.

INX 1111 **Tech Startup** **2 (2-0-4)**

Overview of tech startup, innovations, design thinking, ideation, persona, user interface design, UX/UI, lean startup, lean canvas, value propositions, UVP, agile manifesto, business modeling, entrepreneurship, marketing, pitching, growth hacking, angel investors, venture capital.

INX 1201 **AI for Business** **2 (2-0-4)**

Fundamental concepts of artificial intelligence and its applications in modern business operations, from sales & marketing to customer support operations. Students learn how AI can be applied to realworld business scenarios, AI tools and technologies in the market, and legal and social acceptance of AI technologies.

INX 2101 **Practical Data Science for Entrepreneurs** **2 (2-0-4)**

Comprehensive problem-solving mindset, principles, techniques and tools to deal with various facets of data science practices in the business world of entrepreneurs. Topics include data preparation and visualization, exploration, description and prediction required for knowledge extraction in both science and business domains.

INX 2111 **Application Design and Coding** **2 (2-0-4)**

A practical approach to application development and coding for beginners, focusing on the design and development of real-world software, using modern development methods and tools. Students learn about the architecture, the development process, and the actual hands-on implementation of web and mobile applications.

INX 2121 **Agile Methods** **2 (2-0-4)**

Agile concept and methodologies as applied in software engineering process and its significance in modern technology innovations. Students learn how agile is used to design and develop rapid prototypes and products that meet the changing needs of the customers.

INX 2122 **UI/UX Design in Technology** **2 (2-0-4)**

Overview of user interface and user experience design in technlogy, including interactive systems, user capabilities, interface technology, design thinking process, user stories and scenarios, wireframes and storyboards, prototyping, interaction design, usability design and testing.

INX 2201 **Business Intelligence for Strategic Planning** **2 (2-0-4)**

Fundamental concepts of business intelligence, and ways to produce high-level knowledge, or insights, from multiple sources of data, to support strategic business planning. Students learn how to determine the kind of data needed, and how to acquire and manipulate them, to allow business to obtain valuable insights for its strategic decisions.

INX 4101 **Software Engineering** **3 (3-0-6)**

Software life cycle, analysis of requirements, structured software design, development, implementation, testing, and maintenance of software, reusable software, documentation and software manuals, and software project management.

INX 4102 **IT Project Management** **3 (3-0-6)**

Overview of ICT system development methodologies in practice, including project planning, budgeting, prototyping, implementing, and monitoring; resource management, terms of reference, service level agreement, dispute resolution.

INX 4103 **Web Application Development** **3 (3-0-6)**

Web application design and development, model view controller (VMC) framework, Hypertext Markup Language (HTML), dynamic HTML (DHTML), scripting language, such as VB Script, Jscript, etc., knowledge and skills required to develop web application using n-tiers architecture, designing, building, and deploying web application.

INX 4104 **iOS Application Development** **3 (3-0-6)**

Development fundamentals for handheld devices, mobile user experience and usability, designing and implementing applications efficiently under the restrictions of limited resources, programming development frameworks and life cycle on iOS Platform, iOS Software Development Kits (SDK), Xcode, development environment (IDE) and Objective-C programming language for iPhone/iPad, and deployment of application on iPhone/iPad.

INX 4105 **Android Application Development** **3 (3-0-6)**

Development fundamentals for handheld devices, mobile user experience and usability, designing and implementing applications efficiently under the restrictions of limited resources, programming development frameworks and life cycle on Android Platform, and deployment of application on Android devices.

INX 4106 **Internet of Things** **3 (3-0-6)**

Introduction to Internet, Internet of Things, technological trends leading toward IoT, embedded system and its interface, common hardware components of IoT devices, IoT devices' software and hardware interaction, IoT protocols, IoT and cloud service/computing.

INX 4201 **Data Mining** **3 (3-0-6)**

Fundamental concepts of data mining, widely used techniques/algorithms and tools, preprocessing, exploratory data analysis, classification, clustering, association analysis and egion discovery.

INX 4202 **Machine Learning** **3 (3-0-6)**

Construction of computer programs that will automatically improve their performance through experience, primary approaches to machine learning, including inductive inference of decision trees, case-based learning, neural network learning, statistical learning methods, and Bayesian learning.

INX 4203 **Big Data Analytics** **3 (3-0-6)**

Foundational techniques and tools required for big data analytics, deployment of structured approach to big data analytics projects, visualization techniques and tools to analyze big data and create statistical models, usage of tools such as Hadoop, MapReduce, Spark, and Graph.

INX 4204 **Decision Support and Recommender Systems** **3 (3-0-6)**

Recommender systems concepts, classical techniques for building recommender systems such as collaborative based, content-based, knowledge-based and hybrid recommendation approaches, techniques and approaches used to evaluate the quality of the recommendations, guidelines on matching recommendation technologies and domains, recent developments and applications of recommender systems.

INX 4205 **Intelligent System Development** **3 (3-0-6)**

Foundations of intelligent systems, intelligent agents, problem-solving by searching, stochastic searches, learning, genetic algorithms, and neural-networks.

INX 4301 **Sales and Distribution Management System** **3 (3-0-6)**

Introduction to Sales and Distribution Management System; fundamental processes in sales and distribution; logistic modules covering from sales forecast, sales promotion, price list, sales order, order management, inventory transactions related to sales, order delivery.

INX 4302 **Supply Chain Management System** **3 (3-0-6)**

Introduction to Supply Chain Management System, supply chain strategies, supply chain network design principles, planning and managing inventories, procurement and sourcing, innovative supply chain business models, supply chain performance.

INX 4303 **Finance and Accounting Management System** **3 (3-0-6)**

Introduction to Finance and Accounting Information System, the application of Accounting Information System (AIS) in businesses and organization, understanding of how AIS is used to record accounting transactions and how it facilitates business processes and transaction processing, hands-on experiences using accounting software in designing and configuring an accounting information system for small-to-medium sized businesses.

INX 4304 **Customer Relationship Management System** **3 (3-0-6)**

Introduction to Customer Relationship Management System, customer lifecycle management, customer lifetime value, processes and technologies for managing the relationships with potential and current customers and business partners, analytics in CRM, CRM data warehouse, CRM tools.

INX 4305 **FinTech and Blockchain Technology** **3 (3-0-6)**

Introduction to blockchain concept, how blockchain can help disrupting businesses, blockchain technological components, public and private blockchain, Bitcoin, coin mining, consensus protocols, blockchain security, cryptocurrencies, Initial Coin Offerings (ICOs), blockchain infrastructure and implementation, practical work on Ethereum and Hyperledger

INX 4400-4499 **Selected Topics** **3 (3-0-6)**

Special topics that are appropriate for detailed study and research. The topic selected depends on the students' needs and the instructors' requirements and is in accordance with the current changes in technology trends in that period.

ITX 1001 **Basic Mathematics and Statistics** **3 (3-0-6)**

Basic foundation in mathematics and statistics such as real numbers and sets, algebra, linear equations and inequalities, analytic geometry, functions, trigonometry, conic sections, matrix algebra, sequences and series, data and statistics, and methods for summarizing and describing sets of data.

ITX 2001 **Object-Oriented Concepts and Programming** **3 (3-0-6)**
Prerequisite: *ITX 3001 F undamentals of Computer Programming*

Different software development methods emphasizing on object oriented methods, fundamental concepts of object oriented programming, inheritance, polymorphism, encapsulation, object oriented programming tools, class libraries, application development using object oriented concept, analysis and design of object-oriented data architecture.

ITX 2002 **Calculus** **3 (3-1-7)**
Prerequisite: *ITX 1001 Basic Mathematics and Statistics*

Rate of change, limits, finding limits and continuity, derivatives of function, chain rule, techniques of differentiation and its application, L'Hopital's rule. Integration, integration techniques and application of integrals.

ITX 2003 **Principles of Statistics** **3 (3-1-7)**
Prerequisite: *ITX 1001 Basic Mathematics and Statistics*

Basic probability theory, random variables, sampling distributions, statistical inference for one population and two populations, Analysis of Variance, and analysis of categorical data.

ITX 2004 **UI/UX Design and Prototyping** **3 (3-0-6)**

Overview of interactive systems, user capabilities, interface technology, design thinking process, user stories and scenarios, wireframes and storyboards, prototyping, interaction design, usability design and testing.

ITX 2005 **Design Thinking** **3 (3-0-6)**

Overview of design process, problem interpretation, ideation, experimentation, solution discovery, design thinking approach to develop products, services, or solutions for complex problems; design thinking methodology, techniques, and supporting tools.

ITX 2006 **Mathematics and Statistics for Data Science** **3 (3-1-7)**
Prerequisite: *ITX 2003 Principles of Statistics*

Linear algebra such as vector spaces in n-space, inner product, norm and distance, orthogonal vector, vector product, Orthogonal functions and Fourier series, including various techniques in multivariate data analysis such as multiple regression analysis, discriminant analysis, logistic regression analysis, principal component analysis, factor analysis, and cluster analysis.

ITX 2007 **Data Science** **3 (3-0-6)**
Prerequisite: *ITX 2006 Mathematics and Statistics for Data Science*

Comprehensive problem-solving mindset, principles, techniques and tools to deal with various facets of data science practices including data preparation and visualization, exploration, description and prediction required for knowledge extraction in both science and business domains.

ITX 2008 **Cloud Computing** **3 (3-0-6)**

Cloud computing concepts and capabilities, cloud service models; IaaS, PaaS and SaaS, cloud containers, virtualization technologies, infrastructure migration approaches, cloud security and protection mechanisms, cloud resource management and monitoring capabilities, current trends and research in cloud computing.

ITX 2009 **Presentation and Data Visualization Techniques** **3 (3-0-6)**

Introduction to the principles and techniques for data visualization, design principles for charts and graphs, common tools for data visualization, visual presentation methods and techniques that increase the understanding of complex data and models, identification of patterns, trends and differences from data sets across categories, space, and time, practical uses of multimedia for presenting and conveying information.

ITX 2010 **Data Structure and Algorithms** **3 (3-0-6)**
Prerequisite: *ITX 2001 Object-Oriented Concepts and Programming*

Analysis of complexity of algorithms, various data structures including array, string, stack, queue, dequeue, tree, graph, set and heap, applications and analysis of algorithms developed employing the data structures mentioned above including time and memory requirement analysis of various searching and sorting algorithms.

ITX 3001 **Fundamentals of Computer Programming** **3 (3-0-6)**

History of computer, components of a computer system, coding and numbering systems, algorithm and development process of algorithms and expression of algorithms in terms of flowchart and pseudo code, implementation of algorithms using one of the high level languages that are used widely in the industry with emphasis on the nature and structure of the language, techniques of programming for both numerical and non-numerical processing, structure of the programming languages and how to develop structured programming.

ITX 3002 **Information to Information Technology** **3 (3-0-6)**

Components of IT systems, its' usage and applications, computer hardware and software and its' operations, communication systems and computer networks basic, applications of current technology, emerging IT-related technologies.

ITX 3003 **Business Systems** **3 (3-0-6)**
Prerequisite: *ITX 3002 Introduction to Information Technology*

Business systems and their interrelationships including finance, accounting, sales, marketing, human resources, law and operations, inputs and outputs of information systems, potential for integration of the systems, and information systems security.

ITX 3004 **Information System Analysis and Design** **3 (3-0-6)**

The information system development life cycle, methodologies in information system analysis and design, tools and techniques used in information system analyze and design.

ITX 3005 **Computer Networks** **3 (3-0-6)**

Fundamentals of computer networks, network devices and services, role of protocol layers, protocol basics and network protocols, inter-operability issues, Open System Interconnection (OSI) reference model and TCP/IP, addressing and naming schemes, network types and topologies, wired and wireless networks, network media, Local Area Network (LAN) and Wide Area Network (WAN) technologies, network security basics.

ITX 3006 **Database Management Systems** **3 (3-0-6)**
Prerequisite: *ITX 2001 Object-Oriented Concepts and Programming*

Data structure, principles of database, database system, database management system, application of database in information systems.

ITX 3007 **Software Engineering** **3 (3-0-6)**

Software life cycle, analysis of requirements, structured software design, development, implementation, testing, and maintenance of software, reusable software, documentation and software manuals, and software project management.

ITX 3008 **IT Project Management** **3 (3-0-6)**

Project planning, budgeting, prototyping, implementing, and monitoring; resource management, terms of reference, service level agreement, dispute resolution, ICT system development methodologies in practice

ITX 3009 **Senior Project I** **3 (3-0-6)**
Prerequisite: *Third-year student status with at least 72 credits completed*

Specific project which requires students to design and develop a concrete program or system, analyze the problem, define the solution and design the system by applying the various computer science concepts. The advisor whom the students select will guide them throughout the project development. The students must give presentation which includes oral examination.

ITX 3010 **Senior Project II** **3 (3-0-6)**
Prerequisite: *fourth-year student status with at least 100 credits completed*

System development project from the industry, students have to work with the companies under the supervision of their advisor throughout the project. The students must give presentation which includes oral examination.

ITX 4103 **Requirement Engineering** **3 (3-0-6)**
Prerequisite: *ITX 3004 Information System Analysis and Design*

Software life cycle, analysis of requirements, structured software design, development, implementation, testing, and maintenance of software, reusable software, documentation and software manuals, and software project management

ITX 4104 **Software Testing** **3 (3-0-6)**
Prerequisite: *ITX 3004 Information System Analysis and Design*

Detailed activities involved in testing a software, different approaches in testing various components of a software, appropriate testing methods for different problems, and utilization of testing reports effectively in order to improve quality of a software both during software development and after software implementation.

ITX 4106 **Enterprise Architecture** **3 (3-0-6)**

Enterprise Architecture basic elements, Enterprise Architecture Framework, Enterprise Architecture Domains, Architecture Development Method and Enterprise Continuum.

ITX 4107 **Web Application Development** **3 (3-0-6)**
Prerequisite: *ITX 2001 Object-Oriented Concepts and Programming*

Web application design and development, model view controller (VMC) framework, Hypertext Markup Language (HTML), dynamic HTML (DHTML), scripting language, such as VB Script, Jscript, etc., knowledge and skills required to develop web application using n-tiers architecture, designing, building, and deploying web application.

ITX 4108 **iOS Application Development** **3 (3-0-6)**
Prerequisite: *ITX 2001 Object-Oriented Concepts and Programming*

Development fundamentals for handheld devices, mobile user experience and usability, designing and implementing applications efficiently under the restrictions of limited resources, programming development frameworks and life cycle on iOS Platform, iOS Software Development Kits (SDK), Xcode, development environment (IDE) and Objective-C programming language for iPhone/iPad, and deployment of application on iPhone/iPad.

ITX 4109 **Android Application Development** **3 (3-0-6)**
Prerequisite: *ITX 2001 Object-Oriented Concepts and Programming*

Development fundamentals for handheld devices, mobile user experience and usability, designing and implementing applications efficiently under the restrictions of limited resources, programming development frameworks and life cycle on Android Platform, and deployment of application on Android devices

ITX 4201 **Artificial Intelligence Concepts** **3 (3-0-6)**
Prerequisite: *ITX 2001 Object-Oriented Concepts and Programming*

Fundamental concepts in AI and its purpose as well as different disciplines in the field, mathematical theorem proving, natural language processing, image processing, robotics, expert system and various techniques used in knowledge representation, searching, induction and heuristic algorithms, case studies related to specific AI applications including expert system, language translation, voice processing, and others, use of popular programming languages such as Prolog and LISP to solve AI related problems.

ITX 4202 **Data Mining** **3 (3-0-6)**
Prerequisite: *ITX 2001 Object-Oriented Concepts and Programming*

Fundamental concepts of data mining, widely used techniques/algorithms and tools, preprocessing, exploratory data analysis, classification, clustering, association analysis and egion discovery.

ITX 4203 **Machine Learning** **3 (3-0-6)**
Prerequisite: *ITX 2001 Object-Oriented Concepts and Programming*

Construction of computer programs that will automatically improve their performance through experience, primary approaches to machine learning, including inductive inference of decision trees, case-based learning, neural network learning, statistical learning methods, and Bayesian learning.

ITX 4204 **Biometrics** **3 (3-0-6)**
Prerequisite: *ITX 2001 Object-Oriented Concepts and Programming*

Introduction to biometrics, physiological biometrics, fingerprint biometrics, face biometrics, iris biometrics, hand geometry, palmprint, behavioural biometrics, gait biometrics, gesture biometrics, voice biometrics, signature recognition, multimodal biometrics, biometric system security, biometric standards, BioAPI specifications

ITX 4205 **Big Data Analytics** **3 (3-0-6)**
Prerequisite: *ITX 2006 Mathematics and Statistics for Data Science*

Foundational techniques and tools required for big data analytics, deployment of structured approach to big data analytics projects, visualization techniques and tools to analyze big data and create statistical models, usage of tools such as Hadoop, MapReduce, Spark, and Graph.

ITX 4206 **Data Warehousing and Business Intelligence** **3 (3-0-6)**
Prerequisite: *ITX 2006 Mathematics and Statistics for Data Science and ITX 3006 Database Management Systems*

Fundamental and evolution of data warehouse concepts including data warehouse architecture, development methodology, data modeling, data conversion, OLAP, ETL processes, data access, business intelligence applications.

ITX 4207 **Decision Support and Recommender Systems** **3 (3-0-6)**
Prerequisite: *ITX 2006 Mathematics and Statistics for Data Science*

Recommender systems concepts, classical techniques for building recommender systems such as collaborative based, content-based, knowledge-based and hybrid recommendation approaches, techniques and approaches used to evaluate the quality of the recommendations, guidelines on matching recommendation technologies and domains, recent developments and applications of recommender systems.

ITX 4208 **Deep Learning** **3 (3-0-6)**
Prerequisite: *ITX 4203 Machine Learning*

Introduction to deep learning concepts and techniques including perceptron, artificial neural networks, activation function, learning techniques, backpropagation, problem of traditional neural network; vanishing/exploding gradient, regularization, preprocessing, deep feedforward networks, convolutional networks, recurrent neural networks, and their applications.

ITX 4209 **Intelligent System Development** **3 (3-0-6)**
Prerequisite: *ITX 2001 Object-Oriented Concepts and Programming*

Foundations of intelligent systems, intelligent agents, problem-solving by searching, stochastic searches, learning, genetic algorithms, and neural-networks.

ITX 4210 **Natural Language Processing and Social Interactions** **3 (3-0-6)**
Prerequisite: *ITX 2001 Object-Oriented Concepts and Programming*

Human language from a computational perspective, syntactic analysis, semantic interpretation, and discourse processing (both symbolic and statistical approaches), information extraction, natural language generation, and applications of NLP in social interactions.

ITX 4301 **Network Design** **3 (3-0-6)**
Prerequisite: *ITX 3005 Computer Networks or by the consent of the instructor*

Network topology and design methodology, hierarchical network design approach, campus and data center networks design, enterprise network design, software-defined networking, software-defined access, multiservice/multitenant technologies.

ITX 4302 **Cisco Networking Workshop** **3 (3-0-6)**

Models of the Internet and computer networks, IP addressing, Ethernet concepts, media, and operations, operations of routers and switches in a small network, simple LANs implementation, basic network configurations for outers and switches.

ITX 4303 **Network Security** **3 (3-0-6)**
Prerequisite: *ITX 3005 Computer Networks or by the consent of the instructor*

Network security principles, threats and vulnerabilities, security threats mitigation and countermeasures, network security protocols, technologies and tools/appliances, networks intrusion detection and forensics technologies, cryptographic and authentication systems, capability and access control mechanisms, current trends and research in security policies and technologies.

ITX 4304 **Network Management** **3 (3-0-6)**
Prerequisite: *ITX 3005 Computer Networks or by the consent of the instructor*

Network management principles and protocols, five functional areas of network management: fault management, configuration management, accounting management, performance management, and security management (FCAPS), security information and events management (SIEM), fault diagnosis and isolation, performance monitoring, service level agreement (SLA).

ITX 4305 **Heterogeneous Wireless Networks** **3 (3-0-6)**
Prerequisite: *ITX 3005 Computer Networks or by the consent of the instructor*

Integration of heterogeneous wireless technologies, architecture of heterogeneous wireless networks (HWNs), radio resource and interference management, capacity and coverage enhancement, mobility and resource management, location management and network selection mechanisms in HWNs.

ITX 4306 **Internet of Things** **3 (3-0-6)**
Prerequisite: *ITX 3005 Computer Networks or by the consent of the instructor*

Introduction to Internet, Internet of Things, technological trends leading toward IoT, embedded system and its interface, common hardware components of IoT devices, IoT devices' software and hardware interaction, IoT protocols, IoT and cloud service/computing.

ITX 4307 **Business Continuity Planning and Management** **3 (3-0-6)**

Emergency preparedness techniques necessary to maintain business continuity, critical processes, planning for business continuity, risk assessment, impact analysis, mitigation strategies, response, recovery and continuation activities.

ITX 4402 **Sales and Distribution Management System** **3 (3-0-6)**
Prerequisite: *ITX 3003 Business Systems*

Introduction to Sales and Distribution Management System; fundamental processes in sales and distribution; logistic modules covering from sales forecast, sales promotion, price list, sales order, order management, inventory transactions related to sales, order delivery.

ITX 4403 **Manufacturing Management System** **3 (3-0-6)**
Prerequisite: *ITX 3003 Business Systems*

Introduction to Manufacturing Management System, manufacturing processes, bill of materials (BOM), routing and work center, manufacturing resource planning (MRP), capacity planning, production scheduling, shop floor planning, work in p ocess (WIP).

ITX 4404 **Supply Chain Management System** **3 (3-0-6)**
Prerequisite: *ITX 3003 Business Systems*

Introduction to Supply Chain Management System, supply chain strategies, supply chain network design principles, planning and managing inventories, procurement and sourcing, innovative supply chain business models, supply chain performance.

ITX 4405 **Finance and Accounting Information System** **3 (3-0-6)**
Prerequisite: *ITX 3003 Business Systems*
and ACT 1601 Fundamentals of Financial Accounting

Introduction to Finance and Accounting Information System, the application of Accounting Information System (AIS) in businesses and organization, understanding of how AIS is used to record accounting transactions and how it facilitates business processes and transaction processing, hands-on experiences using accounting software in designing and configuring an accounting information system for small-to-medium sized businesses.

ITX 4406 **Customer Relationship Management System** **3 (3-0-6)**
Prerequisite: *ITX 3003 Business Systems*

Introduction to Customer Relationship Management System, customer lifecycle management, customer lifetime value, processes and technologies for managing the relationships with potential and current customers and business partners, analytics in CRM, CRM data warehouse, CRM tools.

ITX 4407 **Enterprise Application Development** **3 (3-0-6)**
Prerequisite: *ITX 3006 Database Management Systems*

Architecture and platform of choice for building and deploying n-tier, web-based, transactional, and component-based enterprise applications, high-level overview of enterprise application architecture, individual programming API's and technologies that constitute at web tier and business tier, security, persistence, transaction.

ITX 4408 **Enterprise Database System** **3 (3-0-6)**
Prerequisite: *ITX 3006 Database Management Systems*

Introduction to the enterprise-level database systems, database architecture, DBMS installation and configuration issues, performance optimizing, monitoring and tuning, user management and database security, back-up, and recovery.

ITX 4409 **Blockchain Technology** **3 (3-0-6)**

Introduction to blockchain concept, how blockchain can help disrupting businesses, blockchain technological components, public and private blockchain, Bitcoin, coin mining, consensus protocols, blockchain security, cryptocurrencies, Initial Coin Offerings (ICOs), blockchain infrastructure and implementation, practical work on Ethereum and Hyperledger.

ITX 4502 **Tech Startup** **3 (3-0-6)**

Overview of tech startup, innovations, design thinking, ideation, persona, user interface design, UX/UI, lean startup, lean canvas, value propositions, UVP, agile manifesto, business modeling, entrepreneurship, marketing, pitching, growth hacking, angel investors, venture capital.

ITX 4503 **Information Systems Security** **3 (3-0-6)**

Fundamentals of computer security including hardware security, software security, database security, computer networks and telecommunication security, physical protection and microcomputer security and viruses protection, cryptographic technology, disaster recovery and contingency planning, intrusion detection and other applications, legal and ethical issues in computer security.

ITX 4504 **Digital Marketing** **3 (3-0-6)**

Overview of digital marketing, affiliate marketing, digital marketing tools, social media marketing, search engine marketing, pay-per-click, search engine optimisation, branding, sentiment analysis influencer marketing, website, inbound marketing, content marketing.

ITX 4505 **Digital Transformation** **3 (3-0-6)**

Fundamental operations of businesses and industries, paradigms and management practices of digitalcentric businesses, digital revolution, management disciplines for successful business transformation, digital technologies enabling development of new operational process, customer experience and business model, use of digital technologies for established organizations or new ventures.

ITX 4506 **Image Processing** **3 (3-0-6)**
Prerequisite: *ITX 2011 Data Structures and Algorithms*

Introduction to digital image processing including such topics as digital image representation, compression techniques, coding techniques, analysis of images represented in different formats, as well as optical character recognition techniques based on image processing to recognize Thai and English alphabetic.

ITX 4507 **Information Retrieval and Search Engines** **3 (3-0-6)**

Principles of retrieval systems, dictionaries, indexing, various strategies and models for information retrieval, scoring and ranking, evaluation of information retrieval, web search.

ITX 4508 **Quantitative Research for Digital Business** **3 (3-0-6)**
Prerequisite: *ITX 2003 Principles of Statistics*

Conducting quantitative research in business research including of defining research problems, questionnaire design, sampling methods, data gathering techniques, data analysis and reporting.

ITX 4600-4699 **Selected Topics** **3 (3-0-6)**
Prerequisite: *Third-year students / Fourth-year students and by the consent of the instructor*

Special topics that are appropriate for detailed study and research. The topic selected depends on the student's need and the instructors' requirements and is in accordance with the current change of information technology in that period.

JA 0721 **Japanese for Beginners I** **3 (3-0-6)**

Japanese pronunciation, vocabulary and some basic sentence patterns focusing on the skills of listening and speaking in everyday Japanese language

JA 0722 **Japanese for Beginners II** **3 (3-0-6)**
Prerequisite: *JA 0721 Japanese for Beginners I or by the consent of the instructor*

Vocabulary, more basic sentence patterns to develop the skills of listening and speaking

JA 0723 **Reading and Writing Japanese Scripts** **3 (3-0-6)**

Japanese scripts-Hiragana and Katakana, 50 basic kanji, greetings, and basic sentence patterns used in daily Japanese conversation

JA 1700 **Introduction to Japanese** **3 (3-0-6)**

Basic of Japanese language, scripts, Japanese sound system, basic grammar, and listening and speaking

JA 1701 **Japanese I** **3 (3-0-6)**
Prerequisite: *JA 1700 Introduction to Japanese*

Basic grammar, more vocabulary, kanji for daily use, and further development of listening and speaking

JA 2701 **Japanese II** **3 (3-0-6)**
Prerequisite: *JA 1701 Japanese I*

Further practice in listening, speaking, grammatical structures and fundamental reading skills

JA 2702 **Japanese III** **3 (3-0-6)**
Prerequisite: *JA 2701 Japanese II*

Further practice in listening, speaking, higher level of grammatical structures and fundamental reading and writing skills

JA 2703 **Basic Reading and Writing I** **3 (3-0-6)**
Prerequisite : *JA 1701 Japanese I*

Principles of reading and writing, reading simple texts, types of sentences, and practice in writing topics of everyday life.

JA 2704 **Basic Reading and Writing II** **3 (3-0-6)**
Prerequisite : *JA 2703 Basic Reading and Writing I*

Reading and writing more complicated texts and topics.

JA 3701 **Intermediate Japanese Grammar** **3 (3-0-6)**
Prerequisite : *JA 2702 Japanese III*

Intermediate grammatical structures and vocabularies for reading and writing in more complicated contexts.

JA 3702 **Business Japanese I** **3 (3-0-6)**
Prerequisites : *JA 2702 Japanese III*
JA 2704 Basic Reading and Writing II

Integrated skills of listening, speaking reading, and writing in business contexts.

JA 3704 **Oral Comprehension and Expression** **3 (3-0-6)**
Prerequisite : *JA 2702 Japanese III*

Demonstrating ideas and opinions in various social situations with appropriate styles of Japanese .

JA 3705 **Japanese for Office Management** **3 (3-0-6)**
Prerequisite: *JA 2702 Japanese III or by the consent of the instructor*

Skills and accuracy in listening, speaking, reading and writing for office managemen

JA 3721 **Introduction to Japanese Linguistics** **3 (3-0-6)**
Prerequisite : *JA 2702 Japanese III*

Vocal and consonantal systems of the Japanese language, special features of the language, phonetics, phonemics, sentence patterns and a complete grammatical analysis.

JA 3722 **Japanese Reading and Oral Report** **3 (3-0-6)**
Prerequisite : *JA 2702 Japanese III*

Reading comprehension skills of various Japanese articles and summarizing through oral presentations.

JA 3723 **Introduction to Japanese Phonetics** **3 (3-0-6)**
Prerequisites : *JA 2702 Japanese III*
GL 1101 Elements of Spoken Language

Accurate Japanese pronunciation, and Japanese phonological system and intensive practice on the articulation of various Japanese sounds.

JA 3724 **Aspects of Japan** **3 (3-0-6)**
Prerequisite : *JA 2701 Japanese II*

Japanese lifestyle, thought patterns, civilization and interdisciplinary studies about Japan.

JA 3726 **Japanese for Tourism** **3 (3-0-6)**
Prerequisite : *JA 2702 Japanese III*
or by the consent of the instructor

Practice of Japanese language for tour management

JA 3727 **Japanese for Hotels** **3 (3-0-6)**
Prerequisite : *JA 2702 Japanese III*
or by the consent of the instructor

Practice of Japanese language for hotel service and hospitality.

JA 3728 **Japanese for Airline Services** **3 (3-0-6)**
Prerequisite : *JA 2702 Japanese III*
or by the consent of the instructor

Practice of Japanese language for airline service and hospitality.

JA 3729 **Survey of Japanese Literature** **3 (3-0-6)**
Prerequisite : *JA 2702 Japanese III*
or by the consent of the instructor

Survey of classical and modern Japanese literary works.

JA 4701 **Reading in Business Japanese I** **3 (3-0-6)**
Prerequisite : *JA 3702 Business Japanese I*

Reading comprehension skills of various business-related Japanese articles.

JA 4702 **Business Writing in Japanese I** **3 (3-0-6)**
Prerequisite : *JA 3702 Business Japanese I*

Practice of writing business-related documents.

JA 4703 **Translation I : Japanese - Thai** **3 (3-0-6)**
Prerequisite : *JA 3702 Business Japanese I*

Methods and techniques of translation from Japanese into Thai

JA 4704 **Translation II : Thai - Japanese** **3 (3-0-6)**
Prerequisite : *JA 3702 Business Japanese I*

Methods and techniques of translation from Thai into Japanese.

JA 4721 **Japanese Conversation and Discussion (for international students)** **3 (3-0-6)**
Prerequisite : *JA 3704 Oral Comprehension and Expression*

Conversation skills on various topics of everyday life including some business topics.

JA 4722 **Reading in Business Japanese II** **3 (3-0-6)**
Prerequisite : *JA 4701 Reading in Business Japanese I*

Advanced reading comprehension skills of various business-related Japanese articles.

JA 4723 **Business Writing in Japanese II** **3 (3-0-6)**
Prerequisite : *JA 4702 Business Writing in Japanese I*

Further practice of writing business-related documents.

JA 4724 **Business Japanese II** **3 (3-0-6)**
Prerequisite : *JA 3702 Business Japanese I*

Advanced communication skills for various business interactions.

JA 4725 **Translation in Business Japanese** **3 (3-0-6)**
Prerequisite : *JA 3702 Business Japanese I*

Methods and techniques of translation from Japanese into English and vice-versa in business contexts.

JA 4726 **Public Speaking in Japanese** **3 (3-0-6)**
Prerequisite : *JA 3704 Oral Comprehension and Expression*

Principles and skills of presentation in public.

JA 4727 **Seminar** **3 (3-0-6)**
Prerequisite : *By the consent of the instructor*

Discussion on interested topics in depth.

JA 4729 **Cooperative Education** **6 (320 hours)**
Prerequisite: *By consent of the instructor*

Practical work experience in Business organizations for Business Japanese students

LAW 1201 **Business Laws for Entrepreneurs** **3 (3-0-6)**

Business laws for new age entrepreneurs who consider conducting business online. Begins with setting up a company, understanding legal issues concerning various types of business contracts, including tax liabilities incurred from business operation.

LL 1101 **Theories and Principles of Private Law** **3 (3-0-6)**

Definition, development, concept, role, and importance of law, legal methods, and fundamental concepts of private law, legal theories, general principles of civil and private law in the Civil and Commercial Code Book I, such as those concerning persons, juristic acts, and property.

LL 1102 **Legal History** **2 (2-0-4)**

World legal history, Thai cultural and social history which is the origins of important Thai legal institutions and the influence on Thai laws of Indian and Western philosophies, legal principles and legal system, comparative study on major legal systems of the world.

LL 1103 **Application, Interpretation of Laws and Legal Reasoning** **2 (2-0-4)**
Prerequisite : *LL 1101 Theories and Principles of Private Law*
LL 1401Theories and Principles of Public Law

Principles of the application and interpretation of written law, analogy of law, the application of customary law and the application of "general principles of law" under section 4 of the Civil and Commercial Code, problem, application and interpretation of the criminal law, public law, Juristic act and contract law, selected practical problems as well as theoretical problems

LL 1201 **Juristic Acts and Contracts Law** **3 (3-0-6)**

The Civil and Commercial Code, Book 1, Title 4 on Juristic Acts, Title 5 on Periods of Time and Title 6 on Prescription and Book 2, Title 2 on Contracts.

LL 1202 **Property and Land Law** **3 (3-0-6)**

Principles of law relating to property according to the Civil and Commercial Code, Books 1 and 4 as well as land law according to the Land Act and other related Laws.

LL 1301 **Criminal Law I** **3 (3-0-6)**

Criminal law, theories of criminal liability, scope of criminal law, attempt, principals and accessories, concurrence of offenses, recidivism, prescription, penalties and criminological and penological theories.

LL 1401 **Theories and Principles of Public Law** **2 (2-0-4)**

Institutions of public law, the meaning, elements and forms of the state as well as legal personality and institutions of the State. History and evolution of public law system, scope and specific nature of public law. Origin of public law, concepts and legal methods of public law. Public law theories Interest Theory, Subordinate Theory, and Subject of Law Theory.

LL 1402 **Constitution Law and Political Institutions** **3 (3-0-6)**
Prerequisite : *have taken or currently studing LL 1401 Theories, and Principles of Public Law*

History and development of the Constitution, rights and liberties of people under Constitutionalism, various governmental organizations, important constitutional theories, Separation of Powers Principle, Judicial Review including various philosophies of the constitutional system.

LL 2001 **Legal English I** **0 (2-0-4)**

English legal terminology and expressions of particular importance as well as concepts underlying terms and expressions in varying legal systems, practice reading legal documents and write essays on law subjects of their choice in English.

LL 2104 **Legal Profession Ethics** **2 (2-0-4)**

Moral and ethics of legal professionals in work and practice as being expected from good lawyers. Keeping and Pursuance of integrity in society as a good lawyer. Current issues relating to lawyers' ethics through case studies.

LL 2203 **Law on Consequences and Extinction of Obligations** **3 (3-0-6)**

Significance of law on Obligation, types, subjects, performance and effects of obligations according to the Civil and Commercial Code Book 2, Title 1, Chapters 1 and 2, Part 1 and preferential rights arising from debt, plurality of creditors and debtors, transfer of claims and extinction of obligations according to the Civil and Commercial Code Book 2, Title 1, Chapter 2, Part 2-6 and Titles 3, 4 and 5.

LL 2204 **Law of Delict, Mangement of Affairs without Mandate, Undue Enrichment** **3 (3-0-6)**

Torts, Management of Affairs without Mandate, Undue Enrichment according to the Civil and Commercial Code, Book 2.

LL 2205 **Specific Contracts** **3 (3-0-6)**

Principles of law relating to sale, exchange, gifts, hire of property, and hire-purchase according to the Civil and Commercial Code Book 3.

LL 2206 **Insurance Law** **2 (2-0-4)**

Principles of law relating to insurance according to the Civil and Commercial Code, Book 3, and the legislation concerning loss and life insurances.

LL 2207 **Specific Contracts I** **3 (3-0-6)**

Law on, hire of work, , loan, deposit, warehousing, agency, brokerage, compromise and gambling and betting, carriage according to the Civil and Commercial Code, Book 3

LL 2208 **Negotiable Instruments and Current Account Law** **2 (2-0-4)**

Negotiable instruments and current accounts according to the Civil and Commercial Code, Book 3 Titles 21 and 19 and liability for misuse of cheques

LL 2302 **Criminal Law II** **2 (2-0-4)**
Prerequisite : *LL 1301 Criminal Law I*

Offenses relating to the security of the kingdom, terrorism, public administration, public justice, religion, public order, public dangers, counterfeit and alteration, trade, and sexuality.

LL 2303 **Criminal Law III** **3 (3-0-6)**
Prerequisite : *LL 1301 Criminal Law I*

Specific offenses including life and body, freedom and, reputation, and property as well as petty offenses.

LL 3002 **Legal English II** **0 (2-0-4)**
Prerequisite : *LL 2001 Legal English I*

Enhancing students' English listening and speaking skills in legal context through simulations of moot court, moot arbitration and legal debating.

LL 3209 **Secured Transactions Law** **2 (2-0-4)**

Principles of law relating to suretyship, mortgage, and pledge according to the Civil and Commercial Code Book 3.

LL 3210 **Laws on Business Organizations** **3 (3-0-6)**

Principles of law relating to the organization, operation and liquidation of ordinary partnerships, registered partnerships, limited partnerships, limited companies, and public companies. Other forms of business organizations. Laws and regulations on securities and shares. Civil and criminal liability of representatives of juristic persons.

LL 3211 **Family Law** **3 (3-0-6)**

The Civil and Commercial Code Book 5.

LL 3212 **Succession Law** **3 (3-0-6)**

The Civil and Commercial Code Book 6.

LL 3403 **Administrative Law and Procedures** **3 (3-0-6)**
Prerequisite : *have taken or currently studying LL 1401 Theories and Principles of public law*

The general nature of Administrative Law, sources of administrative law in various legal systems, fundamental concepts, application and interpretation of administrative law, the organization of Thai public administration system, the relationship among political governmental organizations, rights between public and private sectors and vice versa; public service management, concession. Formation and legal status of juridical personality in public law, theories concerning administrative actions, rules with regard to administrative procedure, and administrative contracts. The establishment of the administrative court, administrative procedure, liabllity of the Administration.

LL 3501 **Public Finance Law and Tax Law** **3 (3-0-6)**

Law of public finance concerning financial matters, treasury, budget control, financial institutions, the economic principles relating to financial matters and treasury employed by the government in the administration of the country, Revenue Code in respect of personal income tax and corporate income tax.

LL 3503 **Bankruptcy Law and Rehabilitation** **2(2-0-4)**

Nature, objectives, history of bankruptcy Law, comparison of civil procedures with bankruptcy procedures, prosecution of bankrupty cases, rehabilitation.

LL 3601 **Civil Procedure Law I** **3 (3-0-6)**

General provisions on civil procedures and the procedures at trial court level

LL 3602 **Criminal Procedure Law** **4 (4-0-8)**

Criminal procedure according to the Criminal Procedure Code on authorities and duties of officials, scope of investigation, arrests, interrogation, detention, prosecution, trial, appeals, and execution of judgments.

LL 3603 **Court System and Constitution of Courts of Justice** **2 (2-0-4)**

Single and duals court systems, courts of Justice and others, Military Court, Administrative Court, Constitution Court, Court jurisdiction, judicial powers and quorum in trial, and adjudication for power and duty of courts.

LL 3604 **Civil Procedure Law II** **3 (3-0-6)**
Prerequisite : *LL 3601 Civil Procedural Law I*

The procedure at Appellate Court and Supreme Court, principles of law of provisional measures and execution of judgments and orders.

LL 3605 **Evidence Law** **3 (3-0-6)**

Basic and general principles of evidence and provisions appearing in the Civil Procedure Code and Criminal Procedure Code.

LL 3701 **Public International Law** **3 (3-0-6)**

History of international law, theories of international law, sources of international law, relationship between international law and domestic law, subjects of international law, jurisdiction, state responsibility, law of the sea, Interracial disputes settlement.

LL 3702 **Private International Law** **3 (3-0-6)**

Natures of private international law, private allocation, law on nationality, rights and legal status of foreigners, conflict of laws rules, international disputes settlement and court procedures in international civil matters.

LL 4105 **Philosophy of Law** **2 (2-0-4)**

Development of legal philosophies in various schools from past to present and root of problems of Law.

LL 4106 **Introduction to Common Law System** **2 (2-0-4)**

Origins, scope and development of common law system in the US and UK, roles and functions of various legal institutions and professions, relationships between federal and state law in the US, relationships between English law and European Union law, framework of American and English legal education, and structure of basic principles of Common Law.

LL 4213 **Seminar in Civil and Commercial Law** **2 (2-0-4)**

A seminar in important Civil and Commercial Code topics.

LL 4304 **Seminar in Criminal Law** **2 (2-0-4)**
Prerequisite : *LL1301 Criminal Law I*
LL 2302 Criminal Law II
LL 2303 Criminal Law III

Seminar in important Criminal Law topics.

LL 4404 **Law Drafting and Legislative Process** **2 (2-0-4)**

Organs relating to Law Drafting in Thailand, Rules and Proceduces relating to Law Drafting and Legislative Process

LL 4405 **Human Rights Law** **2 (2-0-4)**

Definition and philosophy behind human rights, protection of human rights under the League of Nations and the United Nations, protection of human rights at regional levels, and Arab States, the protection of human rights under Thai law.

LL 4406 **Environmental Law** **2 (2-0-4)**

Causes of environmental problems and their offects on lives, societes and country, governmental control of problems at state policy, environmental law on protection of air, water, and landm, litigations for damages in case of environmental problems.

LL 4407 **Natural Resources Law** **2 (2-0-4)**

Laws on petroleum, minerals, forests

LL 4408 **Consumer Protection Law** **2 (2-0-4)**

Various laws with the objectives to protect consumer's rights, consumer protection law, advantages and drawbacks of Thailand's consumer protection law, importance of legal measures in consumer protection.

LL 4409 **Broadcasting and Telecommunication Laws** **2 (2-0-4)**

Background, significance of laws and regulations on broadcasting and telecommunication, transfer of technology, accessibility of consumers to services, control on telecommunication and broadcasting business entrepreneurs, consumer protection, issues on fair competition among broadcasting and telecommunication business arena, authority and function of regulatory organizations.

LL 4410 **Energy and Petroleum Law** **2 (2-0-4)**

Theories, principles, concepts, polies and regulations concerning development and promotion of energy, preserve and control of energy, production, transportation and distribution standard in energy business dimension including renewable energy and petroleum.

LL 4411 **Medical and Public Health Laws** **2 (2-0-4)**

General nature of medical and public health laws, medical ethics, law relating to health professional practice, law relating to Sanatorium, law relating to drugs, various problems relating to medical ethics and medical and public health laws.

LL 4412 **Laws on Food and Drug** **2 (2-0-4)**

Legal principles regulating the standard of food and drug, process of licensing, controlling and regulating, problems arising from law enforcement,

LL 4502 **Labor and Social Security Law** **3 (3-0-6)**

Principles of labor law, history, current labor laws of Thailand relating to labor protection, labor relations, labor management, alien workers and guidelines for consideration and interpretation of various problems relating to labor and social security law.

LL 4504 **Law on Taxation in International Trade and Investment** **2 (2-0-4)**
Prerequisite : *LL3501 Public Finance Law and Tax Law*

History, theoretical development, important principles, laws and practices relating to taxes and duties in connection with international trade and investment under Thai and international law, problems surrounding international tax-evasion and countervailing measures.

LL 4505 **Intellectual Property Law** **3 (3-0-6)**

Nature of various types of intellectual property, Intellectual Property rights protection under Thai and international Law, developing countries' policy in drafting patent law.

LL 4506 **International Business Transactions Law** **2 (2-0-4)**

Legal Principles relating to international business operations, especially International Sale of Goods contracts, Incoterms, International paymerts, International carriage of goods by sea maritime insurance.

LL 4507 **Principles of Economics for Lawyers** **2 (2-0-4)**

General concepts of micro-economic and macro-economic,Fundamental economic problems, elements used to prescribe supply and demand of goods, consumer's behavior, qualifications of pe fect and imperfect competitive market, calculation of Gross Domestic Products(GDP), banking and finance, international trade, the connection between law and economic system

LL 4508 **Principles of Accounting and Financial Reports for Lawyers** **2 (2-0-4)**

Fundamental accounting principles, evaluation of assets, concepts regarding net value, understanding and analyzing financial statements to benefit the practice of business laws and to cooperate with other professionals concerned.

LL 4509 **Securities and Securities Exchange Law** **2 (2-0-4)**
Prerequisite : *LL 3210 Laws on Business Organizations*

Development of securities exchange market in Thailand and its management, various institutions involved, issuance and exchange of securities, control, the operation of securities business, tax law and accounting relating to securities exchange, legal measures of various problems of securities exchange.

LL 4510 **Banking and Financial Institutions Law** **2 (2-0-4)**

Roles of commercial banks and other financial institutions control and promote policies as well as banking and financial institutions laws

LL 4511 **Investment Law** **2 (2-0-4)**

Importance of investment, Thai economic structure, investment policies and laws of developing countries, laws on direct investment, portfolio investment, Laws relating to financial institutions and other laws which have impact on investment.

LL 4512 **International Economic Law** **2 (2-0-4)**
Prerequisite : *ECO 2200 Introduction to Economics*

Rules and economic relationship among developed countries and developing countries in 1) General Agreement on Tariffs and Trade (GATT) to analyze agreements in multilateral trade negotiations, the negotiations within the GATT framework and foreign economic laws which effect Thai exports, 2) the International Monetary Fund to analyze the rules of lending in the case of deficit, indebtedness and development and 3) roles of regulation on transnational companies.

LL 4513 **Arbitration Law** **2 (2-0-4)**

Thai Arbitration law, rules and regulations concerning arbitration of the Thai Chamber of Commerce, the International Chamber of Commerce and other important organizations, arbitration treaties and the execution of arbitral awards.

LL 4514 **Carriage of Goods by Sea Law** **2 (2-0-4)**

Laws on water transport, ships, agreements on carriage of goods by sea; collision at sea, salvage at sea, general average, laws of towage, and laws concerning navigable water zone.

LL 4515 **Customs Law** **2 (2-0-4)**

Nature and objectives of custom duties and excise, development and origins of law, liability to pay customs, customs procedure, offenses under customs law, authorities and duties of customs officials, litigation of customs cases, rules on tariffs, exemption of customs, interpretation of tariffs, customs exemption as well as customs law and investment promotion and customs law and industrial estates.

LL 4516 **Industrial Law** **2 (2-0-4)**

Principles of law relating to industrial operations and rules, regulations and legal problems arising from industrial operations.

LL 4517 **Law on Real Estate Business** **2 (2-0-4)**

Nature of use and business exploitation of land by private sector, law controlling such business, law on residence, commercial building, condominium, shopping center and resort management and practice and contracts concerning real estate business.

LL 4518 **Competition Law** **2 (2-0-4)**
Prerequisite : *ECO 2200 Introduction to Economics*

Concept and core principles of competition law, importance of competition law on both domestic and international economy. Concept of anti-competitive practices such as anti-competitive agreements, block exemptions, abuse of a dominant position, market concentration, merger and acquisition.

LL 4519 **Seminar in Tax Law** **2 (2-0-4)**
Prerequisite : *LL 3501 Public Finance Law and Tax Law*

A seminar in important tax law topics.

LL 4520 **Seminar in Business Law** **2 (2-0-4)**

Seminar in important business law topics.

LL 4521 **Laws on Merger and Acquisition** **2 (2-0-4)**
Prerequisite : *LL 3210 Laws on Business Organizations*
LL 4509 Securities and Securities Exchange Law

Issues arisen from merger and acquisition in different forms including taxation laws, business judgment. Laws concerning the establishment of business organizations, securities laws and taxation law. Legal consultant's roles in practice with regard to the design of the construction of merger and acquisition, due diligence, evaluation of asset value, financing, negotiation to make an agreement, problems and measures used to prevent hostile takeovers and undue acquisitions.

LL 4522 **Law on Sport and Entertainment** **2 (2-0-4)**

Law for professional and amateur sports associations and athletes, entertain ment and sport management, development and registration of the Association of professional sport, sports investments, a penalty from "set up game" and coutrol riat during competition.

LL 4523 **Seminar in Securities and Securities Exchange Law** **2 (2-0-4)**
Prerequisite : *LL 4509 Securities and Securities Exchange Law*

Seminar on Securities Law major topics, laws relating to securities business including, acquisition and disposition of securities, securities tender offers and investments in property mutual funds and REITs.

LL 4524 **Seminar in Intellectual Property Law** **2 (2-0-4)**
Prerequisite : *LL 4505 Intellectual Property Law*

Current issues related to intellectual property rights (IPRs)

LL 4525 **Law on Fashion Business** **2 (2-0-4)**

To provide an arena for Legal issues relating to tthe fashion business, intellectual property laws relating to fashion business, laws on production, setting up and management of, fashion business and current issues related to the fashion occupation.

LL 4526 **International Financial Law** **2 (2-0-4)**

Financial market transactions in commercial banking, insurance, derivatives, and capital markets, the big picture of the legal underpinnings of financial transactions and how risk in the financial market is entered, managed, dispersed and shifted, analyze and compare the legal basis of financial transactions in the region.

LL 4606 **Principles of Contract Drafting** **2 (2-0-4)**
Prerequisite : *LL 1201 Juristic Acts and Contracts Law*
LL 2205 Specific Contracts I
LL 2207 Specific Contracts II

Methods and problems in drafting various types of contract, contract forms, laws involved, and critiques of contract samples.

LL 4607 **Counselling and Advocacy** **2 (2-0-4)**
Prerequisite : *LL3601 Civil Procedural Law I*
LL 3602 Criminal Procedural Law
LL3604 Civil Procedural Law II
LL 3605 Evidence Law

Practice of legal counselling, establishment and management of law fi ms and legal consulting fi ms, all procedures involved in litigation, case preparation, drafting of complaints, replies, motions and petitions, litigation technics, enforcement of judgment or order of courts.

LL 4608 **Seminar in Civil Procedure Law** **2 (2-0-4)**
Prerequisite : *LL 3601 Civil Procedure Law I*
LL 3604 Civil Procedure Law II

Seminar in important Civil Procedure Law topics

LL 4609 **Seminar in Criminal Procedure Law** **2 (2-0-4)**
Prerequisite : *LL 3602 Criminal Procedure*

Seminar in important criminal procedure law topics.

LL 4610 **Criminology and Penology** **2 (2-0-4)**

Relationship between criminological theories and criminal law, criminal procedure, criminal procedure according to guidelines of criminologists and sociologists in order to study criminological theories from past to present, classification of crimes and criminals to prevent crimes, scope of enforcement of criminal law and social philosophies in respect of punishment and treatment of offenders.

LL 4611 **Science, Technology and Criminal Investigation** **2 (2-0-4)**

An account of Science, technology and medical science that relates to the application of law, evidential proof for criminal and civil proceedings, criminal investigation with emphasizing on law enforcement, scientific forensic methods, evidence finding, interrogation, proof and examination of evidence and witnesses.

LL 4612 **Law on Juvenile and Family Court and Procedure** **2 (2-0-4)**

Juvenile offenses and judicial system as well court procedures in such cases and family cases.

LL 4613 **Human Rights in Judicial Procedure** **2 (2-0-4)**
Prerequisite : *LL3602 Criminal Procedural Law*

Argument issues and problems of human rights in criminal procedures under thai judicial procedure.

LL 4703 **Law of the Sea** **2 (2-0-4)**

Economic and political importance of the sea to humanity, philosophies on use and possession of the sea, definition and development of international law of the sea, present problems in respect of international law concerning the sea and sea bed which in beyond state boundaries, sea territories, exclusive economic zones, international waters, specific problems of archipelagic state, environmental control, scientific research, technological development , solutions for disputes arisen amongst states, importance of sea to Thailand and Thailand's roles and view toward problems concern.

LL 4704 **International Organization Law** **2 (2-0-4)**

Development of international organizations, structures, powers and duties of the League of Nations and various organs of the United Nations, such as the General Assembly, the Security Council, the Economic and Social Council, the Trusteeship Council, the Secretariat and the International Court of Justice, the powers and duties of specialized agencies and region organizations.

LL 4705 **European Union Law** **2 (2-0-4)**
Prerequisite : *LL 3701 Public International Law*

History and evolution of the European Union (EU), objectives and sources of EU law, the structural characteristics of the European Union, legal systems of the European Union, the structure, powers, duties and operations of the European Union, the European Commission, the European Council and the European Court of Justice. Relations between the European Union and Member States and between the European Union and other States or other international organizations.

LL 4706 **Introduction to Air Law and Space Law** **2 (2-0-4)**
Prerequisite : *LL 3701 Public International Law*

Fundamental concepts of air laws and space laws, sovereignty over airspace, the role of international organizations which control aviation. The space law, including the rules which apply and control the state activities in outer space.

LL 4707 **ASEAN Law** **2 (2-0-4)**

Evolution of Regionalism in Southeast Asia and ASEAN prior to the adoption of ASEAN Charter; ASEAN Free Trade Agreement (AFTA), ASEAN Trade in Goods Agreement (ATIGA); ASEAN Framework Agreement on Services (AFAS); Framework Agreement on the ASEAN Investment Area (AIA); ASEAN Comprehensive Investment Agreement (ACIA); Asian Economic Community (AEC), ASEAN Charter and its legal issues and implications; legal criteria of regional groupings according to General Agreement on Tariffs and Trade (GATT) and The Marrakesh Agreement Establishing The World Trade Organization (WTO Agreement); legal criteria of international organizations in light of international law, and ASEAN's relationships with outside powers.

LL 4708 **Human Rights in ASEAN** **2 (2-0-4)**

Issues on human rights in ASEAN, diversity of ASEAN due to the principle of "ASEAN Way" from legal perspective.

LL 4709 **Seminar in ASEAN Law** **2 (2-0-4)**
Prerequisite : *LL 4707 ASEAN law*

Related social issues to ASEAN law under a perspective of ASEAN to globalization.

LL 4801 **Legal Research and Legal Research Methodology** **2 (2-0-4)**

Importance of research, meaning of research, ethics of researchers, problems of research, procedures, principles and legal research methodology, quantitative and qualitative researches, conducting a legal research using law database, using computer as tools to produce an academic essay and present academic works using appropriate and up-to-date technology.

LL 4802 **Introduction to Digital Technology Laws** **2 (2-0-4)**

Fundamental concepts of Digital technology and its impacts on law.

LL 4803 **Business and Human Rights** **2 (2-0-4)**

Concepts of roles and impacts that business organizations have on society and business issues affecting human rights, Modern Slavery and complication and challenges of business practices and the impact of the UN Guiding Principles of Business and Human Rights.

LL 4804 **Business Law and ASEAN** **2 (2-0-4)**

Laws related to doing business in ASEAN.

LL 4805 **Law on Digital Economy and Startup Business** **2 (2-0-4)**

Definitian, characteristics of Digital Economy and Startup Business and elavant legal issues.

LL 4806 **Law on Agriculture** **2 (2-0-4)**

General land holding systems, grant of credits for agricultural purposes, agricultural institutions, problems encountered in land holding organization for agricultural purposes in Thailand, problems faced by agriculturalists and solutions to those problems through legal measures under existing legislation including the law controlling leases of land for agricultural purposes, the law on land reform for agricultural purposes, the law on land development for agricultural purposes, and problems of particular interest e.g. those surrounding land sale on redemption, labour protection in the agricultural sector and agricultural zoning and contract farming.

LL 4807 **Introduction for Logistics and Supply Chain** **2 (2-0-4)**

Definition, role, importance, elements and principles of logistics and supply chain management affecting organization, international and domestic economy, and ASEAN procurement, forecasting demand, inventory management metrics, producing, packaging, transporting and distributing of goods, customer services, logistic communication, including application of IT and internet in logistics and supply chain management.

LL 4808 **Legal Aspects of Transportation and Logistics** **2 (2-0-4)**

Concepts, theories and practice of transportation management and distribution of goods and domestic, international and ASEAN multimodal transportation, the trade rules, regulations and agreements on transportation management and logistics, procurement for goods and services, international sale of goods, international payment, international carriage of goods, multimodal transportation, importation and exportation and warehousing and terminal.

LL 4809 **Business, Corporate Governance and Corporate Social Responsibility** **2 (2-0-4)**

Knowle of Corporate Governance, Principles and concept of Corporate Social Responsibility (CSR) and related laws.

LV 2101 **Script Analysis and Creation for Live Events** **3 (2-2-5)**
Prerequisite : *CA 1023 Introduction to Live Event Creation and Management*

Critical analysis of script structure, genre, theme, style, sub-text meaning, dramatic event, semiotics and point of view of the story-teller. Principles of storytelling for live events and performance, elements of script and story-telling, creating theme, plot and story as well as creating characters, use of dramatic and character's actions to tell the story.

LV 2102 **Design for Live Event Creation and Management** **3 (2-2-5)**

Basic elements of arts and design in live events and performance, basic designing such as point, line, form, shape, space utilization, color, pattern, texture, balance, proportion, rhythm, emphasis, unity including the basic sketch design, conveying ideas, process of designer working in costume, scenic, lighting design as well as unity of visualization in live events.

LV 2103 **Acting for Live Events** **3 (1-4-4)**

Basic acting, understanding the relation between vocal and physical expression for performance purpose including communication, physical and vocal preparation, relaxation, concentration, body movement, space usage for performance, imagination, emotion, creating character, character interpretation, creative movement, awareness, objective of character for play, improvisation skill, scene interpretation, and integration of vocal and physical skill for performance.

LV 2104 **Art and Literature Appreciation** **3 (3-0-6)**
Prerequisite : *CA 1001 Introduction to Communication*

Aesthetic perspective, artistic styles, visual elements, performing arts, entertainment multimedia, literature, fine arts, music and film

LV 3101 **Sound Creation and Production for Live Events** **3 (2-2-5)**

Basic sound utilization and sound creation for performance/ live event. Principles of sound classification, sound acoustic, influence conditions of sound quality. Sound selection, sound creation, dubbing, sound effects for live event and performance, basic recording, processes, and responsibility of sound function in live event and performance production

LV 3102 **Art Direction for Live Events** **3 (2-2-5)**
Prerequisite : *LIVE 2102 Design for Live Event Creation and Management*

Art Direction for live events and performance. Function, consistency of performance art directing and visual elements, design concept of scenery, property, costume and lighting, and Multimedia in live events and performance. Understanding in principles of corporate design, interpretation and conceptualization for live events and performance.

LV 3103 **Show Directing** **3 (1-4-4)**
Prerequisite : *LIVE 2102 Design for Live Event Creation and Management*
LIVE 2103 Acting for Live Events.

Show directing process of directing in live events and performance, responsibility of directing function, script analysis, stage composition and blocking design, director's design concept, rehearsal process, conveying theme, concept and idea with directing, and character analysis.

LV 3104 **Marketing Communication for Live Events** **3(2-2-5)**
Prerequisite : *MKT 2280 Principles of Marketing*

Marketing for live events and performance, principles of financial and budgeting management, writing a proposal, setting up marketing/ PR plan and developing communication plan for marketing and evaluation.

LV 3105 **Stage Management for Live Events** **3 (1-4-4)**
Prerequisite : *CA1023 Introduction to Live Event Creation and Management*

Stage/ management for live events, process of stage management from pre-production, production to post-production, responsibility of stage management function, and the preparation for internship in function of backstage in live events production.

LV 3110 **Live Event Creation and Management Internship** **3 (1-4-4)**
Prerequisite : *LIVE 3105 Stage Management for Live Events*

Significant experiential learning opportunity with a live event or performance production company or an organization. The links between classroom learning and student interest to apply in the work setting. An understanding of the internship site's work process, mission and function through student's direct observation, reflection and evaluation.

LV 3201 **Creative Writing and Script Adaptation for Live Events** **3 (2-2-5)**
Prerequisite : *LIVE 2101 Script Analysis and Creation for Live Events*

Script writing and creation. selecting story for script adaptation, dimensions and perspectives for adaptation, script adaptation for various purpose, revising script in Thai for theatre, film TV and other forms of live events.

LV 3202 **Costume and Make up** **3 (1-4-4)**
Prerequisite : *LIVE 2102 Design for Live Event Creation and Management*
LIVE 3102 Art Direction for Live Events

Selecting costume and make up for performance, usage of costume, concept of costume and make up selection for performance, time and space for appropriate selection, history of costumes, definition of costume, types of costume, costume and fashion, process of costume design and selection, and straight make-up and fancy make-up workshop.

LV 3203 **Advanced Acting for Live Events** **3 (1-4-4)**

Advanced acting to interpret and analyze script the use of imagination, emotion, creating character, character interpretation, creative movement, awareness, objective of character for play, improvisation skill, scene interpretation, and integration of vocal and physical skill for live events and performance.

LV 3204 **Personality Development** **3 (1-4-4)**

Personality development, mental and physical preparation, self-acknowledgement, SWOT analysis, human nature, human perception, law of attraction, self –esteem, self-confidence, gesture, facial expression, vocal training, public speaking, wardrobe and make-up for different occasions.

LV 3205 **Lighting and Multimedia Design for Live Events** **3 (1-4-4)**
Prerequisite : *LIVE 2102 Design for Live Event Creation and Management*

Stage lighting and multimedia design, production process of lighting function, lighting instrument and equipment, lighting and multimedia practice, electricity for lighting, lighting and multimedia plan, lighting and multimedia cue, script analysis for lighting design, lighting research, design concept, lighting sketch, critical stage lighting, rhythm and emotion creativity with lighting.

LV 3206 **Property and Scene Design** **3 (1-4-4)**
Prerequisite : *LIVE 2102 Design form Live Event Creation and Management*
LIVE 3102 Art Direction for Live Events

Creating scenery and property in live events and performance space. Utilization of scenery and property design process including design document, concept of scenery and props, form and style of scenery, idea and design concept, fundamental stage craft, materials and tools for scene and prop creation.

LV 4101 **Live Event Creation and Management Workshop I** **3 (1-4-4)**
Prerequisite : *LIVE 3105 Stage Management for Live Events*
LIVE 3110 Live Event Creation and Management Internship

Pre-production process of performance production, production planning, budgeting /financial plan, script preparation, script interpretation, marketing and PR plan, directing preparation, audition process, and research in theatrical design in properties, scenic, costume, light and sound.

LV 4102 **Live Event Creation and Management Workshop II** **3 (1-4-4)**
Prerequisite : *LIVE 3104 Marketing Communication for Live Events*

Pre-production process of performance production, production planning, budgeting /financial plan, script preparation, script interpretation, marketing and PR plan, directing preparation, audition process, and research in theatrical design in properties, scenic, costume, light and sound.

LV 4103 **Research Methodology for Live Events** **3 (2-2-5)**

Research methodology and interdisciplinary approach to solve research problems. Topics include asking the 'right' questions, procedures in conducting research, basic principles of research, random sampling, questionaire design, experimental research design, and content and research data analysis.

LV 4104 **Project Management for Live Events** **3 (1-4-4)**

Integration of knowledge, skills, and techniques acquired throughout the course in order to conduct research project proposal, managing, handling and planning for approval live event projects, live event campaigns, and academic research projects.

LV 4201 **Art and Culture in 21st Century** **3 (3-0-6)**

Cultivating art and culture in 21st Century and Learning cross-cultural theory in terms of its physical, geographical, psychological, linguistic and ethonological frameworks to enhance ability to recreate stories in live events and performance for its audiences.

LV 4202 **Cultural Events and Festival Management** **3 (2-2-5)**

A wide range of cultural events and the management of cultural events and festivals around the globe to gain a deeper understanding of festival and cultural event cores and structures from the transformation of the media industries by political economy, culture and technological changes, and trends include international media policies, and how such transformation creates an impact on content across media platforms in live events and performance.

LV 4203 **Promotion and Strategy for Live Events** **3 (2-2-5)**

Promotion and strategies of live event and performance marketing as a theoretical framework within the entertainment industry that ranges from live performances, live events and media-related performance located as the core concern. The application of promotion and strategy of marketing concepts relevant to various kinds of entertainment industries, budgeting considerations and propositions, identifying and analysing target markets and audiences, and selling and presenting live events and entertainment products

LV 4204 **Selected Topics in Live Event Creation and Management** **3 (3-0-6)**
Prerequisite : *CA 1023 Introduction to Live Event Creation and Management*

Live Event Creation and Management development in social context, Live Event Creation and Management effect or phenomenon of Live Event Creation and Management in society, culture and people.

LV 4205 **Approaches and Concept of Criticism in Live Events** **3 (3-0-6)**

A survey of significant approaches and concepts of criticism to live events and performance to employ interdisciplinary methodology and begin with an introduction to formalism, realism, the concept of authorship in live events and performance. The structuralism, post-structuralism, and specific strains of critical thinking and criticism. Performance theories together with the important theorist figu es in the field will also be examined.

MA 1000 **Business Mathematics and Statistics** **3 (3-0-6)**
Prerequisite: *BG 0012 Intensive Mathematics*
or BG 0220 Basic Mathematics

Relation, linear function and applications in business, mathematics of finance visualizing and exploring data, descriptive statistical measures and basic statistical inference (0ne sample test, two independent-samples test, analysis of variance, Simple linear regression and correlation)

MA 1200 **Mathematics for Business** **3 (3-0-6)**

Relation and various functions: linear, polynomial, exponential, logarithmic, rational and their applications in business, linear programming, mathematics of finance and differential calculus: limits, derivatives, and optimization.

MB 1001 **Music Business Fundamentals** **3 (3-0-6)**

Introduction to music business and music industry, highlighting those areas where music and business intersect. Career possibilities in the music industry, the development of businessrelated knowledge and skills necessary for effectively maintaining a professional music career, the vocabulary and terminology of the music industry, and the distinction between music and business at the corporate level

MB 1500 **Introduction to Data Science** **3 (3-0-6)**

Introduction to data science, data collection, data manipulation, data analysis techniques, data communication, data visualisation, insights interpretation, software for data scientists.

MB 2433 **Computer Applications for Musician** **3 (1-4-4)**

Skills needed to use computer application such as DAW for producing music as well as how to read and understand computer specification, computer components, and technology that will involve with musician's music workflow

MB 2500 **Business Intelligence and Data Analytics** **3 (3-0-6)**
Prerequisite: *MB 1500 Introduction to Data Science*

Fundamentals of business intelligence, high-level knowledge and insights, Big Data, data mining, machine learning, strategic planning, data acquisition, data manipulation, data analytics tools.

MB 2531 **Music Business** **3 (3-0-6)**

Survey of the music industry, highlighting those areas where music and business intersect. Career possibilities in the music industry, the development of business-related knowledge and skills necessary for effectively maintaining a professional music career, the vocabulary and terminology of the music industry, and the distinction between music and business at the corporate level

MB 2532 **Music Industry** **3 (3-0-6)**
Prerequisite: *MB 2531 Music Business*

Overview of the music industry, careers options, how different units of the industry operate, how revenues are generated, how to protect songs, and how new digital technologies help to market, to promote and to distribute musical products.

MB 3437 **Virtual Band in Globalization Era** **2 (1-2-3)**
Prerequisite: *MB 2433 Computer Applications for Musician*

Music production through internet, using software to create and synchronize among distance members around the globe.

MB 3512 **Legal Aspects of Music Business** **3 (3-0-6)**

Legal issues that associated with artists, musicians, engineers, producers; legal changes and challenges alert, real approach to legal matters between individuals' working procedure and stakeholders in the music business world today, including national and international copyright law and ethics.

MB 3534 **Music Management and Entrepreneurship** **3 (3-0-6)**
Prerequisite: *MB 2532 Music Industry*
MGT 2900 Principles of Management

The role and importance of a music entrepreneur, and how they impact the career of the artist and their brand image.

MB 3535 **Music Licensing** **3 (3-0-6)**
Prerequisite: *MB 2532 Music Industry*
MB 3512 Legal Aspects of Music Business

A conceptual understanding of basic licensing terms, opportunities, and strategies and apply that knowledge to monetizing your own creative intellectual property

MB 3536 **Viral Music Marketing** **3 (3-0-6)**
Prerequisite: *MB 2532 Music Industry*
MKT 2280 Principles of Marketing

How to make ideas stick, and increase the influence of the content, how to generate more word of mouth, and use the power of social networks to spread information and influence to music fan

MB 3537 **Music Career Exposure** **3 (3-0-6)**

Special session for students to explore music during the semester break.

MB 3538 **History of Music Industry in Thailand** **3 (3-0-6)**

History of music industries in Thailand from 1851-1950. The three important parts, live music performance, publishing and recording have important role on music industries in Thailand in this period. In this period of forming Thai music industry, an increase in western culture influenced Thai culture, the new technology and invention was imported to Thailand by foreign educated, foreigners, and traders. These are significant factors that make music industries in Thailand further progress.

MB 3539 **Methodology and Research Writing** **3 (3-0-6)**

Fundamentals of the research writing and proposal, literature review, and qualitative and quantitative research methods in the area of music.

MB 3540 **Digital Music Marketing** **3 (3-0-6)**
Prerequisite: *MB 2531 Music Business*
BBA 1104 Fundamentals of Marketing

Digital music marketing with an integrated and optimised marketing plan to build up digital touch points, generate interest in music, and distribute music online.

MB 3541 **Online Social Media for Music Business** **3 (3-0-6)**

Communication theories and online social media process, digital content creation, visual creation and copy writing to persuade users, social media an lytics on each platform, an lytics for consumer insight and target.

MB 3550 **Feasibility Study for Music Entrepreneur** **3 (3-0-6)**
Prerequisite: *MB 2531 Music Business*
BBA 1104 Fundamentals of Marketing

Marketing and finance feasibility in music business, feasibility tools for decision making, payback period analysis, a comparative analysis between NPV and IRR, internal rate of return, risk management in business.

MB 3551 **Creative Music Entrepreneurship** **3 (3-0-6)**

Creativity for music business innovation and develop the mindset, knowledge, and insights required to pursue an entrepreneurial track. Explore creativities from all over the world and study from them to have inspiration to create the work and the start-up.

MB 3561 **Artist and Music Management** **3 (3-0-6)**

The role and importance of an artist manager, how they impact the career of the artist and their brand image.

MB 4000 **Internship in Music Entrepreneurship** **0 (240 hours)**
Prerequisite: *Completion of at least 100 credits*

Internship with a company in the music industry for at least 240 hours.

MB 4100 **Musical Theatre** **3 (1-4-4)**

Disciplines of singing, acting, and dancing, to create an effective musical theatre presentation. Selection of Broadway repertoire, interpreting it both musically and dramatically, creating staging and choreography for performance, rehearsal tools and techniques in pursuit of a dynamic and authentic performance.

MB 4500 **Music Entrepreneurship Seminar** **2 (2-0-4)**
Prerequisite: *Completion of at least 100 credits*

Selected issues in music entrepreneurship based on individual interest, research in the field of music business with content to be developed through primary research, visits to various businesses and personal interview

MB 4510 **Project Management for Music Entrepreneur** **3 (3-0-6)**

Individual or group projects relating to the management of music business or artists, overall approach, with many specific business tools, to help successfully plan, execute, monitor, and complete music industry-related projects

MB 4512 **Music in Film Industry** **3 (3-0-6)**

History of cinema, film scoring, sound effects, history and development of incorporating sound into films, specific oles of the music industry in relation to film and b oadcast media.

MB 4533 **Digital Music Publishing** **3 (3-0-6)**
Prerequisite: *MB 2532 Music Industry*
MB 3512 Legal Aspects of Music Business

The role of performance rights organizations, and how market and promote music compositions and turning music into revenues.

MB 4534 **Music Industry Simulation** **3 (2-2-5)**
Prerequisite: *MB 2532 Music Industry*

The simulation of a music label to allow students to work in different jobs together such as songwriter, producer, creative, marketer, PR, sound engineer, and videographer.

MB 4535 **Digital Creativity in Music Promotion** **3 (3-0-6)**
Prerequisite: *MB 2532 Music Industry*
MKT 2280 Principles of Marketing

Technological and innovation creativity of new media and convergance impact the production and consumption of media content, including music, mobile, games, and online content that help promote music in a digital age.

MB 4538 **Concert Management** **Non-Credit**
Prerequisite: *Completion of at least 100 credits*

Launch and run a successful live music venue and the essential components of a successful concert: from assembling a management team to alternative streams of income with effective merchandising, promotion techniques and sponsorships.

MB 4540 **Music Business Data Analytics** **3 (3-0-6)**

Music business analytics, data application, statistical analytics with exploratory model and data visualization for decision making, supporting music business analytics, and aiding music business analytics.

MB 4541 **Music Business Finance and Accounting** **3 (3-0-6)**

Principles of finance and accounting in music business, basic concepts underlying music business transactions and financial statements, and to determine the most appropriate financial measures for those events.

MB 4560 **Machine Learning and Data Mining** **3 (3-0-6)**
Prerequisite: *MB 1500 Introduction to Data Science*

Machine learning, data mining, knowledge discovery, visualisation, classification, clustering, association rules, decision trees, Bayesian learning, statistical pattern recognition, artificial neural networks

MB 4561 **AI Application in Music Business** **3 (3-0-6)**
Prerequisite: *MB 1500 Introduction to Data Science*

Overview of artificial intelligence, music business applications of AI, AI business automations, AI in decision support, AI as an expert system, machine learning, legal issues in AI, social acceptance of AI.

MB 4562 **Data Visualization** **3 (3-0-6)**
Prerequisite: *MB 1500 Introduction to Data Science*

Visualization for data distribution; regression graphics; visualization for categorical data; visualization for multivariate data and trellis plot; visualization for mathematical and statistical functions; visualization for time-series data; computer graphics; and 3D animation; graphic visualization; and information visualization.

MC 1260 **Instrumentation and Score Preparation** **2 (1-2-3)**

The technical aspects involved in creating finished, professional scores. Score layout; instrumental/vocal ranges and performance characteristics; special playing techniques and limitations; breath and bowing considerations; choice of key, meter, beat, and subdivision values; use of slurs, articulation marks, dynamics, tempo variation, and other devices for indicating expressive nuance; proper underlaying of vocal text; calligraphy; creating a practical piano reduction; and extracting parts.

MC 2161 **Jazz Theory I** **3 (3-0-6)**
Prerequisite: *MU 1301 Music Fundamentals I*

Major key harmony: secondary and extended dominant relationships, available tensions, melodic construction and motif development. Principles of linear harmonic continuity and guide tone lines. Minor key harmony; subdominant minor. Blues theory and chord progressions. Melodic rhythm, form, and melody/harmony relationship.

MC 2162 **Jazz Theory II** **3 (3-0-6)**
Prerequisite: *MC 2161 Jazz Theory I*

Analysis and application of major and minor key harmony; subdominant minor and modal interchange; chord scale theory. Review of melodic construction and melody/ harmony relationship; individual note analysis of melodies. Substitute dominant and related II-7 chords; diminished chord patterns; modulation.

MC 2163 **Jazz Theory III** **3 (3-0-6)**
Prerequisite: *MC 2162 Jazz Theory II*

Principles of modern chord progression: deceptive resolutions of secondary dominants; dominant seventh chords without dominant function; contiguous dominant motion. Review of melodic construction, form, and melody/ harmony relationship; modal interchange; pedal point and ostinato; modal harmony and modal composition; compound chords.

MC 2260 **Introduction to Film Scoring** **2 (2 -0-4)**

Investigation of the aesthetic relationship between film and music. Discussion of the many functions of film music with analysis of its most effective application to dramatic situations. Exploration of career opportunities in film and television music

MC 2351 **Piano Accompaniment I** **1 (0-2-1)**

Discussion and implementation of techniques for accompanying a vocalist or instrumentalist. Use of stylistically appropriate rhythm and voicing techniques in a supportive role. Introductions, endings, modulations, and transposition.

MC 2352 **Piano Accompaniment II** **1 (0-2-1)**
Prerequisite: *MC 2351 Piano Accompaniment I*

A continuation from Piano Accompaniment I. Discussion and implementation of techniques for accompanying a vocalist or instrumentalist. Use of stylistically appropriate rhythm and voicing techniques in a supportive role: introductions, endings, modulations, and transposition

MC 2353 **Piano Accompaniment III** **1 (0-2-1)**
Prerequisite: *MC 2352 Piano Accompaniment II*

A continuation from Piano Accompaniment II. Discussion and implementation of techniques for accompanying a vocalist or instrumentalist. Use of stylistically appropriate rhythm and voicing techniques in a supportive role: introductions, endings, modulations, and transposition.

MC 2361 **Jazz Improvisation I 1** **(0-2-1)**
Prerequisite: *MC 1161 Jazz Theory I*

Basic concepts of improvisation: techniques, scales, and analysis of classic solos in a variety of idioms, including but not limited to Blues, Rock, Country, and Ethnic traditions, assimilation of these influences into what is commonly called "Jazz Improvisation". Students will complete 6 projects per semester, using computer and/or live performances in class.

MC 2362 **Jazz Improvisation II** **1 (0-2-1)**
Prerequisite: *MC 2361 Jazz Improvisation I*

Further development of improvising skills. Continuation of computer and/or live performances in class.

MC 2363 **Jazz Improvisation III** **1 (0-2-1)**
Prerequisite: *MC 2362 Jazz Improvisation II*

Further development of improvising skill. Continuation of computer and/or live performances in class with primary emphasis on Jazz and Fusion Jazz improve techniques

MC 2661 **Improvisation for Composition I** **2 (1-2-3)**

A method of classical improvisation and encouraging its applications in performance and composition. The method aims to combine the use of structural, stylistic, textural and harmonic awareness with real-time flow and c eative spontaneity.

MC 2662 **Improvisation for Composition II** **2 (1-2-3)**
Prerequisite: *MC 1161 Improvisation for Composition I*

Futher study of a method of classical improvisation and encouraging its applications in performance and composition. The method aims to combine the use of structural, stylistic, textural and harmonic awareness with real-time flow and c eative spontaneity.

MC 3251 **Music Literature I** **3 (3-0-6)**
Prerequisite: *Sophomore Standing*

Historical survey of the contributive elements, stylistic characteristics, instruments and techniques from the 16th century to the 20th century. History of the development of the instruments and its literature.

MC 3252 **Music Literature II** **3 (3-0-6)**
Prerequisite: *MC 3251 Music Literature I*

A continuation of Literature I. Examination of style and structure and their impact on performance. Chamber music, solo literature with emphasis on the 19th and the 20th century repertory.

MC 3261 **Dramatic Scoring** **3 (3-0-6)**
Prerequisite: *MU 1304 Theory of Music IV*
or MC 2163 Jazz Theory III

This course combines analysis and composition techniques in order to provide students with the basic musical skills necessary for composing music for film. Focus is placed on how musical form derives from the dramatic flow of the film. Course work includes in-depth analysis of existing musical examples which demonstrate the building blocks of composition. These building blocks include melody, harmony, rhythm, and form as applied to specific dramatic situations. Students will compose several short original pieces modeled after the various analysis examples presented.

MC 3262 **Dramatic Orchestration for Film** **3 (3-0-6)**
Prerequisite: *MC 2162 Orchestration II*
or CM 3262 Arranging II

This course focuses on the exploration and application of traditional and contemporary orchestration techniques to support and achieve intended dramatic effect. Regular assignments involve the use of orchestration as an important compositional tool to successfully meet the emotional requirements of a wide variety of dramatic situations.

MC 3271 **Jazz Composition and Arranging I** **3 (3-0-6)**
Prerequisite: *MC 1161 Jazz Theory I*

Musical concepts of melody, rhythm, harmony, and form as applied to the principles and techniques of writing and arranging for the rhythm section (drums, bass, guitar, keyboards, basic percussion) and a lead-line for a solo instrument, two horns (Trumpet plus alto or tenor saxophone), or voice with focus on the conceptual process of combining individual components to create a musically satisfying original jazz tune and arrangement.

MC 3272 **Jazz Composition and Arranging II** **3 (3-0-6)**
Prerequisite: *MC 3261 Jazz Composition and Arranging I*

Further studying of jazz composition and arranging techniques, properties of the trumpet, alto saxophone, tenor saxophone, trombone, and baritone saxophone, and the composition/arranging processes of standard and spread voicings, approach techniques, melodic embellishment, and guide tone backgrounds with focus on application of processes to soli and background writing for two-, three-, four- , and five- part combinations of these instruments

MC 3351 **Conducting** **2 (2-3-6)**
Prerequisite: *MU1151 Theory of Music I*

Physical skills involved with conducting using the baton and hands. Methods of choral and instrumental conducting will be explored and practiced using members of the class as performers as well as existing musical ensembles.

MC 4160 **Jazz Composition** **3 (3-0-6)**
Prerequisite: *MU 1302 Music Fundamentals II*

A systematic approach to the art of composing in the jazz idiom. Exploration of melodic, harmonic, and rhythmic principles. Standard jazz song form. Analysis of jazz standards. Arranging considerations applied as a means of enhancing a composition. Projects for small jazz group required.

MC 4561 **Yamaha Music Pedagogy** **3 (3-0-6)**
Prerequisite: *MS 1004 Major Instrument IV*

An intensive musical training to bring up knowledge and skills for Yamaha music program. Focus on musical techniques in the present, preparation for Yamaha music grade examination, and Yamaha music education system.

MC 4562 **Entrepreneurship for Musicians** **3 (3-0-6)**

Exploration of the distinct mindset and essential knowledge base vital to the establishment and success of any music-related entrepreneurial endeavor. Repurpose skills as a musician to envision and develop a business. Leverage fundamental "multipreneurial" nature as a musician. Create opportunities around diverse musical skills. Conceive, form, launch, market, and manage a musicrelated business.

MCE 2101 **Fundamentals of Mechatronics Engineering** **3 (3-0-6)**
Prerequisites : *BG 1213 Physics II*

Introduction to Mechatronics and the interaction between mechanical actuation and electronic control, early design evolution, evolution of engineering design, using of sensors in the system, case studies: simple subsystem integration; modern technologies, control, sensors, power supplies and controlled drives, Programmable Logic Control (PLC) as a controller for Mechatronics system, The need for a systems approach to Engineering Design, Control and Embedded Intelligence or PLC.

MCE 2102 **Mechatronics Engineering Laboratory I** **1 (0-3-2)**
Prerequisite or Co-requisite: MCE 2101 Fundamentals of Mechatronics Engineering

Experiments covering basic sensors such as inductive, capacitive, magnetic, photoelectric and ultra sonic. Programmable Logic Controllers is introduced and experimental covering Ladder (LD), Structure Text (ST), Function Block Diagram (FBD) and Sequential Flow Chart (SFC) languages.

MCE 4101 **Introduction to Robotics** **3 (3-0-6)**
Prerequisite: *ME 3120 Mechanics of Machinery*

Introduction to Robotic systems, spatial descriptions, Kinematics, Jacobians, Robot dynamics, Trajectory generation, Position and force control, Image processing and analysis.

MCE 4102 **Introduction to Industrial Automation** **3 (3-0-6)**
Prerequisite: *CE 2704 Digital Logic Design*

PLC, instrumentation, sensors and actuators in manufacturing automation, signal conditioning, computer-based control systems, PLC networking systems.

MCE 4103 **Mechatronics Engineering Laboratory II** **1 (0-3-2)**
Prerequisite or Co-requisite: MCE 4102 Introduction to Industrial Automation

Experiments covering modular Mechatronics system (mMs). In these stations, PLC is used to control the sequential operation including sensors and actuators. Control methods: On-Off, Three-modes, P, PI, PID are studies along with temperature process control experiment.

MCE 4801 **Instrument for Aviation** **6 (6-0-12)**
Prerequisite: *With the consent of the Instructor*

Principles of instruments, applications of instruments in aviation, IFR flight considerations, IFR flight environment, flight rules and egulations, human factors.

MCE 4901 **Mechatronics Engineering Project I** **1 (0-3-2)**
Prerequisite: *Senior Standing*

Study and development in mechatronics engineering. Students must submit reports at the end of the semester.

MCE 4902 **Mechatronics Engineering Project II** **2 (0-6-3)**
Prerequisite: *MCE 4901 Mechatronics Engineering Project I*

Continuation of work done in mechatronics Engineering Project I. Report is also required at the end of the semester.

MCE 4903 **Advanced topics in Mechatronics Engineering** **3 (3-0-6)**

Advanced topics in the field of Mechat onics Engineering.

MCE 4904 **Special Problems in Mechatronics Engineering** **3 (3-0-6)**

Topics of current interest in the field of Mechat onics Engineering.

MCE 4907 **Engineering Internship** **3 (0-9-6)**
Prerequisite: *With the consent of the Chairperson*

Engineering internship in private enterprises, government agencies, or academic institutes under supervision of experienced engineers in order to gain real-world working experience from the assignment, Students are required to submit an internship report at the end of the internship.

ME 1112 **Engineering Laboratory** **2 (0-4-2)**

To get acquainted with simple machine tools, electrical wiring and transformer winding, practice of basic electrical measuring instruments and basic electrical devices assembly with circuit diagrams. A full report of each job is required.

ME 1113 **Engineering Drawing** **3 (2-3-6)**

Descriptive geometry, orthographic, isometric and oblique drawings, drawing of mechanical parts, detailed drawing and assembly drawings, allowable tolerance, and surface details, applied geometry, dimensions and notes, orthographic projections, working drawing, auxiliary views, true length, grade and bearings of a line, true shape of a plane surface, perspective, sectional and developed drawings.

ME 1114 **Engineering Workshop** **2 (0-4-2)**

Workshop on the use of the machine tools such as a lathe or milling machine, cutting tools, and drilling tools, for milling, cutting, drilling, and shaping metal materials. filing, grinding, and welding of metals. Carpentry is included. Students are required to make workpieces of metal and wood. A full report for each work is required.

ME 2211 **Engineering Mechanics I** **3 (3-0-6)**
Prerequisite: *BG 1211 Physics I*

Force systems, resultant, equilibrium, fluid statics, kinematics and kinetics of particles and rigid bodies, Newton's second law of motion, work and energy, impulse and momentum.

ME 2220 **Engineering Mechanics II** **3 (3-0-6)**
Prerequisite: *ME 2211 Engineering Mechanics I*

Structure analysis; principle of virtual work; stability; kinematics of rigid body; plane motion of rigid bodies (forces and accelerations, energy and momentum method); mechanical vibrations

ME 3110 **Mechanics of Materials** **3 (3-0-6)**
Prerequisites: *ME 2220 Engineering Mechanics II*

Forces and stresses; stresses and strains relationship; stresses in beams, shear force and bending moment diagrams; deflection of beams, torsion; buckling of columns; Mohr's circle and combined stresses; failure criterion.

ME 3120 **Mechanics of Machinery** **3 (3-0-6)**
Prerequisite: *ME 2220 Engineering Mechanics II*

Velocity and acceleration analysis; kinematics and dynamics force analysis of mechanical devices, linkages, gear trains and mechanical systems; balancing of rotating and reciprocating mass.

ME 3204 **Marine Electrical Powering and Systems** **3 (3-0-6)**
Prerequisite: *EE 2201 Electric Circuits*

Shipboard power system architectures, electrical load analysis, power system configuration, shipboard power equipment, AC Generators, AC and DC motors, power cables, electrical cable model, marine and special cable, power distribution scheme, switchboard and switch gear, fault current analysis, system protections, lighting system, and emergency system.

ME 3310 **Thermofluid** **3 (3-0-6)**
Prerequisite: *BG 1205 Calculus II*
BG 1213 Physics II

Workdone, energy, power, unit, system, state, and field processes, compressible flows, mass conservation systems, properties of fluids, state equation, first law of thermodynamics, non-flow systems, energy equation, Bernoulli equation, linear and polar momentum equation, ideal flow

ME 3311 **Pneumatic and Hydraulic Systems** **3 (3-0-6)**
Prerequisites: *ME 2220 Engineering Mechanics II*

Fundamentals of Fluid Mechanics, fluid properties, Pascal's law, flow governing equations (continuity equation, conservation of energy or Bernoulli's equation, Torricelli's equation), basic flow in pipes, pumps, pipe design and selection, hydraulics design and analysis, pneumatic systems, compressors, receivers, valves, flow th ough orifices

ME 3312 **Pneumatic and Hydraulic Systems Laboratory** **1 (0-3-2)**
Prerequisite or Co-requisite: ME 3311 Pneumatic and Hydraulic Systems

Laboratory works to be done according to ME 3311 Pneumatic and Hydraulic Systems

ME 3410 **Thermodynamics** **3 (3-0-6)**
Prerequisite: *BG 1211 Physics I*
BG 1108 General Chemistry

First Law of Thermodynamics; Second law of Thermodynamics and Carnot cycle, energy: entropy; basic heat transfer and energy conversion.

ME 3414 **Fluid Mechanics** **3 (3-0-6)**
Prerequisite: *ME 2220 Engineering Mechanics II*

Properties of fluid, fluid static, momentum and energy equations, equation of continuity and motion, similitude and dimensional analysis, steady incompressible flow

ME 3418 **Heat Transfer** **3 (3-0-6)**
Prerequisite: *ME 3410 Thermodynamics*

Modes of heat transfer, thermal conductivity; heat conduction equation, steady- state, one-and two-dimensional wave equation, unsteady- state heat conduction, radiation, fundamentals of convection heat transfer.

ME 3501 **Naval Architecture and Ship Construction** **4 (4-0-8)**
Prerequisite: *ME 3414 Fluid Mechanics*

Types and geometry of ship, basic concepts of hydrostatics, stability and trim of ships, ship resistance components, similitude and dimensional analysis, resistance prediction from model testing and standard series, propeller geometry and design, hull-propeller interaction, propeller charts, powering prediction, structural analysis of ship hulls structures, loading, material and fabrication considerations, hull primary bending and midship section analysis, framing systems, typical examples of structure, shipyard layout.

ME 4010 **Machine Design** **3 (3-0-6)**
Prerequisite: *ME 1113 Engineering Drawing*
ME 3120 Mechanics of Machinery

Fundamentals of mechanical design; properties of materials, theories of failure; design of simple machine elements, rivets, screw fasteners, keys and pins, shafts, springs, power screws, coupling etc.; design project.

ME 4310 **Mechanical Vibration** **3 (3-0-6)**
Prerequisite: *ME 2220 Engineering Mechanics II*

System with one degree of freedom; torsional vibration, free and forced vibration, method of equivalent system, systems having several degrees of freedom; methods and techniques to reduce and control vibration.

ME 4412 **Internal Combustion Engines** **3 (3-0-6)**
Prerequisite: *ME 3410 Thermodynamics*

Internal combustion engine fundamentals, spark-ignition and compression-ignition engines, fuels and combustion, ignition systems, ideal fuel air cycle, supercharging and scavenging, performance and testing, lubrication.

ME 4414 **Air Conditioning** **3 (3-0-6)**
Prerequisite: *ME 3410 Thermodynamics*
ME 3414 Fluid Mechanics

Psychometric properties and processes of air, cooling load estimation, air conditioning equipment, various types of air conditioning systems, air distribution and duct system design, ventilation system design, refrigerants and refrigerant piping design, basic controls in air conditioning, fi e safety in a/c systems, indoor air quality, energy efficiency in a/c systems

ME 4502 **Marine Propulsion and Machinery Systems** **3 (3-0-6)**
Prerequisite: *ME 3410 Thermodynamics*
ME 3414 Fluid Mechanics

Introduction to marine propulsion systems, marine diesel engine and auxiliary systems, marine gas turbines, propellers, propulsion power transmission and piping system design

ME 4505 **Ship Design** **3 (3-0-6)**
Prerequisite: *ME 3501 Naval Architecture and Ship Construction*
ME 4502 Marine Propulsion and Machinery Systems

Basic design parameters, estimation of power requirements, weight estimation, initial hull form, preliminary propeller selection and design, ship stability, machinery selection, configuration and arrangement, maneuvering and sea keeping, load line assignment and tonnage measurement, preliminary structural design, fundamentals of ship mechatronics.

ME 4506 **Ship Dynamics** **3 (3-0-6)**
Prerequisite: *ME 3501 Naval Architecture and Ship Construction*
ME 4502 Marine Propulsion and Machinery Systems

Introduction to ship dynamics, potential flow phenomena, real flow phenomena, regular waves and potential representation, irregular seaways and statistical properties, rigid body dynamics and equations of motions, potential coefficients and strip theory, motions in irregular waves and RAO interpretation, mooring dynamics and operability.

ME 4512 **Ship Operation and Maintenance** **3 (3-0-6)**
Prerequisite: *ME 3501 Naval Architecture and Ship Construction*
ME 4502 Marine Propulsion and Machinery Systems

Introduction to shipping operation overview, vessel operation forms, ship loading, cargo types and characteristics, bunker procurement, ship speed selection, cruising speed, routine planning, energy efficiency, maintenance concept, maintenance scheduling, routine/preventive maintenance, repair of breakdowns, maintenance work on board and yard facilities, condition monitoring system, spare part management.

ME 4602 **Maritime Robotics** **3 (3-0-6)**
Prerequisite : *EE 3406 Control Systems*

Fundamental concepts associated with the field of maritime robotics, maritime robots used for oceanography, offshore exploitation and disaster response. study of vehicle design, mapping, path planning, navigation, and collision avoidance.

MGT 1101 **Introduction to Business** **3 (3-0-6)**

General introduction to business, philosophy, objectives and responsibility of business enterprises, business vocabulary, business and its environment emphasizing fundamental principles of organization, legal forms of business ownership, business activities concerning personnel, accounting, marketing, production and finance

MGT 2404 **Managerial Psychology** **3 (3-0-6)**

Concepts and scope of social psychology, basic psychological factors and how they relate to business organization, language symbol, perception, memory, emotion, social attitudes, persuasion, social and cultural environment, role and status, personality, leadership, group behavior, morale and application of these factors in the human relation of business, especially in creation of morale, motivation of workers, and solutions of business and social problems.

MGT 2900 **Principles of Management** **3 (3-0-6)**
Prerequisite: *MGT 1101 Introduction to Business*

Difinition and importance of management. Manegerial functions : planning, organizing, leading-motivating and controlling, theory of management in modern corporate structure, management policies, departmentalization, centralization and decentralization, line and staff functions, and human resources management.

MGT 3905 **Operations Management** **3 (3-0-6)**
Prerequisite: *MGT 2900 Principles of Management*

Fundamentals of industrial management from the point of view of organization structure, product, product development and research, standardization, plant location and layout, materials handling, machines equipment and maintenance, and overall operation of production and control.

MGT 3922 **Introduction to New Venture** **3 (3-0-6)**
Prerequisite: *MGT 2900 Principles of Management*

New venture formation, how to launch a new business venture, how to get ideas to reality, and how to develop strategy.

MGT 3923 **Strategic Human Resources Management** **3 (3-0-6)**
Prerequisite: *MGT 2900 Principles of Management*

Phases of human resource management functions including selection, training, compensation, promotion and transfer, health and safety provisions, morale building, job stabilization, grievance handling and disciplinary actions, and human relations aspect of dealing with personnel.

MGT 3924 **Human Resources Development** **3 (3-0-6)**
Prerequisite: *MGT 3923 Strategic Human Resources Management*

Principles of training and development of personnel, types, methods, and contents of training programs, development of the programs, evaluation of training program, behavioral changes, and training for different levels of personnel and leadership training.

MGT 4117 **Entrepreneur and Innovation** **3 (3-0-6)**
Prerequisite: *MGT 2900 Principles of Management*

Definition, importance, and types of entrepreneur and innovation: the entrepreneurial skills and effective strategies for working in and managing innovative organizations. The innovation concepts, management process with external linkages, role of innovation and how to manage innovation within fi ms, new product and services development as part of innovation.

MKT 2280 **Principles of Marketing** **3 (3-0-6)**
Prerequisite: *MGT 1101 Introduction to Business*

Principles and problems involved in transfer of goods and services from producer to consumer, consumer's buying motives, basic product, distribution, price, promotion mix strategies, and improvement of marketing efficienc

MKT 3620 **Global Marketing** **3 (3-0-6)**
Prerequisite: *MKT 2280 Principles of Marketing*
Completion of at least 70 credits

Principles and operations of international and global marketing concepts, international marketing environment, trade promotion activities of government and private agencies, environmental aspects of international market, financial features and instruments, marketing structure of international trade, terms of trade and credit, international marketing position, foreign market survey, segmentation, targeting and positioning, global market entry strategies, strategic elements of competitive advantage, global marketing mix including product decisions, pricing, channels of distribution, and global marketing communication mixes.

MKT 3627 **Sales Promotion** **3 (3-0-6)**
Prerequisite: *MKT 2280 Principles of Marketing*

Principles and practices in guiding management in making key decisions necessary in sales promotion program, selection of proper sales appeals, sales promotion directed towards company's sales staff, middlemen and ultimate consumers, planning and evaluation of promotional activities, including merchandising functions.

MKT 3628 **Public Relations** **3 (3-0-6)**
Prerequisite: *MKT 2280 Principles of Marketing*

Public relations process and job skills of public relations professionals, role of public relations organizations and role of public relations in organizations, promotional campaigns in which public relations plays a key element, techniques and tools used in the field of public elations

MKT 3629 **Pricing Strategy and Decisions** **3 (3-0-6)**
Prerequisite: *MKT 2280 Principles of Marketing*

Strategic pricing concept, cost structure, market-based pricing for profit, pricing influence on purchase decision, role of value in pricing, price sensitivity analysis, price elasticity, competitive pricing, proactive pricing, initial launch of integration of elements in profitable pricing, pricing for new products and different pricing schemes by segments, product-line pricing, pricing as a promotional tool, pricing to leverage competitive advantages, pricing psychology, and pricing ethics.

MKT 3823 **Marketing Channel Strategy and Decision** **3 (3-0-6)**
Prerequisite: *MKT 2280 Principles of Marketing*

Distribution strategies, structure, functions, types, and operating problems of various institutions in the chain of distribution of different types of products and industries, segmentation for marketing channel design, channel strategy formulation and implementation, scope of distribution strategies including distribution intensity and vertical constraints, and strategic alliances in distribution.

MKT 4725 **Competitive Analysis and Strategy** **3 (3-0-6)**
Prerequisites: *MKT 2280 Principles of Marketing*
Completion of at least 90 credits

Analytical concepts in competitive environment, efficient market functioning, industry analysis, strategic groups in industry and global competition, analysis of competitive advantage, vertical linkages, corporate diversification, competitive strategic alliances, rivalry using product positioning, competitive pricing, research and development in competitive environment.

MKT 4726 **Advertising and Creative Strategies** **3 (3-0-6)**
Prerequisite: *MKT 3102 Integrated Marketing Communications*

Role of creative strategy in advertising and other promotional mix, examination and systematic development of creative brief or copy platform as a means of designing message strategies that evoke consistent value and identity, creative content and creative process beginning with market analysis and target market selection to brand attributes and value propositions to creative execution with emphasis on execution of the “big idea”.

MKT 4730 **Marketing Management** **3 (3-0-6)**
Prerequisites: *MKT 2280 Principles of Marketing*
MGT 2900 Principles of Management
Senior standing (106 credits)

Scope and field of marketing management, need of marketing and product planning for promotion purpose, need of planning for new products to replace existing products, planning for new marketing techniques including pricing and pricing policies, techniques of market survey, its objectives and limitations, management of personal selling, coordination of advertising with all other aspects of marketing, development of policy toward changing items comprising product lines, and control of marketing operation.

MKT 4806 **Product and Brand Management** **3 (3-0-6)**
Prerequisite: *MKT 2280 Principles of Marketing*
Completion of at least 90 credits

Management concepts concerning process of new product development including product concept, positioning, and branding used in developing product lines, pricing, distribution decisions in keeping up-to-date to both industrial and consumer goods, product line management, environment factors that have impacts on product, brand and price strategies.

MP 1001 **Music Production Fundamentals** **3 (1-4-4)**

The introduction of music production with the topics of sound physics, acoustics, basic electronics, signal flow, sound reinforcement, computer music, basic recording, basic mixing, and finishing a song demo production.

MP 2400 **Audio Fundamentals** **3 (3-0-6)**

The introduction of audio theory with the topics of sound physics, acoustics, basic electronics, signal flow and sound reinforcement.

MP 2410 **Music Computer Application** **3 (1-4-4)**

Skills needed to use basic computing and computer applications for musician such as DAW music notation program for producing music as well as how to read and understand computer specification, computer components.

MP 2510 **Visual Media for Musician** **2 (1-2-3)**

Techniques of motion and graphic for producing any kind of visual works associated with music, including a music video or short film, and the use of graphic and video editing softwa e.

MP 2511 **Digital Photography for Musician** **1 (0-2-1)**

Introduction to photographic techniques for musicians, i.e. exposure, camera controls, digital printing, file management. Exploration of creative possibilities and thematic modes of photography.

MP 3411 **Song Demo Production** **3 (1-4-4)**
Prerequisite: *MP 2410 Music Computer Application*

Acquisition of technical, interpersonal and group skills needed in the development of professional quality song demos. Using MIDI, Software Instrument and Audio recording to complete a wide variety of musical projects.

MP 3420 **Music Notation Software** **2 (1-2-3)**

Software to create lead sheets, choral and instrumental score, and the use of MIDI accompany.

MP 3421 **Critical Listening** **3 (2-3-4)**
Prerequisite: *MP 2400 Audio Fundamentals*

Listening skills of the audio engineer, development of skills and concepts of using width and depth, frequency range, dynamics, panning, distortion, reverb, delays, compression, phrasing and the different mixing techniques in various musical genres.

MP 3422 **Synthesizer Basic** **1 (0-2-1)**

Listening skills of the audio engineer, development of skills and concepts of using width and depth, frequency range, dynamics, panning, distortion, reverb, delays, compression, phrasing and the different mixing techniques in various musical genres.

MP 3423 **Pro Tools** **2 (1-2-3)**
Prerequisite: *MP 2410 Music Computer Application*

Learn functions of Pro Tools from setup, multi-track recordings of live instruments, MIDI sequencing, edit, mix-down and master.

MP 3424 **Logic** **2 (1-2-3)**
Prerequisite: *MP 2410 Music Computer Application*

Learn functions of Logic from setup, multi-track recordings of live instruments, MIDI sequencing, edit, mix-down and master.

MP 3425 **Cubase** **2 (1-2-3)**
Prerequisite: *MP 2410 Music Computer Application*

Learn functions of Cubase from setup, multi-track recordings of live instruments, MIDI sequencing, edit, mix-down and master.

MP 3426 **Ableton Live** **2 (1-2-3)**
Prerequisite: *MP 2410 Music Computer Application*

Learn functions of Cubase from setup, multi-track recordings of live instruments, MIDI sequencing, edit, mix-down and master.

MP 3427 **Drum Beat Programming** **2 (1-2-3)**
Prerequisite: *MP 2410 Music Computer Application*

Create a drum beat by imitating a traditional drum kit performance to an electronic drum session, writing and producing drum beats for any style of popular music by DAW software programs

MP 3428 **Live Sound Reinforcement** **3 (1-4-4)**
Prerequisite: *MP 2400 Audio Fundamentals*

Skills needed for managing live concert and event in audio engineering field as well as live sound recording, and technology that will involve with audio over network such as AVB or Dante.

MP 3429 **Sound in Digital Domain** **3 (3-0-6)**
Prerequisite: *MP 2400 Audio Fundamentals*

Introduction to Digital Audio (Analogue to Digital Convertor, Digital to Analogue Convertor and Digital Data Conversion) as well as how to read signal flow in the digital domain

MP 3430 **Computer Music and Digital Audio** **3 (3-0-6)**
Prerequisite: *MP 2400 Audio Fundamentals*

Introduction to Computer Data (Digital Data, Binary Code, and Data Storage), Computer Music (MIDI and Virtual Instrument), Digital Audio (Analogue to Digital Convertor , Digital to Analogue Convertor and Digital Data Conversion) as well as how to read signal flow in the digital domain

MP 3431 **Music Production Analysis** **3 (2-3-4)**
Prerequisite: *MP 2400 Audio Fundamentals*

Skills in music production to enable to analysis emotional effectiveness of the music and identify music elements in records included music genre, melody, lyrics, drumbeat arrangement and concept behind the song.

MP 3510 **Computer Graphic for Musician** **2 (1-4-4)**

Skills in computer graphic needed in music artworks such as poster, single cover, graphic used in social media via graphic software such as Adobe Photoshop and Adobe Illustrator.

MP 3520 **Final Cut Pro** **2 (1-2-3)**

Techniques of videography for producing any kind of visual works associated with music, including a music video or short film, and the use of video editing softwa e.

MP 3521 **Music Video Production** **3 (1-4-4)**

Music video and live performance video production for online and social network using camera, video equipment and Final Cut Pro X.

MP 4420 **Electronic Music Production** **3 (3-0-6)**
Prerequisite: *MP 2410 Music Computer Application*

Tools and techniques to create contemporary electronic music in a variety of styles, including drum'n bass, trance, dub, and house

MP 4421 **Digital DJ** **3 (3-0-6)**
Prerequisite: *MP 2410 Music Computer Application*

DJ techniques with laptops and controllers, create live sets and performances with software.

MP 4422 **Sound Design** **3 (1-4-4)**
Prerequisite: *MP 2410 Music Computer Application*

DJ techniques with laptops and controllers, to create live sets and performances with software such as Ableton.

MP 4423 **Microphone Techniques** **3 (1-4-4)**
Prerequisite: *MP 2400 Audio Fundamentals*

Introduction to audio recording throughout the uses of microphone and speaker, signal flow, mixer and control surface, A/D & D/A converter digital audio basics skill of recording audio with DAW, microphone techniques and basic live sound reinforcement.

MP 4424 **Music Production Skills** **3 (1-4-4)**
Prerequisite: *MP 2410 Music Computer Application*

Advanced skills and techniques required for a music producer and a sound engineer

MP 4432 **Audio Recording** **3 (2-3-4)**
Prerequisite: *MP 2400 Audio Fundamentals*

Characteristics types of microphone model based on its performance outcome, proper handling and setup, close and distant microphone placements for a wide variety of musical instruments, strategies for utilizing the recording environment, and managing the demands of complex recording sessions

MP 4433 **Mixing and Mastering** **3 (2-3-4)**
Prerequisite: *MP 2400 Audio Fundamentals*

Skills in audio engineering and understanding of mixing and mastering by using softwareapplication. The use of EQ, Effect, Signal Processor, Panning, and more advanced techniques including parallel compression.

MS 1001 **Major Instrument I** **2 (1-2-3)**

Development of performance techniques, music skills, and interpretation of fine art music upon student's area of expertise (instrumental / vocal).

MS 1002 **Major Instrument II** **2 (1-2-3)**
Prerequisite: *MS 1001 Major Instrument I*

Further development of performance techniques, music skills, and interpretation of fine art music based on improvement from the previous course (instrumental / vocal).

MS 1003 **Major Instrument III** **2 (1-2-3)**
Prerequisite: *MS 1002 Major Instrument II*

Further development of performance techniques, music skills, and interpretation of fine art music based on improvement from the previous course (instrumental / vocal).

MS 1004 **Major Instrument IV** **2 (1-2-3)**
Prerequisite: *MS 1003 Major Instrument III*

Further development of performance techniques, music skills, and interpretation of fine art music based on improvement from the previous course (instrumental / vocal).

MS 1005 **Major Instrument V** **2 (1-2-3)**
Prerequisite: *MS 1004 Major Instrument IV*

Further development of performance techniques, music skills, and interpretation of fine art music based on improvement from the previous course (instrumental / vocal).

MS 1006 **Major Instrument VI** **2 (1-2-3)**
Prerequisite: *MS 1005 Major Instrument V*

Further development of performance techniques, music skills, and interpretation of fine art music based on improvement from the previous course (instrumental / vocal).

MS 1007 **Major Instrument VII** **2 (1-2-3)**
Prerequisite: *MS 1006 Major Instrument VI*

Further development of performance techniques, music skills, and interpretation of fine art music based on improvement from the previous course (instrumental / vocal).

MS 1008 **Major Instrument VIII** **2 (1-2-3)**
Prerequisite: *MS 1007 Major Instrument VII*

Further development of performance techniques, music skills, and interpretation of fine art music based on improvement from the previous course (instrumental / vocal).

MS 1300 **Introduction to Musical Skills** **1 (2-3-1)**

Basic of performance techniques, music skills, and understanding of fine art music upon student's area of expertise (vocal / instrumental).

MS 1301 **Music Skills I** **2 (1-2-3)**

Development of performance techniques, musicianship, and interpretation of fine art music upon student's area of expertise (vocal/instrumental).

MS 1302 **Music Skills II** **2 (1-2-3)**
Prerequisite: *MS 1301 Music Skills I*

Further development of performance techniques, musicianship, and interpretation of fine art music based on improvement from the previous course. (vocal/instrumental)

MS 2001 **Minor Instrument I** **2 (1-2-3)**
Prerequisite: *MS 1002 Major Instrument II*

Secondary instrument of applied music at the beginning level. Development of performance techniques, music skills, and interpretation of fine art music upon student's area of expertise of their minor instrument's choice (instrumental / vocal).

MS 2002 **Minor Instrument II** **2 (1-2-3)**
Prerequisite: *MS 2001 Minor Instrument I*

Further development of minor instrument's performance techniques, music skills, and interpretation of fine art music based on their minor instrument's choice and the improvement from the previous course (instrumental / vocal).

MS 2003 **Minor Instrument III** **2 (1-2-3)**
Prerequisite: *MS 2002 Minor Instrument II*

Further development of minor instrument's performance techniques, music skills, and interpretation of fine art music based on their minor instrument's choice and the improvement from the previous course (instrumental / vocal).

MS 2004 **Minor Instrument IV** **2 (1-2-3)**
Prerequisite: *MS 2003 Minor Instrument III*

Further development of minor instrument's performance techniques, music skills, and interpretation of fine art music based on their minor instrument's choice and the improvement from the previous course (instrumental / vocal).

MS 2301 **Music Skills III** **2 (1-2-3)**
Prerequisite: *MS 1302 Music Skills II*

Further development of performance techniques, musicianship, and interpretation of fine art music based on improvement from the previous course (vocal / instrumental).

MS 3001 **Songwriting I** **2 (1-2-3)**
Prerequisite: *MU 2131 Basic Songwriting*

Create strong melodies that hit the audience. Focus on rhythm, showing how it can support the lyric's meanings. How the use of pitch can fit a melody, making it natural to sing, and supporting the lyric's expressive goals and possibilities. Write melodies over common modes and chords, and develop these ideas into complete songs.

MS 3002 **Songwriting II** **2 (1-2-3)**
Prerequisite: *MS 3001 Songwriting I*

Create ideas, find the right words to express those ideas, and organize rhythms and rhymes into each song section. Understand the elements of structure and the process of building great lyrical ideas that go along with melodies into complete songs

MS 3003 **Songwriting III** **2 (1-2-3)**
Prerequisite: *MS 3002 Songwriting II*

Advanced Harmony techniques such as chord progressions, modulation and cadences to craft the essential dramatic impact of the songs with effective settings for melodic, harmonic, and lyrical ideas. Crafting song sections and complete songs the way hit writers do.

MS 3501 **Flamenco Techniques** **2 (1-2-3)**

Practical Flamenco guitar techniques with emphasis on the elementary chord progressions and techniques used in Flamenco. Basic chording for Bulerias, Soleares, Alegrias, Sevillanas, Farruca, Tientos, Tangos, Rumba, Zambra, Guajiras, and Garrotin.

MS 4001 **Senior Project I** **0 (0-9-0)**
Prerequisite: *Completion of at least 100 credits*

Individual project on a topic or area related to the selected concentration (or) minor courses.

MS 4002 **Senior Project II** **0 (0-9-0)**
Prerequisite: *Completion of at least 100 credits*

Implementation of the proposed project related to the selected concentration (or) minor courses and preparation for the presentation.

MS 4003 **Applied Composition III** **2 (1-2-3)**
Prerequisite : *MS 4002 Applied Composition II*

Further development of techniques used in fine art composition. Creation of short and long compositions in various media.

MS 4004 **Applied Composition IV** **2 (1-2-3)**
Prerequisite : *MS 4003 Applied Composition III*

Further development of performance techniques, musicianship, and interpretation of fine art music based on improvement from the previous course (vocal / instrumental)

MS 4005 **Applied Composition V** **2 (1-2-3)**
Prerequisite : *MS 4004 Applied Composition IV*

Further development of the techniques and classical improvisation used in fine art composition. Creation of short compositions in various media.

MS 4006 **Applied Composition VI** **2 (1-2-3)**
Prerequisite : *MS 4005 Applied Composition V*

Further development of the techniques and classical improvisation used in fine art composition. Creation of short compositions in various media.

MS 9001 **Independent Music Study I** **2 (1-2-3)**

Specific study or esearch on a topic or area of interest in music beyond available courses

MS 9002 **Independent Music Study II** **2 (1-2-3)**
Prerequisite : *MS 9001 Independent Music Study I*

Specific study or esearch on a topic or area of interest in music beyond available courses

MS 9003 **Independent Music Study III** **2 (1-2-3)**
Prerequisite : *MS 9002 Independent Music Study II*

Specific study or esearch on a topic or area of interest in music beyond available courses

MS 9004 **Independent Music Study IV** **2 (1-2-3)**
Prerequisite : *MS 9003 Independent Music Study III*

Specific study or esearch on a topic or area of interest in music beyond available courses

MU 0111 **Ear Training I** **1 (0-2-1)**
Prerequisite: *Satisfaction score on theory entrance examination*
or MU 0111 Ear Training I

Basic ear training, sight-reading, singing on simple melodic line, intervals, chords, and scales in basic rhythm patterns.

MU 0112 **Ear Training II** **1 (0-2-1)**
Prerequisites: *MU 1151 Theory of Music I*
MU 0111 Ear Training I

Advanced ear training, sight reading, singing any music in written notation form precisely, dictation studies, intervals, chords layout-inversion, harmonic progression and rhythmic study in classical and contemporary music.

MU 0201 **Music Ensemble I** **1 (0-2-1)**

Development of techniques as band or ensemble players and study of selected repertoire ton performance standard

MU 0202 **Music Ensemble II** **1 (0-2-1)**
Prerequisite: *MU 0201 Music Ensemble I*

Further development of ear training skills through increasing complex singing and dictation exercises.

MU 0203 **Music Ensemble III** **1 (0-2-1)**
Prerequisite: *MU 0202 Music Ensemble II*

Further development of ear training skills through increasing complex singing and dictation exercises.

MU 0204 **Music Ensemble IV** **1 (0-2-1)**
Prerequisite: *MU 0203 Music Ensemble III*

Further development of ear training skills through increasing complex singing and dictation exercises.

MU 0205 **Music Ensemble V** **1 (0-2-1)**
Prerequisite: *MU 0204 Music Ensemble IV*

Further development of ear training skills through increasing complex singing and dictation exercises.

MU 0206 **Music Ensemble VI** **1 (0-2-1)**
Prerequisite : *MU 0205 Music Ensemble V*

Further development of ear training skills through increasing complex singing and dictation exercises.

MU 0207 **Music Ensemble VII** **1 (0-2-1)**
Prerequisite : *MU 0206 Music Ensemble VI*

Further development of ear training skills through increasing complex singing and dictation exercises

MU 0208 **Music Ensemble VIII** **1 (0-2-1)**
Prerequisite : *MU 0207 Music Ensemble VII*

Further development of ear training skills through increasing complex singing and dictation exercises.

MU 0301 **String Ensemble I** **3 (1-4-4)**

Practices and performances of beginning string chamber music literature.

MU 0302 **String Ensemble II** **3 (1-4-4)**
Prerequisite : *MU 0301 String Ensemble I*

Further development of Practices and performances of beginning and intermediate string chamber music literature.

MU 1001 **Music Appreciation** **3 (3-0-6)**

Elements of music, developing an appreciation of the fine art and aesthetics of human performances, and recognizing music through listening techniques.

MU 1131 **Pop Songwriting (Thai)** **3 (3-0-6)**

Creative story telling through melody and basic lyrics writing, fundamental music theory, selecting scales, chords, and harmony design to create standard pop songs.

MU 1132 **Pop Songwriting (English)** **3 (3-0-6)**

Creative story telling through melody and basic lyrics writing, fundamental music theory, selecting scales, chords, and harmony design to create standard pop songs.

MU 1200 **Music and Choreography** **3 (1-4-4)**

The design of dance movement through variety styles of music, combined with performance and theatrical skills in both planned and improvisation, Elements of dance fundamentals and the expression of music through movement.

MU 1231 **History and Literature of Music** **3 (3-0-6)**

Overview history and Literature of music from different periods with emphasis on stylistic traits and theoretical concepts of the eras.

MU 1301 **Music Fundamentals I** **3 (3-0-6)**
Prerequisite: *MU 0020 Fundamentals of Music Theory*
or Satisfaction score on theory entrance examination

Fundamentals of music (scales, keys, intervals, chords, rhythm and meter) with an introduction to basic musical form, cadences, non-chord tones, modes, dominant and diatonic seventh chords, instrumental transposition, diatonic harmonic function, part-writing, harmonization and score analysis.

MU 1302 **Music Fundamentals II** **3 (3-0-6)**
Prerequisites: *MU 1301 Music Funfamentals I*

Chromatic harmonic function: secondary dominants, modulation, mode mixture and the Neapolitan chord. Further development of part-writing skills, harmonization and score analysis.

MU 1303 **Music Fundamentals III** **3 (3-0-6)**
Prerequisite: *MU 1302 Music Fundamentals II*

Classic: Sixth chords, enharmonic functions, altered dominants, common-tone diminished seventh chords, chromatic mediants, coloristic chord successions and tonal harmony of the late 19th century. Further development of part-writing skills, harmonization and score analysis.

MU 1304 **Music Fundamentals IV** **3 (3-0-6)**
Prerequisite : *MU 1303 Music Fundamentals III*

Basic principles and techniques of 20th century art music: modes, artificial scales, free tertian and non-tertian harmony, polytonality, rhythmic methods, formal process, intervallic organization, serial procedures and an introduction to recent developments. Further development of score analysis skills and analytical skills required for non-tonal music

MU 1501 **Chorus I** **1 (0-2-1)**

Development of group singing skills, basic vocal production and techniques, sight-singing skills, practice variety of choral works in unison, cannon and simple arrangement. Attending the choral concert and performing one major concert are required."

MU 1502 **Chorus II** **1 (0-2-1)**
Prerequisite: *MU 1501 Chorus I*

Development of group singing skills, early intermediate vocal production and techniques, sightsinging skills, practice variety of choral works in 2-4 parts harmony. Attending the choral concert and performing one major concert are required.

MU 1958 **Thongchai McIntyre Studies** **3 (3-0-6)**

History and song repertoires of Thongchai McIntyre. Analyze the content and composition of his music works from the past to the latest ones.

MU 2002 **Bodyslam Studies** **3 (3-0-6)**

History and song repertoires of Bodyslam. Analyze the content and composition of their music works from the past to the latest ones.

MU 2131 **Basic Songwriting** **2 (2-0-4)**

Fundamental of songwriting techniques, development of basic skill through the awareness of form, melody, harmony, bass line pattern, rhythm, lyric and vocal considerations.

MU 2211 **History of Thai Music** **3 (3-0-6)**

History of Thai Music, development of Thai musical genres, including historical background and political and cultural influences, growth of vocal and instrumental music, ethnomusicology, and characteristics of human life, composition of the Thai principal composers.

MU 2221 **Popular Music Literature** **3 (3-0-6)**

Survey of western popular music, popular music artists in different periods.

MU 2332 **Keyboard Skills** **1 (0-2-1)**

Keyboard techniques and chord voicing, the understanding of more concepts including scales and chord progressions

MU 2333 **Guitar Skills** **1 (0-2-1)**

Guitar techniques and chord voicing, right hand techniques, the understanding of more concepts including chord forms and chord progressions

MU 2360 **Basic Improvisation** **1 (0-2-1)**
Prerequisite: *MU 1302 Music Fundamentals II*

Fundamentals of improvisation: techniques, scales, and analysis of classic solos in a variety of riffs and licks, approach to improvisation that applies to all styles and any instrument

MU 2503 **Chorus III** **1 (0-2-1)**
Prerequisite: *MU 1502 Chorus II*

Development of group singing skills, intermediate vocal production and techniques, sight-singing skills, and practice variety of choral works. Attending the choral concert and performing one major concert are required.

MU 2504 **Chorus IV** **1 (0-2-1)**
Prerequisite: *MU 2503 Chorus III*

Development of group singing skills, advanced vocal production and techniques, sight-singing skills, and practice variety of choral works. Attending the choral concert and performing one major concert are required.

MU 2511 **Vocal Diction I** **1 (1-0-2)**

Principles of accurate pronunciation in Italian.

MU 2512 **Vocal Diction II** **1 (1-0-2)**
Prerequisite: *MU 2511 Vocal Diction I*

Principles of accurate pronunciation in Latin and English.

MU 2513 **Vocal Diction III** **1 (1-0-2)**
Prerequisite: *MU 2512 Vocal Diction II*

Principles of accurate pronunciation in German

MU 2514 **Vocal Diction IV** **1 (1-0-2)**
Prerequisite: *MU 2513 Vocal Diction III*

Principles of accurate pronunciation in French.

MU 2700 **Introduction to Music Education** **3 (3-0-6)**

Basic knowledge and concept of music education, music teaching methods, music psychology, music curriculum, music education system in early childhood education, fundamental education, higher education, non-formal education, and informal education in ASEAN community and other regions, issues and trends in music education, review of music education research and article, and observation in various type of current music instruction.

MU 3121 **Composition** **3 (3-0-6)**
Prerequisite: *MU 1302 Music Fundamentals II*

Creation of original music, development of compositional abilities, short composition writing, development of skills to analyze and evaluate music, diverse musical examples.

MU 3133 **Commercial Songwriting** **3 (3-0-6)**
Prerequisite: *MU 2131 Basic Songwriting*

Create stunning melodic contents and lyrics that effect on consumer's decision making

MU 3134 **Jingle Writing** **3 (3-0-6)**
Prerequisite: *MB 2131 Basic Songwriting*

Various aspects related to jingle writing – composition, product image, instrumentation, and timing

MU 3135 **Jazz Songwriting** **3 (3-0-6)**
Prerequisite: *MB 2131 Basic Songwriting*

Systematic approach to the art of composing in the jazz idiom. Exploration of melodic, harmonic, and rhythmic principles. Standard jazz song form. Analysis of jazz standards. Arranging considerations applied as a means of enhancing a composition. Projects for small jazz group required.

MU 3231 **Music Genre Studies** **3 (3-0-6)**

Understand the background, concept and characteristic of different music genres.

MU 3232 **Hip-Hop and Rap Music** **3 (3-0-6)**

Hip-Hop and rap background, simple techniques for counting bars, song structure and beat selection in Hip-Hop and rap music. Techniques on freestyle, switch flows, rap over different beats, and never run out of bars.

MU 3241 **Vocal Literature** **3 (3-0-6)**
Prerequisite: *Sophomore Standing*

Survey of standard vocal repertoire from the High Baroque to the present with emphasis on stylistic and interpretive traits, pedagogical issues and repertoire selection, major composers and representative works.

MU 3351 **Conducting** **3 (2-3-4)**
Prerequisite: *MU 1301 Music Fundamentals I*

Physical skills involved with conducting using the baton and hands. Methods of choral and instrumental conducting will be explored and practiced using members of the class as performers as well as existing musical ensembles

MU 3551 **Acting for Musicians** **3 (1-4-4)**

Various methods to enhance acting skills for musicians while performing and entertaining on stage naturally.

MU 3552 **The Art of Guitar Making** **3 (3-0-6)**

An introduction to the design, construction, and maintenance of electric and acoustic guitars, learning through direct experience and engagement with practical projects.

MU 3602 **Music Therapy** **3 (3-0-6)**

History of music therapy and how it works. Techniques used in the field, discipline's scientific basis, theoretical applications and the ties between music and different therapeutic treatment.

MU 3603 **Music, Health, and Well-being** **3 (3-0-6)**

An introduction how music contributes to health and well-being, across a range of different cultural contexts and musical genres. Theories and research from interdisciplinary perspectives underpinning the notion of musical affordances in relation to health and well-being. Relationship between music, health and well-being through exploration of a range of practices and issues while taking human's diversity and perspective into consideration.

MU 3604 **Music and Gender Studies** **3 (3-0-6)**

Explore the ways in which music reflects the issues of gender and sexuality in a variety of musical genres and perspectives.

MU 3701 **Music Education Management** **3 (3-0-6)**
Prerequisite: *ME 2700 Introduction to Music Education*

Understand the relationship between music and mind, how music professionals and songwriters can create music that influences emotion, cognitive, personality, and behavior of the listener's pe ception.

MU 3702 **Music Curriculum and Instruction** **3 (3-0-6)**
Prerequisite: *ME 2700 Introduction to Music Education*

Principle of music curriculum, structure and elements of curriculum, philosophy, objective, content, activity, measurement and assessment, curriculum design, implementation, and revision music curriculum for the different context and trend.

MU 3703 **Methodology of Music Teaching** **3 (3-0-6)**
Prerequisite: *ME 2700 Introduction to Music Education*

Biography, philosophy, and principle of Kodaly, Dalcroze, Off, and other music method for vocal or instrumental, class observation and discussion based on music methodology.

MU 3704 **Music Teaching** **3 (2-1-6)**
Prerequisite: *ME 2700 Introduction to Music Education*

Music pedagogy, teaching strategy, teaching technique, repertoire and instructional materials for vocal or instrumental, design a short music course, write the study plan, class observation and class demonstration

MU 4103 **Form and Analysis** **3 (3-0-6)**
Prerequisite: *MU 1302 Music Fundamentals II*

Analytical study of various significant forms - Binary, Rounded Binary, Ternary, Rondo, Sonata, and Fugue, harmonic and melodic structures used in Western art and popular music.

MU 4112 **Arranging** **3 (3-0-6)**
Prerequisite: *MU 1302 Music Fundamentals II*

Techniques of arranging music for vocal / instruments for both small and large ensembles.

MU 4130 **Music for Visual Media** **3 (2-2-5)**
Prerequisite: *MU 1202 Music Fundamentals II*

Creating original music to accompany a visual medium i.e. film, television, or games and develop a dramatic mood for your score to synchronize it to visual events.

MU 4131 **Commercial Music Arranging** **3 (2-2-5)**
Prerequisite: *MU 1202 Music Fundamentals II*

How to write the rhythm section for instrumentals and create rhythm pattern, adaptation of the melody and chords, intros and endings, articulations and dynamics

MU 4223 **Music in Human Life** **3 (3-0-6)**

Traditions, belief systems, and practices of world cultures with regards to music, comparative study and analysis of the music of contrasting ethnic groups in relation to different social contexts; thematic musical styles in recordings along with traditional, religious, and cross-cultural issues in human life.

MU 4539 **Music Cognition** **3 (3-0-6)**

Understand the relationship between music and mind, how music professionals and songwriters can create music that influences emotion, cognitive, personality, and behavior of the listener's pe ception.

MU 4545 **Careers and Professions in Music** **3 (3-0-6)**

Preparation for students for internship, career path in the music and in-depth study of potential careers in the music.

MU 4750 **Music Pedagogy** **3 (3-0-6)**
Prerequisite: *Sophomore Standing*

Basic information concerning appropriate teaching method, teaching strategy, technique development, teaching-learning psychology, performance practice, repertoire and instructional materials for vocal or instrument.

MU 7001-8 **Concert and Seminar Attendance I-VIII** **Non-Credit**

Attendance weekly or as announced in related music events recognized or organized by the School of Music, including master classes, concerts, recitals, workshops, seminar and guest lectures.

NB 1210 **Pathophysiology** **3 (3-0-6)**

Basic concepts of pathophysiology, the alteration in functioning of human systems caused by the diseases including conditions typically observed during a disease state and the effect of diseases on the state of physiological balance.

NB 1214 **Anatomy and Physiology** **5 (4-3-10)**

Basic human structures, the position of cells, development of embryo, organ and its interrelationship among sections of structures and systems including the functions of organs, mechanical adjustment of each system to maintain normal function and body balance, lab experiments and the clinical nursing application.

NB 1215 **Biochemistry** **2 (2-0-4)**

Basic biochemistry for health science including enzymes, bioenergetics and thermodynamics, nucleic acids, carbohydrates, lipids, amino acids, proteins and the metabolisms, vitamins and minerals, hormone, gene regulation, and the clinical nursing application.

NB 1216 **Microbiology and Parasitology** **2 (1-3-4)**

Essence of biology, classificati n of microorganisms that cause communicable diseases including bacteriology, mycology, virology, the mode of transmission and basic concept of immunology, the basic of parasitology, the morphology, life cycles of parasite, its related diseases and laboratory diagnosis.

NB 1217 **Multiculturalism in Health Care** **1 (1-0-2)**

The concept of culture diversity and application of culture sensitivity in nursing and health care industry including the analysis of scenarios related to the influence of different cultural beliefs and practices on health and illness.

NB 2209 **Pharmacology** **3 (3-0-6)**

The concept of pharmacokinetics, pharmacodynamics, toxicities, major pharmacologic agents used for treating common diseases and clinical toxicology or poisoning, calculation, pharmaceutical preparations, rational durg use, drug education including the National List of Drug, laws concerning controlled drugs with adverse reactions and the nursing implication.

NB 2212 **Psychology and Mental Health** **2 (2-0-4)**

Principles of psychology and mental health, related philosophies and theories, mental health promotion, prevention, and rehabilitation for individual, family and community, including evolution of mental health, psychiatric care and interventions in the 21st century.

NB 2214 **Diet Therapy** **1 (1-0-2)**
Prerequisite : *NB 1215 Biochemistry*

Concepts of therapeutic nutrition including nutritional assessments, nutritional problem, energy balance, food exchange lists, hospitalized diets and modified diets for disease management

NB 2215 **Entrepreneurship in Health Care** **2 (2-0-4)**

Concept of entrepreneurial leadership in nursing and health care industries, health related business management and its impact handling, development and presentation of a basic business plan.

NE 3501 **Spa and Aroma Therapy** **3 (2-3-6)**

Overview of the history and principles of spa and aroma therapy, related public health laws and regulations, basic spa management, basic human anatomy and physiology for massage, aroma massage techniques, health consequences, roles and etiquettes of aroma therapist.

NE 3506 **Health Care for Civil Aviation** **3 (3-0-6)**

Principle of medical specialty concerning health and safety that combines aspects of preventive, occupational and environmental regulation, basic medical management and first aid for aircrew and passengers, the management and mitigation for outbreaks of communicable disease, health risks, and emergencies of international concerned including ethical aspects of aviation medicine.

NE 3507 **Herbal Therapy for Self-Care** **3 (3-0-6)**

Concept of herbal therapy for self-care, herbs and their healing properties, herbal selection to relive common sign and symptom, and to alleviate pain and aliment, indication and contraindication for herbal remedy.

NE 4502 **Adolescent Health** **3 (3-0-6)**

Male and female adolescent health issues, gender adaptation, life-style, behaviors, self-image, reproductive and sexual health, health problems in adolescent including alcohol and substance abuse, violence issues, and design of adolescent health promotion initiatives.

NE 4503 **Comprehensive Nursing for Excellence** **3 (3-0-6)**

Analysis of the clinical scenarios from various nursing specialties including current professional issues, problem identifications, and clinical nursing intervention on the dimensions of care and health promotion using both basic professional and professional knowledge.

NS 1310 **Professional Socialization I** **2 (2-0-4)**

Origin of nursing profession, values in nursing and professionalism, ethical principles in nursing profession, virtue ethics, human rights, patient rights in health care, Professional Nursing Acts, common law, criminal law, tort and related regulations including ethical dilemmas, legal issues and liability.

NS 1312 **Health Promotion Throughout Lifespan** **2 (2-0-4)**

Health promotion concepts, theoretical framework, and methods, healthy public policy, bio-psycho-social development and health promotion strategies including nutrition for healthy life style and health promotion innovations throughout lifespan.

NS 1314 **Scientific Nursing Approach and Holistic Health Assessmen** **2 (1-3-4)**

Approach case scenarios through nursing process based on self-care conceptual framework, practice of health assessment skill using holistic approach to identify potential health needs and development of nursing care plan.

NS 2310 **Alteration in Adult Health and Nursing I** **3 (3-0-6)**

Nursing management for adults with alterations in genetics, cell growth and differentiation, sensory system, integumentary system, respiratory system, digestive system, musculoskeletal system, and peripheral system, application of self-care conceptual framework, family-centered and holistic approaches in assisting adults to reach the optimal level of wellness.

NS 2319 **Foundation of Professional Nursing** **3 (3-0-6)**
Prerequisites: *NB 1214 Anatomy and Physiology*

The selected nursing theories, family-centered and holistic approaches, applicable to assist clients to meet their needs through nursing process, the essence of nursing care in every stage of care management, clinical nursing therapeutics for clients with alteration in vital signs, personal hygiene care, medication administration, diagnostic test and other nursing procedures including nursing management for clients with special needs and nursing documentation.

NS 2324 **Bio-Behavioral Psychiatric Nursing** **2 (2-0-4)**
Prerequisite: *NB 2212 Psychology and Mental Health*

Principle of psychiatric nursing, development of acute and chronic mental disorders and alternation of behaviors in the mental health continuum, treatment modalities, psychopharmacology, care management through nursing process for mental health promotion, maintenance, and restoration of individuals, families, and communities.

NS 2325 **Community Focused Nursing I** **2 (2-0-4)**

Foundation of community health nursing, current public health situations and contemporary health problems, environmental health, health system reform, public health innovation, health economic and national health insurance, national health development plan and current public health policy.

NS 2326 **Family-Centered Care for Infant, Child, and Adolescent I** **2 (2-0-4)**

Principles of family-centered care and holistic approach for infant, child, and adolescent based on self-care conceptual framework, growth and development assessment, well-baby care, complementary food and deviation of nutritional status, nursing care for infant, child, and adolescent experiencing minor health problems and injury in the hospital, family and community, including analysis of current adolescent issues and management.

NS 2424 **Nursing Experience** **2 (0-6-0)**
Prerequisite: *NS 2319 Foundation of Professional Nursing*

Integration of basic knowledge from foundation of nursing, nursing process, holistic approach, and self-care conceptual framework to practice nursing skills and procedures in the nursing laboratory and simulation.

NS 2425 **Clinical Practicum for Professional Nursing Foundation** **3 (0-12-0)**
Prerequisites: *NS 2424 Nursing Experience*
NS 1314 Scientific Nursing Approach and Holistic Health Assessment

Clinical nursing experiences in health settings, application of basic nursing knowledge and skills in providing essential nursing care to meet the clients' needs, application of self-care conceptual framework, family-centered and holistic approaches in nursing process, communication in nursing team and nursing documentation.

NS 2426 **Clinical Practicum in Adult Health Nursing I** **3 (0-12-0)**

Clinical practice in caring of adults with alterations in genetics, cell growth and differentiation, sensory system, integumentary system, respiratory system, digestive system, musculoskeletal system, and peripheral system, application of self-care conceptual framework, family-centered and holistic approaches through nursing process and comprehensive health approach.

NS 2427 **Mental Health and Psychiatric Nursing Practicum** **3 (0-9-0)**
Prerequisite: *NS 2324 Bio-Behavioral Psychiatric Nursing*

Integration of theory, concepts of communication, therapeutic use of self, group and milieu therapies in clinical practice at health care settings, promotion of mental health through primary prevention, intervention in maladaptive behaviors, utilization of the nursing process in care management and rehabilitation of chronic disorders for individual, family, and community

NS 3326 **Nursing Inquiry I** **2 (1-3-4)**
Prerequisite: *BG 1301 Fundamentals of Statistics*

Principles of research methodology, conceptualization and exploration of nursing profession and/or health issues conducive to nursing inquiry, research process, research ethics and development of research proposals responding to the nursing and health phenomena.

NS 3327 **Alteration in Adult Health and Nursing II** **3 (3-0-6)**

Nursing management for adults with alteration in immune regulation and hematological system, endocrine system, reproductive system, urinary system, neurological system, and cardiovascular system, application of self-care conceptual framework, family-centered and holistic approaches in assisting adults to reach the optimal level of wellness.

NS 3328 **Family-Centered Care for Infant, Child, and Adolescent II** **2 (2-0-4)**
Prerequisite: *NS2326 Family-Centered Care for Infant, Child, and Adolescent I*

Health problems of infant, child, and adolescent, nursing care for individual infant, child, adolescent, and family experiencing acute and chronic diseases based on self-care conceptual framework and family-centered approach.

NS 3329 **Community Focused Nursing II** **2 (2-0-4)**
Prerequisite: *NS 2325 Community Focused Nursing I*

Concepts of family as client, family health, family nursing process and home visit, home health care, concepts of community as partner, community health study process, biostatistics, epidemiology, health education, school health, dental health, occupational health, global health and public health laws and regulations.

NS 3330 **Gerontology Nursing** **1 (1-0-2)**

Concept and theory of elderly, bio-psycho-social changes, major health problems, holistic nursing management for elderly, community health care resources, and end of life care, application of self-care conceptual framework, family-centered and holistic approaches to assist elderly people in reaching their optimal level of wellness through nursing process.

NS 3331 **Holistic Childbearing and Family Nursing I** **3 (3-0-6)**

Concepts of childbearing family nursing including contemporary issues and trends, basic concepts of reproductive health, nursing management for preconception and conception, prenatal development, physiological and psychological adaptation to pregnancy, fetal and maternal health assessment, health promotion and self-care during pregnancy, basic knowledge of labor and birth process, nursing management for the childbearing family during intrapartum and postpartum periods.

NS 3332 **Emergency nursing** **1 (1-0-2)**

Nursing management for clients with emergency health problems, emergency and disaster situations, burns, trauma management of violence against women and practice guidelines of forensic nursing.

NS 3401 **Nursing Inquiry II** **1 (0-3-2)**
Prerequisite: *NS 3326 Nursing Inquiry I*

Conducting nursing research including data management, data analysis, discussion of research findings, implication to nursing practices, presentations and dissemination of research study to public.

NS 3426 **Clinical Practicum in Adult Health Nursing II** **3 (0-12-0)**

Clinical practice in caring of adults with alterations in immune regulation and hematological system, endocrine system, reproductive system, urinary system, neurological system, and cardiovascular system, the application of self-care conceptual framework, family-centered and holistic approaches through nursing process and comprehensive health approach.

NS 3427 **Family-Centered Care for Infant, Child, and Adolescent Nursing Practicum I** **2 (0-8-0)**

Prerequisite: *NS 2326 Family-Centered Care for Infant, Child, and Adolescent Nursing I*

Clinical nursing experiences in health care settings and child development center based on self-care conceptual framework, family-centered and holistic approaches, the knowledge integration of wellness, health promotion and illness prevention, pediatric assessment, growth and development and utilization of nursing process for caring infant, child, adolescent and family.

NS 3428 **Gerontology Nursing Practicum** **2 (0-6-0)**

Prerequisite: *NS 3330 Gerontology Nursing*

Clinical practice in caring of elderly people with bio-psycho-social changes and major health problems in healthy and ill elderly by application of self-care conceptual framework, family-centered and holistic approaches through nursing process and comprehensive health approach.

NS 3429 **Community Focused Nursing Practicum** **3 (0-12-0)**

Prerequisite: *NS 3329 Community Focused Nursing II*

Application of theoretical knowledge and concepts of community focused nursing to work with individual, family and various groups of people in community settings, application of family nursing process in home care and long term care, practicing with interdisciplinary health care team and collaborative partnership with community people, using the complete community study process to identify health needs, health promotion, prevention of illness, and promotion of quality of life including tobacco control for entire community.

NS 3430 **Holistic Childbearing and Family Nursing Practicum I** **3 (0-9-0)**

Prerequisite: *NS 3331 Holistic Childbearing and Family Nursing I*

Application of holistic childbearing approach, self-care conceptual framework and nursing process in providing care for pregnant women and families during antepartum, intrapartum, and 2-hour postpartum periods, health education to promote well-being for women, fetus and newborn, application of cognitive, affective, psychomotor skills, and critical thinking to practice in antepartum unit and labor room.

NS 3431 **Family-Centered Care for Infant, Child, and Adolescent Nursing Practicum II** **3 (0-9-0)**

Prerequisite: *NS 3328 Family-Centered Care for Infant, Child, and Adolescent II*
NS 3427 Family-Centered Care for Infant, Child, and Adolescent Nursing Practicum I

Clinical practice in the caring of infant, child, adolescent and family experiencing health problems both acute and chronic diseases based on self-care conceptual framework, family-centered and holistic approaches, integrated knowledge of diseases and illness, utilizing nursing process for caring of infant, child, adolescent and family in healthcare settings.

NS 4322 **Professional Socialization II** **2 (2-0-4)**

Prerequisite: *NS 1310 Professional Socialization I*

Seminar on challenges, issues and trends in nursing profession, analysis of current situations in healthcare context and policies, political and social issues influencing nursing profession, nursing image, nursing education, nursing shortage and employment opportunity in dynamic global society.

NS 4323 **Therapeutic Health Assessment** **2 (2-0-4)**

Prerequisite: *NS 1314 Scientific Nursing Approach and Holistic Health Assessment*

Concept of therapeutic health assessment, problem oriented medical diagnosis and nursing management, laboratory investigations and interpretation of the results, management of minor surgery, common drug usage according to the legal requirement in nursing practice and referral system.

NS 4326 **Holistic Childbearing and Family Nursing II** **3 (3-0-6)**

Prerequisite: *NS 3331 Holistic Childbearing and Family Nursing I*

Identification of high risk pregnancy and nursing care for pregnancy at risk with special needs, nursing management for women with complications in antepartum, intrapartum and postpartum periods including obstetric procedures and emergency, newborn care including initial assessment, immediate and daily nursing care and abnormality detection, nursing management for high-risk neonate, birth injury, and neonatal resuscitation.

NS 4327 **Nursing Leadership and Management** **2 (2-0-4)**

Concepts of nursing leadership and management, organizational structure, team building, strategic management for care delivery, marketing, managing cost and budget, human resource management, magnet hospital, leadership for change, risk management, quality improvement for health care quality in the 21st century including ethical issues in organization management.

NS 4420 **Holistic Childbearing & Family Nursing Practicum II** **4 (0-16-0)**
Prerequisite: *NS 3430 Holistic Childbearing and Family Nursing Practicum I*

Application of holistic childbearing approach, self-care conceptual framework and nursing process for high risk pregnant women during antepartum and intrapartum periods including nursing management for women during postpartum period, health education to prevent complications, promote well-being for women, fetus and newborn, family planning, application of cognitive, affective, psychomotor skills, and critical thinking to practice in antenatal care unit, labor room, and postpartum units.

NS 4421 **Therapeutic Health Assessment Practicum** **2 (0-8-0)**
Prerequisite: *NS 4323 Therapeutic Health Assessment*

Clinical practice according to core competency of nurses in therapeutic through health assessment, history taking and physical assessment skills for clients in the primary care setting, differential diagnosis, primary medical treatment, prevention, health promotion and referring clients for proper clinical management.

NS 4422 **Nursing Leadership and Management Practicum** **3 (0-9-0)**
Prerequisite: *NS 4327 Nursing Leadership and Management*

Clinical practice in nursing service management, hospital quality management system, risk management, leadership, nursing team participation, problem solving and decision making in incident analysis, and development of continuous quality improvement project including the application of nursing informatics, WHO patient safety guidelines, and tobacco control policy in nursing management.

NS 4423 **Comprehensive Nursing Practicum** **3 (0-12-0)**
Prerequisite: *All nursing courses must be completed*

Comprehensive clinical experiences in healthcare settings based on the selected area of students' interests, preparations for professional employment for local and international health care services.

PD 1101 **Visual Design** **3 (2-2-5)**

Visual language, basic design elements, and design composition used in conveying desired messages of 2 dimensional designs with emphasis on actual application through a series of corresponding projects.

PD 1102 **Introduction to Design Culture and Trend** **3 (3-0-6)**

Contemporary issues in design within the context of creative culture that aims to promote an understanding and appreciation of design works through an investigation of the development, role, and influences of designers on our society.

PD 1103 **Visual Design** **3 (2-2-5)**

Visual language, basic design elements, and design composition used in conveying desired messages of 2 dimensional designs with emphasis on actual application through a series of corresponding projects.

PD 1301 **Technical Drawing** **3 (2-2-5)**

Various methods of drawing used by product designers such as orthographic projection, exploded view drawing, perspective projection, and shade and shadow application.

PD 1302 **Design Principles** **3 (2-2-5)**

Design principles that focus on basic understanding of the interrelationship between form and function which leads to attractive and functional designs. The principles include: Additive Design, Integrative Design, Integral Design, Sculptural Design, and Organic Design.

PD 1304 **Digital Design and Fabrication** **3 (2-2-5)**

Creative use of 2D and 3D computer applications in aiding design process, presentation, as well as enabling designs to be realized in digital fabrication machines.

PD 1305 **Technical Drawing for Product Design** **3 (2-2-5)**

Composing of drawings that visually communicate how products function or constructed covering the basic of orthographic, technical drawing in 3rd angle projections, the principles of dimensioning and elevation with emphasis on skills in using technical drawing tools.

PD 2101 **Design Thinking** **3 (3-0-6)**

Evolution of design thinking from the first generation, second generation, and new design methods through an exploration and a critical examination of influential design methods from the period of Industrial Revolution to present in order to provide a broad perspective of plausible design strategies.

PD 2102 **User Experience Design** **3 (2-2-5)**

Exploration and application of physical, psychological, and social interaction aspects related to users especially in capabilities, limitations, and relationships to objects and space such as anthropometry, sensation and perception, ergonomics, and experiential elements essential in designing for health, safety, and comfort in the new experience ethics and economy.

PD 2103 **Design Thinking and Rationale** **3 (2-2-5)**

Exploration and application of Design Thinking in Five Essential Stages: 1. Empathize, 2. Define, 3. Ideate 4. Prototype, and 5. Test with emphasis on Ideate process in developing creative talent in design and creative thinking leading to a broad perspective of plausible design strategies and solutions or innovations to solve arising problems and situations.

PD 2104 **User Experience and Universal Design** **3 (2-2-5)**

Exploration and application of physical, psychological, and social interaction aspects related to users especially in capabilities, limitations, and relationships to objects and space such as anthropometry, sensation and perception, ergonomics and experiential elements essential in designing for health, safety, and comfort leading to Universal design, which takes into account the full range of human diversity, including physical, perceptual and cognitive abilities. Form, Function, and Aesthetic are focused.

PD 2203 **Product Design Studio I** **6 (2-8-8)**

Introduction to the role of designed objects in our everyday experience with emphasis on the understanding of the relationship between functions, aesthetic, and human needs and behavior through basic surveys and analyses of product-related problems in corresponding objectoriented projects.

PD 2204 **Product Design Studio II** **6 (2-8-8)**
Prerequisite: *PD 2203 Product Design Studio I*

Concept of OBJECT to OBJECT and OBJECT to its ENVIRONMENT relationship, which include aesthetic and functional compatibility, specific environment, spatial requirement, and problem solving through corresponding object-oriented projects.

PD 2303 **History of Product Design** **3 (3-0-6)**

Chronological exploration through the development of product design of the 19th and the 20th century emphasizing on design movement that contributed to global design development, from pre-modern to modern to postmodern design, expressions of innovative ideas and philosophical concepts within given cultural and political context.

PD 2304 **Art and Design Appreciation** **3 (3-0-6)**

Chronological study of art and design throughout history from a range of places, time and culture through explorations, analyses, and experiential studies of art and design works in order for students to be imbued in the valuable development of mankind visual culture.

PD 2305 **Model Making and Digital Fabrication** **3 (0-6-3)**

Study and application of manual and digital tools, techniques, and materials used in the fabrication of both study and prototype models for foam, plaster, wood, plastics, casting/molding techniques, and digital fabrication machines complementing projects in PD 2201 Product Design I

PD 3101 **Theory and Concept in Design** **3 (3-0-6)**

Significant design theories and concepts that have led to effective designs in order to provide an understanding in concept derivation as well as insights for critical analysis of current design trends and trend forecasting. The theories include: Design Semiotics, Phenomenology, Design Hermeneutics, Functionalism, Rationalism, Environmentalism, and Critical Theory.

PD 3102 **Design Research and Development** **3 (3-0-6)**

Essential knowledge in how to conduct research that yields balancing results in product innovation, ease of manufacturing, and profitability through understanding of the liaison between business market research and product design research.

PD 3203 **Product Design Studio III** **6 (2-8-8)**
Prerequisite: *PD 2204 Product Design Studio II*

OBJECT to PERSON relationship through user-oriented projects with an emphasis on human factors, ergonomics consideration, user-centered design, cultural design, product semantics, team-based milieu research on user interaction, and socio-economic values.

PD 3204 **Product Design Studio IV** **6 (2-8-8)**
Prerequisite: PD 3203 Product Design Studio III

Most complex level of product designing aimed at developing a sense of understanding in the OBJECT to ECOLOGY relationship based on prominent ecological theories and system design for sustainability such as Design for Sufficient Economy and Doi Tung SALD through object oriented projects with emphasis on sustainable design, enhancing people's interaction with nature and the environment in maintaining their world views as well as social relationships.

PD 3301 **Material and Manufacturing Processes I** **3 (2-2-5)**

Material properties and manufacturing processes focusing on paper, wood, and metals covered through lectures and field trips to local manufacturing facilities to gain first hand experience of the manufacturing processes.

PD 3302 **Material and Production Processes II** **3 (2-2-5)**

Material properties and manufacturing processes, focusing primarily on plastics, fibe glass, textiles, and modern composite materials covered through lectures and field trips to local manufacturing facilities to provide first hand experience of the manufacturing p ocesses.

PD 3306 **Marketing for Product Design** **3 (3-0-6)**
Prerequisite: *MGT 1101 Introduction to Business*

Exploration and application of marketing principles involved in product development cycle, which include product policies, distribution policies, price policies, sales promotion policies, and improvement of marketing efficiency through trans-disciplinary lectures, assignments and projects from design strategic planning to design implementation

PD 3307 **Social Engagement and Product Design** **3 (3-0-6)**
Prerequisite: *PD 3306 Marketing for Product Design*

Exploration and application of marketing communication elements related to building and maintaining of brand equity and social engagement, which include advertising, sales promotion, public relations, personal selling, event sponsorships, and direct marketing in order to provide an understanding of product designer's contribution and involvement in product development cycle.

PD 3308 **Practicum in Product Design** **0 (0-4-2)**

A 240 working hour of professional training in product design industry to expose students to all kinds of hands-on experiences and knowledge in the real business world.

PD 3309 **Marketing for Product Design** **3 (3-0-6)**

Understanding and application of four marketing principles through the process of creating products that solve users' problems or address specific needs in a given market focusing on users as keys of successful product design, covering changing behavior in the way people shop and buy and the differences between digital marketing and online marketing.

PD 3310 **Professional Ethics** **3 (3-0-6)**

Ethical conducts of professionals in the product design industry: designing to benefit clients, users, ecosystem, culture, and profession; intellectual property rights (IPR) essentials: intellectual property law, conditions for protection, copyright ownership and incentives, permitted acts, and enforcement of copyright.

PD 3311 **Art and Science of Materials** **3 (2-2-5)**

Understanding of qualifications and applications of basic materials focusing on natural materials, metallic materials and non-metallic materials; material testing including tools, techniques, methods, manufacturing processes that use human skills craftsmanship, massproduction, prototype embody and surface finishing and evaluation with field trips to manufacturing facilities in Thailand

PD 3312 **Production and Manufacturing Processes** **3 (2-2-5)**

Understanding of characteristics, properties, and qualifications of synthetic materials, newly invented material or recycled materials to replace depleting natural materials such as thermoplastic and thermosetting plastics, modular high molecular weight polyethylene, polyamide, polyacetals, polypropylene, polycarbonate, Teflon, glass, fibe glass, ceramic tiles, glazed silicate compounds such as cement, brick, sanitary tile, electrical insulation or chemical container, etc. as well as material testing methods leading to correct and suitable use for product design, including production technology: cutting, injection, casting, compression and surface painting technologies and prototyping for industrial production line with field trips to manufacturing facilities in Thailand

PD 3401 **User Interface Design** **3 (2-2-5)**

Principles of user interface design applicable in graphical environment, command-line, as well as product application in order to provide an understanding of how to communicate effectively with users through visual attributes of products.

PD 3402 **Graphic and Packaging Design** **3 (2-2-5)**

Packaging design that integrates marketing, graphical and three-dimensional design knowledge essential in creating innovative packaging for different kinds of product ranging from food and beverage, beauty and personal care to toys and home products with emphasis on product branding.

PD 3403 **Experience Design for Exhibitions** **3 (2-2-5)**

Unique expressions of content in exhibition design such as storytelling and the use of media to create meaningful experiences through immersive experience which persuades, simulates, informs, entertains, as well as influences human behavio .

PD 3404 **Fashion and Textile Design** **3 (2-2-5)**

Fashion design with emphasis on basic skills of fashion design practice such as draping, pattern cutting, sewing, and fashion illustrating with comprehensive approach to conceptual design and interdisciplinary thinking.

PD 3405 **Jewelry Design** **3 (2-2-5)**

Traditional and contemporary jewelry design with emphasis on creativity, innovation, experimentation, and technical skills of material application.

PD 3406 **Toy and Play Design** **3 (2-2-5)**

Toy and play design with emphasis on understanding of children development and psychology, design and engineering of hard and soft toys, game design, model making, product materials, and safety considerations.

PD 3407 **Furniture Design** **3 (2-2-5)**

Specific proponents, movements, and conceptual approaches relevant to key furniture designers from the industrial revolution to contemporary period, forms development, design process, aesthetics quality, fashion and trend through creative projects to encourage knowledge immersion and implementation of innovative, quality, and practical design.

PD 3408 **Fashion and Textile Design** **3 (2-2-5)**

Fashion and Textile design with emphasis on basic skills of fashion and textile design principle and practice such as fashion illustration, textile & pattern design, fabric properties, the 2-D to 3-D development of creative ideas and collection design with comprehensive approach to conceptual design and interdisciplinary thinking.

PD 3409 **Upcycling Fashion and Accessories** **3 (2-2-5)**

Exploring and experimenting with a range of sustainable textiles materials and techniques that can be used to upcycle unwanted garments with emphasis on traditional methods namely weaving, patchwork, and rag-rugging and deconstructing a garment and reassembling using key parts of the garment to create innovative fashion & textiles and accessories.

PD 3410 **Ceramics Art and Design** **3 (2-2-5)**

Ceramic Art and Design with emphasis on hand-building e.g. pinch building, coil building, and slab building, and wheel throwing techniques enhancing creative thinking, and hands-on clay to create artifacts and various containers in both art and design forms with fundamental firing and glazing techniques, transforming particles of clay from liquid to solid.

PD 4203 **Thesis in Product Design** **9 (0-18-9)**
Prerequisite: *PD 4201 Product Design V*

Implementation of research completed in PD 4304 Special Problem in Product Design with the emphasis in improvisation and innovation with appropriate complexity level that can reflect understanding of theoretical and pragmatic dimension of product design

PD 4205 **Product Design Studio V** **6 (2-8-8)**
Prerequisite: PD 3204 Product Design Studio IV

Concept of PERSON-to-PERSON relationship especially among products, social interactions, and mass marketing necessary in product branding, marketing communication, and product design for manufacturing through industry-coordinated projects.

PD 4206 **Thesis in Product Design** **9 (0-18-9)**
Prerequisite: PD 4205 Product Design Studio V

Implementation of research completed in PD 4309 Special Problem in Product Design with emphasis on improvisation and innovation at an appropriate complexity level reflecting the understanding of theoretical and pragmatic dimension of product design.

PD 4303 **Professional Ethics** **3 (3-0-6)**

Ethical conducts of professionals in the product design industry: designing to benefit clients, users, ecosystem, culture, and profession; intellectual property rights (IPR) essentials: intellectual property law, conditions for protection, copyright ownership and incentives, permitted acts, and enforcement of copyright.

PD 4304 **Special Problem in Product Design** **6 (0-12-6)**

Exploration and systematic investigation of a topic of interest arising from accumulative knowledge and skills throughout the study in the program leading to the key-stone project in PD 4203 Thesis in Product Design under the supervision of an advisor.

PD 4305 **Seminar in Design Enterprising** **3 (3-0-6)**

Exploration of entrepreneurship in design business and how to navigate through different business environment i.e. Moral markets, Gaming markets, Emerging markets etc. through seminar and case study analysis focusing on design management.

PD 4307 **Social Engagement and Product Design** **3 (3-0-6)**

Design guidelines and work processes with alignment between designer and marketer for the process of creating a product differentiation and developing a unique selling point (USP) focusing on increasing communication perspectives, such as selecting among alternative promotional tools, the strategic use of various marketing communication elements including advertising, sales promotion, public relations, personal selling, event sponsorships, and direct marketing, determining appropriate message strategy to build and maintain brand equity and social engagement including ,social and ethical principles in marketing.

PD 4308 **Seminar in Design Enterprising** **3 (3-0-6)**

Exploration of entrepreneurship in design business in relevant dimensions such as designer as an entrepreneur, the design enterprise-creative enterprise, the global economic landscape, approaches to global marketing and the importance of Design as a factor of competitiveness. Integration of experience in all areas of product designer by case study from guest lecturers in design business field/ product designer/ or other professions related.

PD 4309 **Special Problem in Product Design** **3 (3-0-6)**

Exploration and systematic investigation of a topic of interest arising from accumulative knowledge and skills throughout the study in the program leading to the key-stone project in PD 4203 Thesis in Product Design under the supervision of an advisor.

PR 2201 **Marketing Public Relations** **3 (3-0-6)**
Prerequisite: *CA 1022 Introduction to Public Relations*

Strategies and implementations of public relations to attain various marketing objectives, how marketers effectively and efficiently use public relations in marketing communication campaign to build brand, win acceptances among consumers and gain competitive advantage in the marketplace.

PR 2203 **Persuasive Communication** **3 (3-0-6)**
Prerequisite: *CA 1001 Introduction to Communication*

Components, tools and applications of basic psychology and social psychology for persuasive communication, in order to understand audience behavior, including the current concepts and practices.

PR 2204 **Strategic Public Relations Campaign Planning and Evaluation** **3 (3-0-6)**
Prerequisite: *CA 1022 Introduction to Public Relations*

Strategic public relations planning through the development of the public relations campaign for business, social, political, and other purposes including the evaluation strategies.

PR 3214 **Organizational Communication** **3 (3-0-6)**
Prerequisite: *CA 1022 Introduction to Public Relations*

Theories and concepts of organizational communication to deal with the organization's employees, including the various theories and practice of strategic communication in the organization as well as the management of effective internal communication programs, goals of internal communication such as sustaining morale and good employee relations, informing employees about internal changes, communication to increase employees' understanding of the organization's products and services, organization's ethics, and culture.

PR 3215 **Writing for Public Relations in English** **3 (2-2-5)**
Prerequisites: *BG 2001 English IV*
CA 1022 Introduction to Public Relations

Public relations writing for diverse audiences using a variety of formats such as news releases, photo captions, media advisories, pitch letters, brochures/posters, speeches and newsletters. Students will be assigned to write by reviewing good writing principles to create effective public relations materials. Exercises cover how to apply and produce writing materials for public relations purposes. This course will use English as medium of instruction

PR 3216 **Writing for Public Relations in Thai** **3 (2-2-5)**
Prerequisites: *GE 1403 Communication in Thai*
CA 1022 Introduction to Public Relations

Public relations writing for diverse audiences using a variety of formats such as news releases, photo captions, media advisories, pitch letters, brochures/posters, speeches and newsletters. Students will be assigned to create effective public relations materials by reviewing good writing principles. This course will use Thai as a medium of instruction.

PR 3218 **Special Events Management for Public Relations** **3 (2-2-5)**
Prerequisite: *CA 1022 Introduction to Public Relations*

Various methods to organize special events such as seminar, exhibition, show, contest or even get-together, from concept to planning, arranging everything from budgeting, sponsorship, formalities to all the components/ ingredients, accounting and post event activities.

PR 3224 **Applied Research for Public Relations** **3 (2-2-5)**
Prerequisites: *CA 1022 Introduction to Public Relations*
CA 2019 Communication Arts Research

Procedures and processes of qualitative and quantitative researches that are commonly used in Public Relations planning, including content analyses, public opinion surveys, focus groups, in-depth interviews, and observations. Students will be assigned to conduct a primary research using the aforementioned methodologies.

PR 3225 **Personality Development and Personal Branding** **3 (2-2-5)**
Prerequisite: *CA 1022 Introduction to Public Relations*

Concepts, principles, and techniques of personality development, impression management and personal branding, appropriate authentic self-presentation, improvement of external image such as make-up, hairstyling, dressing, social communication through social events such as host or guest and preparing for media appearance. Students will be assigned to utilize them to create an image or brand for themselves as well as celebrities.

PR 3227 **Media Relations and Planning** **3 (2-2-5)**
Prerequisites: *CA 1022 Introduction to Public Relations*
PR 3215 Writing for Public Relations in English
or PR 3216 Writing for Public Relations in Thai

Strategic relationships and use of public relations tools to communicate with the media, nature of the mass media, strategic communication planning, media planning and evaluation theories including how to prepare the press kit, press conference, press tour, and how to be corporate spokesperson.

PR 3228 **Intercultural Communication** **3 (3-0-6)**
Prerequisites: *CA 1001 Introduction to Communication*
CA 1022 Introduction to Public Relations

Fundamental elements of intercultural communication, basic intercultural theories, socio-cultural influence, psycho-cultural influence, environmental influence, differences of non-verbal and verbal communication in various cultural background, building and maintaining relationship in multi-culture society, adjusting and developing the working style when cooperating in new culture as well as designing and implementing effective public relations programs to suitably achieve success in diverse market.

PR 3230 **Digital Public Relations** **3 (2-2-5)**
Prerequisite: *CA 1022 Introduction to Public Relations*

Technical and theoretical elements that compose digital media and social media, approaches to listening, monitoring and measuring, writing for digital media, strategic approaches to engage in digital media and social media, ethics, disclosure, applicable laws, security and privacy as well as application of digital media for public relations purposes of the various types of organizations.

PR 3231 **Content Strategy** **3 (3-0-6)**
Prerequisite: *CA 1022 Introduction to Public Relations*
PR 2203 Persuasive Communication

Content which is well-planned and consistently executed can raise sales and profit margins, lower customer complaints, and decrease the workload and stress levels of content creators. This module aims to illustrate an insight and overview of strategic content planning from both theoretical and practitioner perspectives. This course will discuss on how to optimize own media outlets with content created for target customers while understanding the best practices and tools used to create online content in short and long form. The course will also focus on a clear, practical framework for implementing content strategy principles in organizations of any size.

PR 4201 **Corporate Communication and Stakeholder Relations** **3 (3-0-6)**
Prerequisite: *CA 1022 Introduction to Public Relations*

Corporate image, identity and reputation building, including how to conduct image audits, write corporate communication plans as well as understand corporate social responsibility concept.

PD 4205 **Product Design Studio V** **6 (2-8-8)**
Prerequisite: *PD 3204 Product Design Studio IV*

Concept of PERSON-to-PERSON relationship especially among products, social interactions, and mass marketing necessary in product branding, marketing communication, and product design for manufacturing through industry-coordinated projects.

PD 4206 **Thesis in Product Design** **9 (0-18-9)**
Prerequisite: *PD 4205 Product Design V*

Implementation of research completed in PD 4309 Special Problem in Product Design with emphasis on improvisation and innovation at an appropriate complexity level reflecting the understanding of theoretical and pragmatic dimension of product design.

PD 4307 **Social Engagement and Product Design** **3 (3-0-6)**

Design guidelines and work processes with alignment between designer and marketer for the process of creating a product differentiation and developing a unique selling point (USP) focusing on increasing communication perspectives, such as selecting among alternative promotional tools, the strategic use of various marketing communication elements including advertising, sales promotion, public relations, personal selling, event sponsorships, and direct
marketing, determining appropriate message strategy to build and maintain brand equity and social engagement including ,social and ethical principles in marketing.

PD 4308 **Seminar in Design Enterprising** **3 (3-0-6)**

Exploration of entrepreneurship in design business in relevant dimensions such as designer as an entrepreneur, the design enterprise-creative enterprise, the global economic landscape, approaches to global marketing and the importance of Design as a factor of competitiveness. Integration of experience in all areas of product designer by case study from guest lecturers in design business field/ product designer/ or other professions related.

PD 4309 **Special Problem in Product Design** **3 (0-6-3)**

Exploration and systematic investigation of a topic of interest arising from accumulative knowledge and skills throughout the study in the program leading to the key-stone project in PD 4203 Thesis in Product Design under the supervision of an advisor.

PR 4209 **Seminar in Public Relations (PR Senior students Only)** **3 (2-2-5)**

Analysis and discussion on contemporary topics of public relations, such as social media, crisis management, corporate image, current trends for entrepreneurship. Students will be assigned to do research in that particular topics, analyze, and discuss on various aspects. In addition, students will have opportunities to attend and listen to PR professionals based on the topics of each semester.

PR 4213 **Public Relations Internship (PR Students Only)** **3 (200 Hours)**

Internship program assigning students to be trained in a corporation, nonprofit company, educational institution, governmental/non-governmental organization, or public relations agency that provides public relations experiences. Students are required continuously to work for at least 200 working hours and present the training results to the instructors.

PR 4219 **Community Relations** **3 (3-0-6)**
Prerequisite: *CA 1022 Introduction to Public Relations*

Community relations, corporate social responsibility, strategies, engagement for developing long-term relations, developing communication platform for communicating with community groups, including planning, implementation, monitoring, and evaluation. Students will be assigned to apply the concepts for building the relationship with both offline and online community

PR 4221 **Public Relations for Issue and Crisis Management** **3 (3-0-6)**
Prerequisite: *CA 1022 Introduction to Public Relations*

Nature of issues and crisis management from a strategic communication perspective, various issues, risks and crisis situations, current case studies on strategic issues, risks, and crisis communication methods, including how to develop a crisis communication plan.

PR 4226 **Selected Topics in Public Relations** **3 (3-0-6)**
Prerequisite: *CA 1022 Introduction to Public Relations*

Selected topics which are not covered in regular departmental course offerings. Topics will be announced in advance.

PR 4227 **Public Relations Senior Project for Marketing Communication** **6 (4-4-10)**
Prerequisite: *BG 2000 English III*
CA 2019 Communication Arts Research
PR 2202 Strategic Public Relations Campaign Planning and Evaluation

Training in selecting, creating and applying tools, techniques along with the principles of public relations for solving various cases and problem situations. Students will be assigned to write up the communication campaign planning focusing on full-scale of public relations to serve an actual "client".

PR 4228 **Public Relations Senior Project for Social Campaign** **6 (4-4-10)**
Prerequisites: *BG 2000 English III*
PR 2202 Strategic Public Relations Campaign Planning and Evaluation
PR 3215 Writing for Public Relations in English
or PR 3216 Writing for Public Relations in Thai

Training in public relations campaign for non-profit organization based on the planned strategic direction regarding public relations program management, public relations implementation, production of public relations materials, and program evaluation. Students will be assigned to choose their own topics under the supervision of their instructor.

PR 4229 **Public Speaking** **3 (2-2-5)**
Prerequisite: *CA 1022 Introduction to Public Relations*

Public speaking techniques for informative, impromptu, persuasive, and inspirational speeches. Practically coping with the fear of speaking in public and increasing confidence on the stage. Aiming to receive more favorable responses from the audience, become a more effective public speaker as well as improving listening skills and adapting basic etiquettes as listeners.

PR 4230 **Interactive Media for Public Relations** **3 (2-2-5)**
Prerequisite: *CA 1022 Introduction to Public Relations*

An integrated approach is adopted to provide students with knowledge of communication concepts and the public relations campaign strategies associated with traditional and new media: from interpersonal communication to interactive technologies. Students will learn how to plan public relations, sponsorship, donor and media campaigns; manage issues and crises; and resolve ethical dilemmas. This subject will focus, in particular, on the interpersonal and organizational communication strategies and tactics required for a range of new media technologies, including blogs, wikis and social networking sites.

PR 4231 **Sponsorship Management for Public Relations** **3 (2-2-5)**
Prerequisite: *CA 1022 Introduction to Public Relations*

A thorough understanding of sponsorship management from both theoretical and practical point of views. It introduces students how to plan, design sponsorship proposal, obtain potential sponsors, maximize sponsorship exposure and measure sponsorship effectiveness. With this knowledge, PR practitioners will be able to implement the whole process of sponsorships.

PR 4232 **Fundamental Design for Public Relations** **3 (2-2-5)**
Prerequisite: *CA 1022 Introduction to Public Relations*

Fundamental components for design in both 2 dimensions and 3 dimension, power point presentation, brochure, press kits and packaging design for PR. Composition fundamental, aesthetics in design, production process for designed PR materials.

PR 4233 **Investor Relations** **3 (3-0-6)**
Prerequisite: *CA 1022 Introduction to Public Relations*

Factors influencing investment decisions, interpreting and communicating financial data, understanding relevant regulations, corporate governance best practices, effective use of investor communication tools, and working with such audiences as institutional and retail investors, sell-side analysts, and financial media.

PR 4234 **Traditional Media Production for Public Relations** **3 (2-2-5)**
Prerequisite: *CA 1022 Introduction to Public Relations*

Production processes and impacts of the traditional media such as; newspapers, magazines, tabloids, radio programs, and television programs. Principles, theories and history of traditional media. Practice on the media production (magazines, radio and television) and the knowledge of how to effectively communicate through the traditional media.

PR 4235 **Current Trends and Digital Media Literacy** **3 (3-0-6)**
Prerequisite: *CA 1022 Introduction to Public Relations*

Elements and concepts of the macro-environment structure (political, economic, social technological, legal, and environmental structures), its relationship to media and individuals, including the concepts of digital media literacy such as skills, tools, vocabularies to understand the important role media play in shaping, reflecting, and subverting the social realities, as well as skills of experiencing, interpreting, analyzing and making media products.

PR 4236 **Computer Graphic for Public Relations** **3 (2-2-5)**
Prerequisites: *CA 1022 Introduction to Public Relations*
CA 1025 Computer Graphic Design

Application of public relations tools and techniques, especially, computer graphic and computer-generated presentations, including how to use graphic program to produce pamphlets, brochures, newsletters and other publications used by public relations practitioners.

SA 1001 **Business Statistics I** **2 (2-0-4)**

Descriptive Statistics, Probabilities, Probability distributions, Sampling distributions, Point estimates, Interval estimates and Test of Hypotheses

SA 1201 **Statistics I** **3(3-0-6)**

Descriptive statistics, probability theory and inferential statistics, summarizing of data in tables and graphs, computation of descriptive statistics, rules of probability, probability distributions, confidence interval estimate of population parameters, and hypothesis testing.

SA 2001 **Business Statistics II** **2 (2-0-4)**
Prerequisite: *SA 1001 Business Statistics I*

Simple linear regression and correlation, Multiple linear regression, Analysis of variance, Chi-Square Tests

SC 2151 **Introduction to Microcomputer Application** **3 (3-0-6)**

Structure and characteristics of microcomputers, and the techniques of applying microcomputer technology, focus on software packages such as word processing, spreadsheet, database management systems, etc. The course will cover current technologies as well as future trends.

SRX 0011 **Overview of Design and Digital Innovation** **Non-Credit**

A pre-sessional course designed to prepare students to successfully progress into the program, supporting the transition to the university life, and understand the overview and principles of the design and digital innovation.

SRX 1001 **English for Effective Communication** **3 (2-3-6)**

"English communicative skills: listening, speaking, reading, and writing essential for every day interactions"

SRX 1002 **English for Academic Purposes** **3 (2-3-6)**
Prerequisite: *SRX 1001 English for Effective Communication*

Vital English skills for effective task accomplishment relevant to learners' academic field: listening, speaking, reading, writing and presentation

SRX 1003 **Integrated English Skills** **3 (2-3-6)**
Prerequisite: *SRX 1002 English for Academic Purposes*

Integrated English skills essential for both academic and entrepreneurial competencies: project proposal and report writing, seminar presentation, and intercultural communication

SRX 1101 **Happiness Advantage** **1 (1-0-2)**

The approach to pursuit of happiness from personal experience and professional goals. Basic principles of positive psychology with recent scientific studies on happiness. Practical applications of the science of happiness for human relationships, lifestyles, and thinking habits. Philosophical views of happiness and recent scientific discoveries on happiness

SRX 1103 **Aesthetic** **1 (1-0-2)**

Perception, meaning, and scope of aesthetics. The appreciation in the beauty of arts, music, cinemas, dramatic works, and dances through imagery and sound.

SRX 1104 **Designing Life with Passion** **1 (1-0-2)**

Design thinking approach to discover a vision for a personal life and the future career and to get clear on a purpose for life. The uses of frameworks, tools, and a community of peers and experienced mentors working on variety of issues through assigned readings, reflections, and in-class exe cises.

SRX 1201 **Business Etiquettes and Personal/CEO Branding** **2 (2-0-4)**

Development of individual strategy to build the image to portray professional. Major etiquette interactions in various contexts including networking, restaurants and social events, cellphone, voicemail and email, how to dress, job interview presentation and even international travel.

SRX 2101 **Empathy and Customer Centric** **2 (2-0-4)**

Customer empathy and the approach to meet their specific needs through communication to establish trust in customer-centric service via case studies, discussion and presentation. Principles of customer-centric service and the measurement to improve the overall service excellence.

SRX 2111 **Pitching and Story Telling** **2 (2-0-4)**

Development of skill sets in persuasive presentation via lectures, class exercises, workshops and presentation rehearsals of various lengths. Storytelling and presentation preparation with tools to craft effective arguments and ideas. Principles of communication for the attraction and likability though the understanding in self-concept, perception, listening, verbal and nonverbal communication, emotions, interpersonal relationships and respectful argument.

SRX 2201 **Legal Aspects in Business, IT, and Creative Industry** **2 (2-0-4)**

Legal issues associated with creative entrepreneurs; legal changes and challenges alert, real approach to legal matters between individuals' working procedure and stakeholders in the business world today, including national and international business, IT, intellectual property laws and ethics.

SRX 2202 **Well-being for Learning and Life** **1 (1-0-2)**

Principles and knowledge of health and well-being important in making informed choices about an individual's physical, mental, and emotional well-beings. Personal and professional development including the health status and influences of lifestyle on current and future wellbeing. Proactive strategies practical to everyday life. Access to resources and supporting network. The development of meaningful relationships and an inclusive sense of community.

SRX 2211 **Future Skill Forum** **1 (1-0-2)**

A forum for the analysis and development of seminar on the emerging trends, issues, and challenges in an entrepreneurship context or other related fields. Embracing change and skills necessary for future success.

SRX 4400-4499 **Selected Topics in Music and Entertainment Business** **3 (3-0-6)**

Individual project on a topic or area related to music and entertainment business.

TE 3000 **Principles of Communications** **3 (3-0-6)**
Prerequisite: *BG 2212 Applied Statistics*
EE 2203 Signals and Systems

Communication models, wire/cable and wireless/radio; Introduction to signal and system; spectrum of signal and applications of Fourier series and transform; analog modulation, AM, DSB, SSB, FM, NB/WBFM, PM; noises in analog communication; binary baseband modulation; Nyquist's sampling theory and quantization; pulse analog modulation, PCM, DM; multiplexing techniques; introduction to transmission lines, radio wave propagation, microwave components and communication, satellite communications, optical communication.

TE 3002 **Communications Laboratory** **1 (2-3-0)**
Prerequisite: *TE 3000 Principles of Communications*
or TE 3003 Fundamental of Communication Systems

Laboratory studies to help students better understand the theory of communications, i.e. signal analysis, modulation techniques, and noise effects, etc. Students can also gain technical experiences about some useful devices and measurements in the field

TE 3102 **Communication Networks and Transmission Lines** **3 (3-0-6)**
Prerequisite: *EE 2201 Electric Circuits*
EE 3301 Electromagnetic Fields

Wire and wireless communication; wire communication network; Y, Z, F, G, H matrix, relation; connection and basic circuits, network transformation, transmission quantities, signal transmission circuit techniques, wave filters, attenuator, impedance matching, transmission line theory, equation, solution for low, medium, high frequencies, primary and secondary constant; incident and reflected waves, standing wave ratio, line characteristics for open, short, terminated load, lossless, and lossy lines; reflections in time domain, bounce diagrams, near-end and far-end crosstalk, differential signaling, composite line, types of cable, and unshielded twisted pair, coaxial cable; current cable standards.

TE 3301 **Radio Wave Propagation** **3 (3-0-6)**
Prerequisite: *EE 3301 Electromagnetic Fields*

Ground wave propagation; sky wave propagation; space wave propagation; narrow band fast fading; wide band fast fading; cellular propagation.

TE 4105 **Microwave Engineering** **3 (3-0-6)**
Prerequisite: *EE 3301 Electromagnetic Fields*

Review of Maxwell's equations, plane waves; microwave transmission lines and waveguides; microwave network analysis; impedance and equivalent voltage and current; the s-matrix; signal flow graphs, impedance matching and tuning, microwave resonators; power dividers and directional couplers; microwave filte s; point-to-point microwave link; radar system; microwave propagation; basic of microwave measurement; applications.

TE 4111 **Antenna Engineering** **3 (3-0-6)**
Prerequisite: *EE 3301 Electromagnetic Fields*

Basic definitions and theory; isotropic point source; power and field patterns; directivity and gain; efficiency, polarization; input impedance and bandwidth; Friis transmission equation, radiation from current elements; ground effects; radiation properties of wire antenna; array antenna; Yagi-Uda antenna and log-periodic antenna; aperture antenna; microstrip antenna; modern antenna for current applications; antenna characteristics measurement.

TE 4112 **Optical Communications** **3 (3-0-6)**
Prerequisite: *EE 3301 Electromagnetic Fields*
TE 3000 Principles of Communications
or TE 3003 Fundamental of Communication Systems

Cylindrical dielectric waveguides and propagating conditions; structure and types of optical fiber; optical fiber parameters; optical fiber production; optical cable types; optical transmitters; optical receivers; signal degradations, attenuation and dispersion in fiber link; optical repeaters and amplifiers; link budget calculation; multiplexing in optical link system; introduction to FTTX.

TE 4113 **Digital Communication** **3 (3-0-6)**
Prerequisite : *TE 3000 Principles of Communications*

Review of probability and random process; signal space; minimum Nyquist bandwidth; signal detections; AWGN, digital modulation techniques, sigma-delta, performance analysis; synchronization; equalization; introduction of information theory; source coding; channel coding; multichannel and multicarrier systems; spread spectrum techniques; multipath fading channels.

TE 4201 **Communication Electronics** **3 (3-0-6)**
Prerequisite: *EE 2603 Electronic Circuit Analysis*
or EE 2605 Engineering Electronics

Design of radio-frequency amplifiers, signal amplifie , power amplifie , oscillator, wide-band amplifie , impedance matching, design techniques and equipment selection, special conditions in design

TE 4202 **Communication Electronics Laboratory** **1 (0-3-2)**
Prerequisite: *TE 4201 Communication Electronics*

Laboratory work to be done according to TE 4201 Communication Electronics Laboratory

TE 4204 **Optoelectronics** **3 (3-0-6)**
Prerequisite: *EE 2603 Electronic Circuit Analysis*
or EE 2605 Engineering Electronics
EE 3301 Electromagnetic Fields .

Units of light measurement, optical fibe , wave guide, light sources, and semiconductor light detector, liquid crystal, optical transmission and reception, optical integrated circuits.

TE 4301 **Principle of Telecommunications Policies** **3 (3-0-6)**

This course introduces fundamental of information and communications policies and regulations governing services such as Internet services, broadband applications, telephone, mobile, cable, and wireless and spectrum management. Students will learn key issues, principles, and practices in policy development emphasizing the intersection of technology, economics, and public policy.

TE 4901 **Telecommunication and Electronics Engineering Project I** **1 (0-3-2)**
Prerequisite: *Completion of 100 credits*

Study and development of project in electrical and electronics engineering. Students must submit a report at the end of the semester.

TE 4902 **Telecommunication and Electronics Engineering Project II** **2 (0-6-3)**
Prerequisite: *EE 4901 Electrical and Electronics Engineering Project I*

Continuation of project done in electrical and electronics engineering Project I. Report is also required at the end of the semester.

TE 4903 **Advanced Topics in Telecommunication and Electronics Engineering** **3 (3-0-6)**
Prerequisite: *Completion of 90 credits with the consent of the chairperson*

Topics of current interest and new developments on Telecommunication and Electronic Engineering

TE 4904 **Special Problems in Telecommunication and Electronics Engineering** **3 (3-0-6)**
Prerequisite: *Completion of 90 credits with the consent of the Chairperson*

Investigation of special problems assigned by the instructor with the consent of the chairperson: a written report is required.

TH 1500 **Introduction to Thai** **3 (3-0-6)**

Basic Language used in everyday life, basic listening, speaking, pronunciation skills, grammatical forms of primary importance, reading short sentences and writing words.

TH 1501 **Thai Language I** **3 (3-0-6)**
Prerequisite: *TH 1500 Introduction to Thai*

Listening and speaking skills in a variety of circumstances in everyday life to broaden basic vocabularies and grammar, reading simple texts, and writing short sentences.

TH 2501 **Thai Language II** **3 (3-0-6)**
Prerequisite: *TH 1501 Thai Language I*

Complex grammatical structure, reading texts and dialogues concerned with everyday life and practice of writing essay.

TH 2502 **Thai Language III** **3 (3-0-6)**
Prerequisite: *TH 1501 Thai Language*

Advanced grammar structure, reading texts and dialogues concerning Thai life and culture and practice of writing short articles

TH 3501 **Advanced Reading** **3 (3-0-6)**
Prerequisite: *TH 2502 Thai Language III*

Development of reading skills, main ideas finding, facts and opinions analysis, author's viewpoint and intention analysis.

TH 3502 **Advanced Thai Writing** **3 (3-0-6)**
Prerequisite: *TH 2502 Thai Language III*

Development of writing skills, styles in the present-day Thai language both formal and informal, writing for presenting the viewpoint, analysis of effective writing, and practice various writings.

VIS 1701 **Visual Literacy** **3 (2-2-5)**

Use text and image as a visual language in graphic communication. Expect and create emotional intention as part of visual problem solving skills. Learn interdependent roles of form and content with targeted viewers' anticipation. Learn different processes in conceptual development. Understand and practice graphic translation based on audience needs.

VIS 2104 **Advance Typography** **3 (2-2-5)**
Prerequisite: *VIS 2010 Typography*

Study expressive typographic form by using different manipulating techniques of separating, layering, fracturing and distortion. Connote sophisticated meaning or perception through semantic layering as an additional level of communication. Train in handling type in different media in 2D, physical 3D, motion and/ or interactive format.

VIS 2702 **Composition** **3 (2-2-5)**

Learn to create visual structure from past masters in the field of visual communication design. Categorize and characterize historical significance in graphic design history. Define and deploy different graphic styles based on designer's intention. Experiment in various stylistic approaches by mixing, matching and/ or formulating design vernacular from personal investigation.

VIS 2703 **Mark & Symbol** **3 (2-2-5)**
Prerequisite: *VIS 1701 Visual Literacy*

Understand the effect of gestalt principle in human psychological perception for the exploitation of signs as tools for visual communication. Study semiology as graphic designers to use in personal monogram, corporate visual identity and organizational visual program.

VIS 2705 **Visual Marketing & Design** **3 (2-2-5)**
Prerequisite: *VIS 1701 Visual Literacy*

Understand psychology of persuasion used in mass consumers for graphic communication. Understand the marketing brief to use as a solution for content and conceptual development. Study different media format for print, out of home, broadcast and innovative media.

VIS 3111 **Package Design** **3 (2-2-5)**
Prerequisite: *VIS 2703 Mark & Symbol*
VIS 2705 Visual Marketing & Design

Study different materials and construction techniques used for graphic containers. Acclimate conceptual development related to marketing point of view and clients' needs. Create graphics and 3-dimensional designs for package prototypes. Focus on rules and regulations of manufacturing requirements, environmental concerns and universal design.

VIS 3112 **Typeface Design** **3 (2-2-5)**
Prerequisite: *VIS 2703 Mark & Symbol*
VIS 2705 Visual Marketing & Design

Develop skills for producing functional and/or expressive roman alphabets. Study the history, technology and contemporary practices in font design industry. Create and design letters using both traditional media and computer-generated software.

VIS 3706 **Information Graphic Design** **3 (2-2-5)**
Prerequisite: *VIS 2703 Mark & Symbol*

Develop an understanding of data management pertaining to graphic design and contemporary media. Acquire a fundamental study in the research process of design framework from data collection to information analysis. Experiment with various data visualization in both a commercial and private venue.

VIS 3807 **Text in Space** **3 (2-2-5)**
Prerequisite: *VIS 2703 Mark & Symbol*
VIS 2705 Visual Marketing & Design

Study an advanced typographic grid system. Learn to apply organized text onto different spaces of media type, newspaper, book, magazine, screen type, desktop, mobile or tablet and/or application type, website, mobile apps. Train for intermediate level page layout software usage.

VIS 3808 **Image Manipulation** **3 (2-2-5)**
Prerequisite: *VIS 2703 Mark & Symbol*
VIS 2705 Visual Marketing & Design

Train in tools and techniques of digital image editing software. Study professional digital workflow and color management system. Develop and explore technological know-how of digital imaging enhancement and manipulation in various styles of realism and surrealism.

VIS 3809 **Graphic Design System** **3 (2-2-5)**
Prerequisite: *VIS 2703 Mark & Symbol*
VIS 2705 Visual Marketing & Design

Convey a comprehensive design program into a business environment and social service sector. Measure the social, economic and political climate impacting current business and social issues through systematic consideration and research. Apply a comprehensive design campaign as a means to cultivate social and global visual culture.

VIS 3810 **Art Direction** **3 (2-2-5)**
Prerequisite: *VIS 2703 Mark & Symbol*
VIS 2705 Visual Marketing & Design

Develop conceptual imagery and visualize its mood and tone in conjunction with brand identity. Learn to integrate influenced factors by incorporating visual style, storytelling, client's needs and designer intentions.

VIS 3813 **Visual Merchandising Design** **3 (2-2-5)**
Prerequisite: *VIS 2703 Mark & Symbol*
VIS 2705 Visual Marketing & Design

Translate and capture product and brand identity together with consumer behavior into graphical displays through various outlets. Focus on factors influencing the designer's role in display design, interior spacing and fashion style. Develop a keen sense of current trends in marketing and retail commerce.

VIS 4115 **Design Management** **3 (3-0-6)**
Prerequisite: *MGT 1101 Introduction to Business*

Develop entrepreneurship spirit and practice by focusing on the design process and strategy, as well as organizational and financial management. Discourse in issues relating to the design industry. Cultivate a professional mindset by enhancing business acumen and leadership skill.

VIS 4116 **Art Thesis I** **3 (3-0-6)**
Prerequisite: *BG 2000 English III*
with Major Required Courses 36 credits

Develop and pursue a challenged and creative area of interest as a culmination of the education received in the undergraduate experience. The approved topic proposal, portfolio and requirements will be followed up by a research work and applicant's presentations scheduled throughout the semester. An initial research paper of the project must be submitted to the thesis committee in order to proceed to Art Thesis II.

VIS 4117 **Signage System and Wayfinding Desig** **3 (2-2-5)**
Prerequisite: *VIS 2703 Mark & Symbol*
VIS 2705 Visual Marketing & Design

Study concepts, research methods and design strategies for environmental graphic design in architectural graphics, identity graphics, civic design, pictogram design, mapping and theme environments. Concentrate on visual aspects and user experience pertaining to information through the context of place, communicating identity and its culture.

VIS 4122 **Art Thesis II** **6 (1-10-11)**
Prerequisite: *VIS 4116 Art Thesis I*

Demonstrate a comprehensive visual understanding of the research materials obtained in Art Thesis I. Approved design work is judged by committee criteria through conceptual development and design execution. Art Thesis projects are to be presented to the faculty in a public exhibited venue with a thesis book to be submitted for course completion.

VIS 4124 **Book Binding** **3 (2-2-5)**

Learn the art of book making, its anatomy and book structure. Understand different tools, materials and techniques used to attach sheets of writing substrate together. Focus is on traditional non-adhesive binding with one and several needle works such as Coptic binding or Japanese stab binding. Learn the modern day binding operation such as perfect binding, case binding or saddle stitching.

VIS 4814 **Exhibition Design** **3 (2-2-5)**
Prerequisite: *VIS 2703 Mark & Symbol*
VIS 2705 Visual Marketing & Design

Emphasize on the role of conveying content through various display methods. Analyze audience perception and understanding to conceptualize exhibits for educational and commercial purposes. Learn and train in exhibition planning, research, spacing, construction and organizing.

VIS 4818 **Campaign Design** **3 (2-2-5)**

Prerequisite: *VIS 2703 Mark & Symbol*
VIS 2705 Visual Marketing & Design

Study basic criteria needed to plan and implement an advertising campaign. Train to use motivation and persuasion techniques with creative communication on target audience. Develop and execute a creative strategy through analysis of demographics and psychographic information. Explore current media campaign applications in mass media.

VIS 4819 **Experimental Design** **3 (2-2-5)**

Prerequisite: *VIS 2703 Mark & Symbol*
VIS 2705 Visual Marketing & Design

Explore design possibilities by investigating selective ideas, media and/or audience. Use critical thinking to form and convey design manifesto through the use of design vernacular and cultural references. Cultivate personal visual aesthetic and design philosophy as an artistic interpretation for personal growth.

VIS 4920 **Art Exposure** **3 (3-0-6)**

Explore various art forms in different venues. Develop an appreciation of visual art in fine art, performance art, and craft and design through hands-on engagement and field trips. Understand its value contributing to Thai society both in a local and global scale. Foster good taste and aesthetic sensibilities by engaging in critical thinking analysis and interpretation.

VIS 4921 **Sustainable Graphic Design** **3 (2-2-5)**

Introduce various facets of sustainability through history, philosophies and principles in the field of visual communication. Explore and practice the use of techniques, processes and materials to reduce the detrimental effect on environmental, cultural, social and economic impacts of graphic design products throughout their lifecycle. Familiarize and implement trends, theories and ideologies of sustainability by developing problem-solving alternatives in the context of environmental crisis.

VIS 4923 **Design Discourse** **3(3-0-6)**

Build knowledge and application of the visual, verbal and written language of interdisciplinary design in today's social complex. Focus on reading, writing and discussing design related issues impacting social behavior, cultural movement, technological advancement, and environmental concerns. Learn to develop design models to rectify issues at hand through forward thinking with universality attitude and sustainability approaches.

UNDERGRADUATE ADMISSION SCHEDULES

ACADEMIC YEAR 2021

Semester 1/2021 : August 2021	
Application Forms Available	June 14 - July 27, 2021
Placement Test	On Application Date
Induction Program / register	July 30, 2021
Instruction Begins	**August 3, 2021**

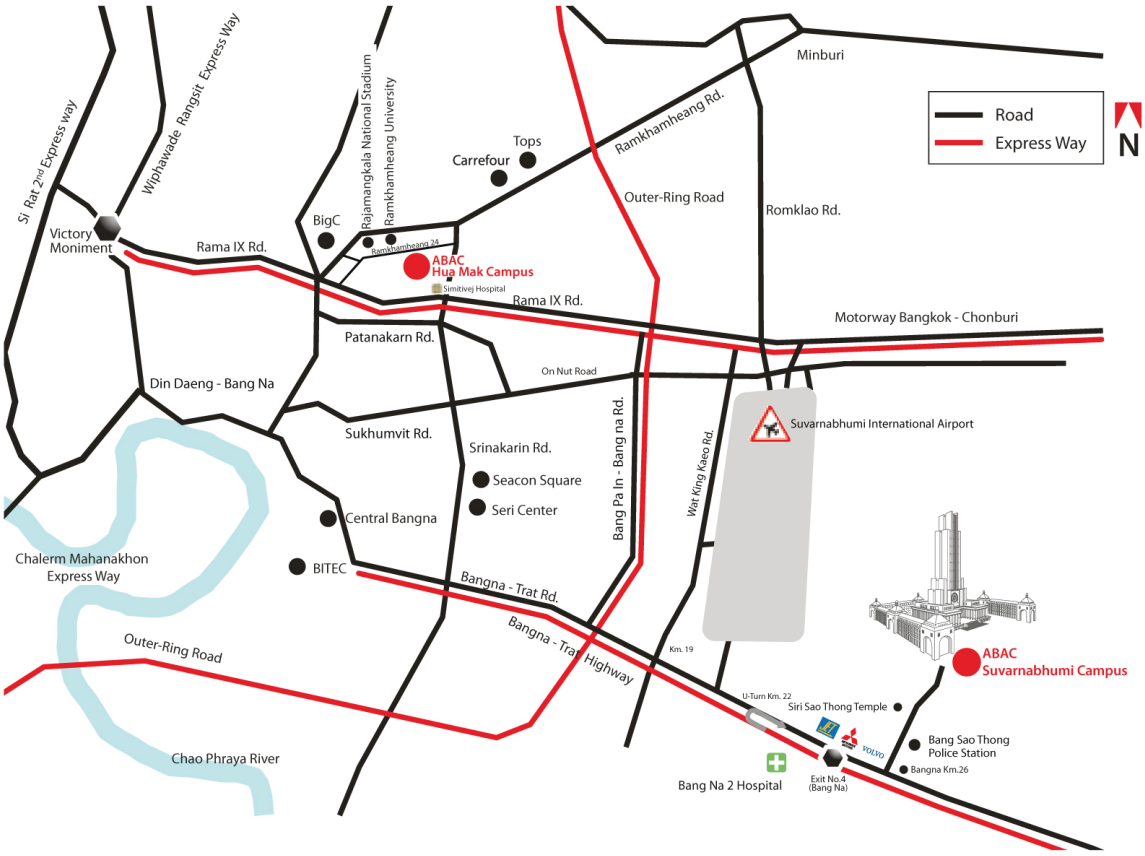
Semester 1/2021 : November 2021	
Application Forms Available	August 5 - September 20, 2021
Placement Test	On Application Date
Examination Date	September 23, 2021 *For Faculty of Communication Arts, Music, Nursing, and Law*
Induction Program	September 25, 2021
Intensive Courses	September 27 - October 22, 2021
Registration Period	November 4 - 5, 2021
Instruction Begins	**November 5, 2021**

Semester 2/2021 : January 2022	
Application Forms Available	November 10 - December 20, 2021
Placement Test	On Application Date
Induction Program / register	December 29, 2021
Instruction Begins	**January 5, 2022**

ACADEMIC YEAR 2022

Semester 1/2022 : June 2022	
Application Forms Available	November 7, 2021 - March 29, 2022
Examination Date	March 31, 2022
Induction Program	April 2, 2022
Intensive Courses	April 4 - May 20, 2022
Registration Period	May 31 - June 1, 2022
Instruction Begins	**June 6, 2022**

Remark: Admission schedules are subject to change when applicable at the University discretion and without prior notice.



Admission Center:
Assumption University of Thailand Hua Mak Campus
592/3 Ramkhamhaeng 24 Rd., Hua Mak, Bangkapi, Bangkok Thailand

10240
Tel. (+66)2 719-1919
(+66)2 300-4543-62 Ext.1212

Suvarnabhumi Campus
88 Moo.8, Bang Na-Trad Km.26,
Bangsaothong, Samutprakarn
Thailand 10570
Tel. (+66)2 723-2323

(+66)2 723-2222 Ext. 2323

Master Degree Programs

Graduate School of Business and Advanced Technology Management (GS - BATM)

Business Administration Programs

- M.B.A. Fast Track (Weekday)
- M.B.A. Digital Track (Weekend)
- M.B.A. Bilingual Track (English / Chinese)
- Smart M.B.A. Program
- M.B.A. (Creative Communication)
- M.B.A. (Music Business and Entertainment)
- Pre-Master Program (MBA/MS)
- Professional Certificate Program
- M.S. Management
- M.S. Information Technology and Management
- M.Ed. (Teaching and Technology)
- M.B.A. (Hospitality and Tourism Management)
- M.S. (Investment Analysis and Management)
- M.M. (Organization Development)

Hybrid Learning Programs

- M.S. Management
- M.S. (Information Technology and Management)
- M.Ed. (Teaching and Technology)

Theophane Vernard School of Biotechnology

- M.S. (Food Biotechnology)

Graduate School of Human Sciences

Education Programs:

- M.Ed. (Educational Administration and Leadership)
- M.Ed. (Curriculum and Instruction)

Psychology Program:

- M.S. (Counseling Psychology)

Philosophy and Religion Program:

- M.A. (Philosophy and Religion)

English Language Program:

- M.A. (English Language Teaching)

Vincent Mary School of Science and Technology

- M.S. (Computer Science)
- M.S. (Information Technology)

Martin de Tours School of Management and Economics

- M.S. (Supply Chain Management)
- M.S. (Business and Economics)

Thomas Aquinas School of Law

- LL.M. Thai Program

Doctoral Degree Programs

Graduate School of Business and Advanced Technology Management (GS - BATM)

In Class Mode Programs

- Ph.D. (Organization Development)
- Ph.D. (Hospitality and Tourism Management)
- Ph.D. (Innovatve Technology Management)
- Ph.D. (Teaching Technology)
- Ph.D. (Technology, Education and Management)

In Class and Hybrid Mode Learnign Programs

- Ph.D. (Teaching Technology)
- Ph.D. (Technology, Education and Management)

Vincent Mary School of Science and Technology

- Ph.D. (Computer Science)
- Ph.D. (Information Technology)

Theophane Vernard School of Biotechnology

- Ph.D. (Food Biotechnology)

Graduate School of Human Sciences

Education Program:

- Ph.D. (Educational Administration and Leadership)

Psychology Program:

- Ph.D. (Counseling Psychology)

Philosophy and Religion Program:

- Ph.D. (Philosophy and Religion)

English Language Program:

- Ph.D. (English Language Teaching)

Martin de Tours School of Management and Economics

- Ph.D. (Business Administration)
- Ph.D. (Business and Economics) + Ph.D. (Strategy and Development of Emerging Industrial) Dual Degree

JOINT PROGRAM / DOUBLE DEGREE / EXCHANGE PROGRAM

Germany

University of Applied Sciences, Mainz

Double degree program
- Master of Arts International Business (MA.IB)

Joint program
- Master of Arts International Business (MA.IB)

University of Applied Management Studies (HdWM)

Double degree program
- Master Business Management

Hochschule Fresenius für Management

Double degree program
- Master International Business Mangement (MIBM)

The United Kingdom (UK)

St. Mary's University, Twickenham, London

Double degree program
- MSc. International Business Management

Joint program
- MSc. International Business Management

Australia

Bond University

Double degree program
- Master of Financial Management
- Master of Accounting
- Master of Business

Curtin University

Double degree program
- Master of Management
- Master of Commerce (Marketing)
- Master of Luxury Branding

Joint program
- Master of Management
- Master of Commerce (Marketing)
- Master of Luxury Branding

France

Toulouse University

Double degree program
- MSc. Marketing of Innovative Technologies

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E-mail: grad@au.edu

www.grad.au.edu

ACADEMIC PROGRAMS
ASSUMPTION UNIVERSITY OF THAILAND

UNDERGRADUATE PROGRAMS

Martin de Tours School of Management and Economics

- B.B.A. (Design and Digital Innovation) (New Program)
- B.B.A. (Business Administration)
  - Digital Business Management
  - Entrepreneur and Innovation Management
  - Finance
  - Hospitality anf Tourism Management
  - Insurance
  - International Business Management
  - Marketing
  - Real Estate
  - Supply Chain Management
- B.Acc. (Accountancy)
- B.Econ. (Business Economics)

Theodore Maria School of Arts

- B.A. (Business English)
- B.A. (Business French)
- B.A. (Business Chinese)
- B.A. (Business Japanese)

Louis Nobiron School of Music

- B.A. (Music Entrepreneurship)

Thomas Aquinas School of Law

- LL.B. (Business Law)

Vincent Mary School of Science and Technology

- B.S. (Computer Science)
- B.S. (Information Technology)

Albert Laurence School of Communication Arts

- B.Com.Arts (Advertising)
- B.Com.Arts (Digital Media Communication)
- B.Com.Arts (Live Event Creation and Management)
- B.Com.Arts (Public Relations)
- B.F.A. (Computer Generated Imagery)
- B.F.A. (Visual Communication Design)

Montfort del Rosario School of Architecture and Design

- B.Arch. (Architecture) (5 years)
- B.Arch. (Interior Architecture) (5 years)
- B.F.A. (Interior Design) (4 years)
- B.F.A. (Product Design) (4 years)

Vincent Mary School of Engineering

- B.Eng. (Electrical Engineering)
- B.Eng. (Computer Engineering)
- B.Eng. (Mechatronics Engineering)
- B.Eng. (Aeronautic Engineering)
  - Commercial Pilot
  - Aircraft maintenance

Theophane Vernard School of Biotechnology

- B.Sc. (Food Technology)
- B.Sc. (Agro-Industry)

Bernadette de Lourdes School of Nursing Science

- B.N.S. (Nursing Science)

Whereas ensuring that the information contained in this publication is accurate at the time of its publication (June 2021), Assumption University recognizes that sections may be amended without prior notice, contingent upon changing circumstances or for any other seasons. Students should check with the University at the time of enrollment or registration, whether any updated information is available.