

ACADEMIC CATALOG

Academic Year 2026 – 2027



Notice of Catalog Accuracy and Right to Modify

This catalog describes American International University's academic programs, policies, and requirements as they are approved and in effect at the time of publication. It is intended to provide accurate and complete information; where any statement in this catalog conflicts with a currently approved University policy, the approved policy governs until this catalog is next revised.

American International University reserves the right to change, without prior notice, any provision or requirement described in this catalog, including admission requirements, degree requirements, tuition and fees, academic policies, and course offerings, whenever the University determines that such action is in the best interest of the institution or its students. Changes ordinarily take effect at the start of the academic term following their approval and are published on the University's website. This catalog is a source of general information and does not constitute a contract, express or implied, between American International University and any applicant, student, or other party.

A student is held to the degree requirements published in the catalog in effect at the time the student begins earning undergraduate credit at AIU, as described further in the Academic Records and General Academic Policies chapter, except where a subsequent catalog states that a specific change applies retroactively for a stated reason, such as a change required by the Private Universities Council or the Kuwait Ministry of Higher Education.

Every provision of this catalog is reviewed at least annually against AIU's approved institutional policies (the REG, EMA, STU, ACA, ADM, and FIN policy series) as part of AIU's continuous-improvement process, so that the catalog remains a reliable, current statement of University policy rather than a historical record. In the event of any inconsistency between this catalog and an approved University policy, the approved policy shall prevail.

A Message from the President

Welcome to American International University.

Every student who joins AIU is choosing more than a degree program — they are choosing an education built on the American model of higher learning: broad, rigorous, student-centered, and designed to produce graduates who can think critically, communicate clearly, and lead responsibly. This catalog is your primary guide to that education: what AIU expects of you, what you can expect of AIU, and the path from your first semester to your graduation.

AIU was founded in 2019 to bring exactly this kind of education to Kuwait, at a moment when Kuwait's Vision 2035 calls for graduates capable of leading a diversified, knowledge-based economy. In a few short years, we have grown into a University of five Schools and a community of thousands of students, and we have set our sights higher still: the AIU RISE Strategy 2026–2030 commits us to research excellence, to international accreditation through the WASC Senior College and University Commission (WSCUC), to measurable student success, and to a deep, lasting partnership with Kuwait's employers and communities.

I encourage every student to read this catalog closely, particularly the Academic Records and General Academic Policies and Admission Policies chapters, which describe the rules, rights, and responsibilities that govern your time at AIU. Your academic advisor, your Dean's office, and the Office of the Registrar are always available to help you understand how these policies apply to your own path. We are here to help you succeed.

Sincerely,

Professor Yousef Haik, Ph.D., J.D.

President, American International University

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About American International University

American International University (AIU) is a private institution of higher education established in 2019 and located in Al Jahra, State of Kuwait. AIU was founded by Ali Al-Alghanim LLC Group to provide Kuwaiti and international students an authentic, American-model university education without leaving Kuwait, at a time when the country's Vision 2035 development plan calls for graduates capable of leading, innovating, and contributing to a diversified, knowledge-based economy.

AIU currently serves more than 3,200 students and employs more than 130 faculty members across five Schools. Instruction is conducted solely in English, on a semester-based academic calendar aligned with United States academic norms, and all academic programs are delivered on AIU's Jahra campus. AIU maintains program partnerships with leading American universities, including the Florida State University and the University of Utah, to support international alignment.

Schools and Programs

AIU is organized into five Schools, each offering undergraduate degree programs described in the corresponding chapter of this catalog:

- School of Architecture and Design
- School of Arts and Sciences
- School of Business
- School of Education
- School of Engineering and Computing

The Kuwait Regulatory Context

AIU operates under the license and regulatory framework of Kuwait's Private Universities Council (PUC) and in accordance with the requirements of the Kuwait Ministry of Higher Education. AIU is committed to full compliance with applicable Kuwaiti law in every aspect of its academic and administrative operations.

The AIU RISE Strategy 2026–2030

The AIU RISE Strategy is the University's institutional roadmap for the current strategic period, organized around four pillars:

Pillar	Focus
R — Research & Innovation	Building a structured research culture, with a goal of 100+ indexed publications annually by 2030.
I — Impact & Accreditation	Pursuing WSCUC institutional accreditation as AIU's primary external quality signal.
S — Student Success & Experience	Growing enrollment to 5,000+ students and achieving 80%+ student satisfaction.
E — Employability, Engagement & Community	Achieving 85%+ graduate employment within six months of graduation and building lasting Kuwait community partnerships.

Mission, Vision, Core Values, and Institutional Learning Outcomes

Mission

To improve and enrich lives by engaging, empowering, and enhancing our students through a transformative American education experience. We focus on building a foundation of intellectual, creative, and growing research excellence, cultivating an environment that encourages innovation and leadership, and ensuring every student has the opportunity to excel and contribute meaningfully to Kuwait and make a global impact.

Vision

To be Kuwait's leading higher education institution and a recognized voice in GCC academia, redefining academic and advancing research excellence with a unique American experience that empowers, enriches, and engages students to become visionary leaders and innovators.

Core Values

AIU's six core values are institutional commitments, not aspirational phrases. They shape how the University governs itself, how faculty teach, and how staff serve students, and they are the standard AIU expects every member of its community, including every student, to help uphold:

Value	What it means
Integrity	Acting honestly in all decisions, communications, and academic work, including forthright reporting even when results fall short of a target.
Academic Excellence	Holding high standards for teaching, scholarship, and student achievement across every School and program.
Accountability	Taking responsibility for one's own work, measuring what matters, and acting on evidence of needed improvement.
Inclusion	Creating conditions in which every student and colleague, regardless of background or prior preparation, can participate and succeed.
Innovation	Embracing evidence-based change and continuously improving how the University teaches, serves, and operates.
Community	Serving Kuwait's students, workforce, and national development vision through AIU's daily work.

Institutional Learning Outcomes

Every AIU graduate, across every School and program, is expected to achieve the following Institutional Learning Outcomes (ILOs) by the time of graduation, in addition to the specific program learning outcomes described in each School's chapter of this catalog:

- Disciplinary competency in the graduate's chosen field of study
- Effective written and oral communication
- Critical thinking and analytical reasoning
- Quantitative reasoning
- Information literacy and the ethical use of information and technology
- Professional and civic responsibility
- Cultural competence and the ability to work effectively across diverse perspectives

Accreditation, Licensure, and Institutional Approval

American International University is licensed by Kuwait's Private Universities Council (PUC) and operates under the recognition of the Kuwait Ministry of Higher Education.

AIU is pursuing institutional accreditation from the WASC Senior College and University Commission (WSCUC), one of the accrediting bodies recognized by the United States Department of Education and the Council for Higher Education Accreditation (CHEA). WSCUC accreditation is the primary external quality signal AIU is working toward: the recognition that confirms to students, employers, graduate schools, and the global academic community that an AIU degree meets a rigorous, internationally benchmarked standard. AIU is pursuing WSCUC accreditation; it plans to submit its initial request in Fall 2026.

A student or prospective student may verify AIU's current accreditation status directly with WSCUC (wscuc.org) and may verify AIU's licensure status directly with the Private Universities Council. Questions about AIU's accreditation or licensure status may also be directed to the Office of the Vice President for Academic Affairs.

University Governance and Administration

AIU operates within a governance framework designed to ensure academic quality, institutional accountability, and compliance with Kuwaiti law and WSCUC accreditation standards.

The Board of Trustees

The Board of Trustees is AIU's highest governing authority. The Board approves AIU's mission, vision, and strategic direction; oversees institutional financial health; appoints the President; and ensures compliance with applicable law and accreditation requirements. The Board does not manage day-to-day academic or administrative operations, which are the responsibility of the President and the senior leadership team. The Board operates through four standing committees: Academic Committee, Audit & Risk Committee, Finance Committee, and Executive Committee.

Chair, Board of Trustees: Prof. Fayza Al-Kharafi

Dr. Nouria Al-Awadi -Vice Chair

Mrs. Areej Al-Ghanim -Chair Designee and Vice Chair

Mr. Bader Al-Sayer

Dr. Khalid Al-Sebeih

Dr. Fouad Ahmad

Dr. Mousa Mohsen

Dr. Niveen Khashab

Mr. Vivek Nair

Dr. Jamil Azzi

Dr. Farukkh Alvi

Dr. Yousef Haik-AIU President

University Officers

AIU's senior administration, each reporting to the President except where noted, includes:

Office	Principal responsibility
President Prof. Yousef Haik	Responsible to the Board of Trustees for all institutional operations, including academic programs, student affairs, research, finance, human resources, and external relations.
Vice President for Academic Affairs (VPAA) Prof. Mojtaba Moatamedi	Responsible for academic program quality, faculty affairs, curriculum oversight, and academic institutional effectiveness.
Vice President for Enrollment and Student Affairs (VPESA)	Responsible for student services, counseling and wellness, career services, disability services, student conduct, and co-curricular activities and student organizations.
Vice President for Administration Dr. Shamayel Al-Sabah	Responsible for administrative and operational functions, including human resources, facilities, security, and operational compliance.
Vic President of University Engagement Dr. Mohammad Al-Qattan	Responsible for AIU's relationships with industry, government, community organizations, and international university partners.
Assistant Vice President for Research Dr. Meshal Al-Obaid	Responsible for AIU's research culture and infrastructure, including internal research funding, grant development support, and research ethics review.

Schools and Deans

Each of AIU's five Schools is led by a Dean, responsible for academic quality, faculty management, program delivery, and strategic development within the School. Deans report to the VPAA.

Campus and Location

AIU's campus is located in Saad Al-Abdallah, East Naseem Block 3, Al-Jahra, State of Kuwait, and all academic programs described in this catalog are delivered on-campus. The campus comprises five buildings, four academic and administrative buildings (Buildings A, B, C, and D) and a dedicated utility building (Building E), connected by shared outdoor and parking areas. Building A is organized into North, South, and West wings across a ground floor and three upper floors.

Classrooms

AIU maintains 35 general-purpose classrooms across the four academic buildings, with a combined seating capacity of 1,603 students, ranging from small seminar rooms seating around 25 to large lecture classrooms seating up to 60. Every classroom is equipped with a whiteboard, an instructor desk, an instructor PC, and a projector; most are additionally fitted with a smart board. Seminar-format classrooms, concentrated in Building A, support discussion-based and upper-division courses.

Laboratories and Studios

Beyond general classrooms, AIU operates 45 dedicated laboratories and design studios, with a combined capacity of 1,207 students, purpose-built for the hands-on components of AIU's five Schools' curricula:

School of Engineering and Computing

- Fluid Mechanics Laboratories (2), Thermal Sciences Laboratory, Materials Science Laboratories (2) mechanical and general engineering coursework
- Electrical Engineering Laboratory, Smart Electronics and IoT Laboratory, Robotic and Mechatronic Engineering Laboratory, electrical, electronics, and robotics coursework
- Biomedical Engineering Design Laboratory, Biomedical Signals and Systems Laboratory, Biomechanics Laboratory, biomedical engineering coursework
- Chemical Engineering Laboratory, Civil Engineering Materials Laboratory, Geotechnical Engineering Laboratory, chemical and civil engineering coursework
- Computer-Aided Design Laboratories (2), Digital Manufacturing and Automation Laboratory, design and manufacturing coursework
- Computer Science and Games Computing Laboratory, Programming and Artificial Intelligence Laboratories (2), Mac Laboratory computer science and software coursework

School of Arts and Sciences

- Physics Laboratories (2), Chemistry Laboratories (2), Biology Laboratories (2), Anatomy Laboratory, Geology Laboratory, general education and Biotechnology major coursework

School of Architecture and Design

- Interior Design Studios (4), Graphic Design Studio, Windows Graphics and Interior Design Laboratory, Interior Design and Graphic Design major coursework
- Film Studio, 3D Model-Making Laboratory, Printmaking and Digital Fabrication Laboratory, design and media production coursework

School of Business

- Finance Laboratory and dedicated PC Laboratories (3), financial modeling, analytics, and general business computing coursework

Every laboratory is equipped with the specialized instructional equipment its discipline requires, in addition to the standard whiteboard, instructor workstation, and projection equipment found in AIU's classrooms.

Academic Support and Community Spaces

Facility	Location	Description
Tutoring Center	Building B, first floor	A dedicated, staffed space (approximately 210 m ²) offering peer and professional academic support, with a capacity of 60 students at a time.
Foundation Program Tutoring Center	Building A, West wing, first floor	A dedicated tutoring and meeting space for Foundation Program students.
Multipurpose Room	Building B, first floor	A flexible space used for academic events, workshops, and student programming.
Gymnasium	Building C, ground floor	A 660 m ² gymnasium supporting student athletics, recreation, and co-curricular activity, with a capacity of approximately 150.
Meeting Rooms	Building A, third floor	Bookable meeting spaces available to students, faculty, and staff.

Student Health and Wellbeing Facilities

The AIU Clinic, operating under the Vice President for Administration, provides on-campus medical services to students and staff. The Office of Student Wellbeing and Care, under the Vice President for Enrollment and Student Affairs, provides confidential mental-health support, disability-related coordination, and student welfare services, working alongside the Clinic through a structured referral protocol that protects the confidentiality of a student's medical information. Both are described further under Student Wellness and Career Services, earlier in this front matter, and in the Student Handbook.

Campus Safety and Security

Campus access is controlled through a main gate and a secondary gate, staffed by AIU security personnel and monitored from a central security control room. Uninterrupted campus operations are supported by dedicated backup power generators serving all five buildings, and the campus maintains designated shelter and assembly areas as part of AIU's Emergency Management Plan. Emergency procedures and evacuation routes are posted throughout campus facilities and reviewed with every student during orientation.

Academic Calendar

AIU's academic year is divided into two regular semesters (Fall and Spring), each ordinarily sixteen weeks in length, and a summer eight weeks. The Academic Calendar, the complete schedule of admission, registration, Add/Drop, examination, holiday, and graduation dates for the current academic year, is approved annually by the President on the recommendation of the Deans Council, in alignment with the Kuwait Ministry of Higher Education calendar and applicable PUC guidance, and is published at aiu.edu.kw.

Because the Academic Calendar is revised administratively as specific dates are confirmed each year, the full calendar is

not reproduced in this catalog; students should always consult the version published on AIU's website as authoritative. The structure below summarizes the calendar's standing framework:

Period	Structure
Fall Semester	Begins late August or early September; ends late December or early January; 16 weeks of instruction.
Spring Semester	Begins January; ends May; 16 weeks of instruction.
Summer Term	Session conducted between May and August; 8 weeks.
Add/Drop, advisement, and final examination periods	Scheduled each term; not counted toward the minimum weeks of instruction.

Student Rights, Protections, and Support– Notices Required of Every Student

The notices in this section apply to every AIU student and prospective student, in every program and every School. They summarize protections and services that are described more fully in the University's approved policies and in the Student Handbook; where this summary and the full policy differ in any respect, the full policy governs.

Equal Opportunity and Non-Discrimination

AIU is committed to equal opportunity in admission, instruction, and the provision of University programs and services, and does not discriminate on the basis of any characteristic protected under AIU's Equal Opportunity, Non-Discrimination, and Anti-Harassment Policy or under applicable Kuwaiti law. This commitment applies to every stage of a student's relationship with AIU, from application through graduation.

A student who believes they have experienced discrimination, harassment, or bullying may file a complaint under the Equal Opportunity, Non-Discrimination, Anti-Harassment, and Anti-Bullying Policy. A formal complaint is submitted to the applicable Equal Opportunity Process Coordinator, the VPESA where the person alleged to be responsible is a student, the VPAA where a faculty member, or the VP Administration where a staff member. This process is separate from, and does not require exhausting, the academic grievance process described elsewhere in this catalog.

Disability Services and Reasonable Accommodation

AIU provides reasonable academic accommodation to students with documented disabilities. A student seeking accommodation contacts the Disability Services Coordinator and provides supporting documentation, which may include a medical or psychological assessment, a Kuwait Public Authority for Disability Affairs (PADA) card or equivalent, or a psychoeducational assessment for a learning difference. The Coordinator prepares a written Accommodation Plan and issues Faculty Notification Letters describing the accommodations to be implemented, without disclosing the nature of the student's disability. AIU does not ask about disability status as part of an admission decision; a student who self-discloses a disability during the admission process is referred to the Coordinator.

Student Privacy and Education Records

AIU collects, uses, and discloses student education records only as necessary for legitimate academic and administrative purposes, and protects that information consistent with international good practice and applicable Kuwaiti law, regardless of whether Kuwait has enacted a comprehensive data protection statute. A student may request access to, or correction of, their own personal data by submitting a request to AIU's Privacy Officer; requests are acknowledged and addressed within the timeframes published in AIU's Privacy and Personal Data Protection Policy. Education records are not released to a third party without the student's consent, except where required by Kuwaiti law, PUC regulation, or an approved institutional process described in this catalog, for example, verification of a graduation credential requested by an employer, made only with the student's consent.

Student Grievances and Academic Appeals

Every AIU student has a genuine, accessible, and documented right to challenge a grade, an academic standing determination, or the application of a University policy or service, described in full in the Academic Records and General Academic Policies chapter of this catalog and in the Student Handbook. AIU also maintains a general, non-academic grievance process for a student who believes an administrative office has applied a policy incorrectly, failed to deliver a service, or treated the student unfairly, and a separate process for financial account disputes; both begin with an informal approach to the relevant office and, where unresolved, a formal written grievance to the VPESA. No student is required to obtain permission from any faculty member or administrator before filing a grievance, and no student experiences retaliation for doing so in good faith.

Financial Aid, Scholarships, and Tuition

Information on AIU and PUC government scholarship eligibility, tuition payment plans, and financial hardship processes is available from the Student Affairs Office. The tuition is based on per credit hour. The credit hour tuition for the College of Engineering and Computing program is 260KD and 240KD for Schools of Architecture and Design, the School of Education, the School of Arts and Science programs. The Foundation program tuition is 2,000KD for the English and 500KD for the Math.

Student Wellness and Career Services

AIU provides student mental health and wellness support at no additional charge to any enrolled student, consistent with the Student Mental Health and Wellness Policy, and career advising, internship support, and employment resources consistent with the Career Services Policy. Both are described more fully in the Student Handbook.

Campus Safety and Emergency Information

AIU maintains a campus Health, Safety, and Environment program and an Emergency Management Plan covering fire, medical, and other campus emergencies. Emergency procedures and contact numbers are posted throughout campus facilities and are reviewed with every student during orientation, consistent with the Student Support Services Policy.

How to Use This Catalog

This catalog is organized to follow a student's path through AIU. The Academic Records and General Academic Policies chapter and the Admission Policies chapter, immediately following this front matter, describe the rules that apply to every student regardless of program: how to apply, how to register, how grades and academic standing work, and how to graduate. Each School's chapter then describes that School's specific admission notes, degree requirements, and major-by-major course requirements. The Course Descriptions chapter at the end of this catalog lists every course AIU offers, organized by subject code.

A term printed in small capitals or defined explicitly the first time it appears (for example, Study Plan, Academic Standing, or CGPA) carries the specific meaning given to it in the governing University policy, not necessarily its everyday meaning. Where this catalog and a specific School's published requirements differ on a matter the School has authority to set, for example, a higher graduation GPA than the University minimum — the School's published requirement governs for students in that School's programs.

Students are strongly encouraged to meet with their assigned academic advisor at least once per semester, to consult the Student Handbook for the complete text of the policies summarized in this catalog, and to direct any question this catalog does not answer to the Office of the Registrar.

Directory of Key Offices

The following offices are a student's primary points of contact for the matters described in this catalog.

Office	Contact	For questions about
Office of the Registrar A-W-205B	Ms. Fatemah Saeid Executive Director-Registration	Registration, academic records, transcripts, transfer credit, graduation applications
Admissions Office A-W-G34	Ms. Souad Baswaqi Executive Director-Admission	Applying to AIU, admission decisions and appeals, placement testing, conditional admission, readmission
Office of the Vice President for Academic Affairs (VPAA)	Prof. Mojtaba Moatamedi VPAA	Academic policy, curriculum, faculty and program matters, cross-School academic appeals
Office of the Vice President for Enrollment and Student Affairs (VPESA)		Student grievances and appeals, student conduct, orientation, general student welfare
Disability Services Coordinator		Accommodation requests and Accommodation Plans
Privacy Officer	Ms. Samar Oweineh Legal Counsel	Access to or correction of personal data; privacy complaints
Student Accounts / Finance	Mr. Biju Thomas Director of Finance	Tuition, fees, refunds, financial holds
Financial Aid / Scholarships		AIU and PUC scholarship eligibility, financial hardship
Career Services	Ms. Madina Baizhigitova Director of Career Services	Internships, employment resources, career advising
Health, Safety, and Security Office	Eng. Fahad Al-Failakawi Executive Director	Campus emergencies, safety concerns

Admission Policies

How AIU Admissions Works

Undergraduate admission at AIU is administered by the Admissions Office, part of Enrollment Management, under the authority of the Vice President for Enrollment and Student Affairs (VPESA). Admission decisions are made fairly, transparently, and consistently: the same published criteria apply to every applicant in a given category regardless of nationality, sponsor, or personal connection, consistent with AIU's Equal Opportunity, Non-Discrimination, and Anti-Harassment Policy. Meeting AIU's published minimum requirements does not by itself guarantee admission, which remains subject to program capacity, faculty and laboratory resources, and PUC-approved intake.

Applying for Admission

A complete application, submitted through AIU's approved admissions platform with the applicable fee, ordinarily includes: a Civil ID and passport (and a parent or guardian's Civil ID, where applicable); an official high school transcript and graduation certificate, or High School Equivalency Certificate; a Certificate of Good Conduct from the applicant's high school; a recent passport-size photograph; and, for a transfer applicant, official college transcripts and course syllabi. An applicant who has not yet graduated secondary school may begin the process, with admission remaining conditional on submission of final documents at graduation. AIU may request original documents at any stage for verification and may withhold a decision until verification is complete. An application containing incomplete, inaccurate, or fraudulent information may be delayed, denied, or cancelled. An admission application is valid only for the term in which it is submitted.

Academic Qualifications for Admission

An applicant must hold a secondary school certificate, or its equivalent, recognized by the appropriate educational authority. AIU accepts qualifications recognized by PUC and the Kuwait Ministry of Higher Education, including the Kuwaiti, American, British (IGCSE/A-Level), International Baccalaureate, Canadian, Indian (CBSE/ISC), and Pakistani

curricula, and any other PUC-approved international curriculum; qualifications obtained outside Kuwait require the equivalency or authentication PUC or the Ministry of Education requires.

For self-funded applicants, the minimum high school average is 75% for Engineering programs and 70% for all other undergraduate programs; an applicant below this threshold may be considered for Conditional Admission to a designated program. An applicant seeking the PUC government-scholarship pathway must meet PUC's own minimum published percentages for that pathway, which vary by program, are set by PUC (not AIU) and updated annually, and are available from the Admissions Office. Engineering, Computing, Biotechnology, and other STEM-designated programs additionally require completion of the Science track (or its recognized equivalent), including the required mathematics and science subjects.

English and Mathematics Placement

Unless exempt, an admitted applicant completes AIU's English and Mathematics placement tests before registering for a first semester. Exemptions are available on the basis of IELTS, TOEFL, SAT, ACT, AP, IB, A-Level, or approved transfer credit, at minimum scores published annually by the Admissions Office. Based on placement results, a student is enrolled directly in degree-level coursework, placed into Foundation English, Foundation Mathematics, or both, or granted an exemption. A student is permitted a maximum of two placement-test attempts; the highest valid score across attempts, or the highest approved standardized score, determines placement. A student who believes they require testing accommodation on account of a documented disability or medical condition may request one in advance through the process described under Disability Services and Accessibility, elsewhere in this catalog.

Admission Decisions

Each completed application is evaluated on academic qualifications, high school curriculum and subject completion, placement results, English and Mathematics proficiency, program-specific requirements, and, where relevant, transfer credit. An applicant receives one of the following decisions:

Decision	What it means
Accepted	All requirements for full admission have been met.
Conditionally Accepted	Minimum requirements are met, subject to satisfying specific additional conditions, see Conditional Admission, below.
Incomplete	Required documents remain outstanding; the application stays open pending completion.
Deferred	Admission is postponed to a later semester, with University approval.
Rejected	Admission requirements have not been satisfied.

An applicant who receives an offer must accept it, pay all required fees, submit any remaining documents, complete placement requirements, and register by the published deadline, or the offer may be cancelled. AIU reserves the right to revoke an admission offer where false or misleading information or fraudulent documentation is discovered, where final academic results do not meet requirements, or where a conditional-admission requirement is not met; such matters are treated with the same seriousness as academic misconduct under STU-001 and may be referred to the appropriate governmental authority.

Conditional Admission

AIU may admit an applicant conditionally where the applicant shows genuine academic promise but has one or more outstanding requirements, an unissued final transcript, a pending equivalency certificate, an unscheduled placement test, or a high school average below AIU's self-funded minimum in a program approved for this category. A Conditional Admission Offer states the outstanding conditions, the deadline (ordinarily one academic semester) for satisfying them, any registration restrictions, and the consequence of non-completion. Conditional admission does not, by itself, establish eligibility for a scholarship or financial aid; scholarship eligibility, including the PUC pathway's separate certificate-timing rule, is confirmed independently. Failure to satisfy the stated conditions within the approved period may result in cancellation of the offer, denial of registration, or a requirement to reapply.

Transfer Admission

An applicant who has completed coursework at another recognized post-secondary institution may apply for transfer admission, provided the applicant meets AIU's

general admission requirements, holds a minimum cumulative GPA of 2.00, and has not been dismissed from another institution for academic or disciplinary reasons; an applicant with a lower GPA may instead be evaluated as a First-Time Freshman applicant against their high school record. Transfer admission and the award of transfer credit are evaluated separately — being admitted does not guarantee that a specific course transfers; the standards for evaluating transfer credit are described under Transfer Credit in the Academic Records and General Academic Policies chapter of this catalog. A transfer applicant admitted with approved transfer credit for equivalent college-level English or Mathematics coursework may be exempt from the corresponding placement test and admitted directly to degree-level coursework. Transfer credit evaluations are ordinarily completed within 10 working days of receipt of complete documentation.

Non-Degree Seeking Students

AIU may admit a qualified applicant to take selected courses without pursuing an AIU degree, for example, a visiting student completing a single course for credit at their home institution. Admission as a non-degree seeking student does not constitute, and does not guarantee, admission to a degree program. A non-degree applicant submits an admission application, identification, an authorizing letter and transcript from the home institution, and satisfies the applicable prerequisite, fee, and tuition requirements before registering, and remains subject to AIU's academic regulations for the courses taken.

Readmission

A former AIU student who withdrew or was administratively separated may apply for readmission. A readmitted student retains previously earned credits, grades, and their original student identification number; is not required to repeat placement testing; and follows the curriculum and graduation requirements in effect at the time of readmission. A student previously academically dismissed may apply for readmission after completing the dismissal period specified in AIU's academic regulations, subject to satisfying any conditions the University sets. A student previously dismissed for a disciplinary reason under Policy STU-001 may request readmission on a case-by-case basis; approval is discretionary and is not automatic.

Admission Appeals

Because an applicant is not yet an enrolled student, an admission decision is not appealed through the Student Grievance and Academic Appeals Policy (STU-002); it is appealed through a dedicated admissions appeal process available to every applicant. An appeal may be filed on one of the following grounds: a material procedural error in evaluating the application; a decision unsupported by the information available at the time; new material evidence that was not available at the time and would likely have changed the outcome; or a belief that the decision was influenced by a characteristic protected under AIU's Equal Opportunity, Non-Discrimination, and Anti-Harassment Policy. General disagreement with a correctly applied decision is not a ground for appeal.

An appeal is submitted in writing to the Executive Director of Admissions within 10 working days of the decision. The Executive Director of Admission reviews the appeal and issues a written decision within 10 working days; where the applicant remains dissatisfied, or the ground concerns equal opportunity, the appeal is escalated to the VPESA, whose decision, issued within 15 working days, is final at the institutional level.

Academic Records and General Academic Policies

Office of the Registrar

American International University subscribes to the ethical principles for continuity and security of student records recommended by the American Association of Collegiate Registrars and Admissions Officers. Academic records are maintained, retained, and disposed of under REG-001 (Academic Records Policy) and REG-003 (Records Retention and Archiving Policy). For questions about a specific record, contact the Office of the Registrar. Contents of this catalog are reviewed and updated under AIU's continuous-improvement policies and are subject to change; where a conflict exists between this catalog and a currently approved University policy, the approved policy governs until the catalog is next revised.

Student Responsibilities

Thorough knowledge of the academic regulations and policies of American International University is essential for every student. Each student is expected to become familiar with this catalog and the Student Handbook, and to consult an academic advisor to understand and fulfill the requirements of the University and of the School awarding the degree.

Each student is responsible for selecting and registering for the courses needed to maintain reasonable progress toward the intended degree and to satisfy all degree requirements by the expected graduation date. Students are expected to:

- fulfill all assignments and requirements of their courses;
- attend classes regularly and punctually;
- maintain a scholarly, courteous demeanor in class;
- uphold academic honesty in all activities, including in the use of any artificial intelligence tool;
- notify the instructor as early as possible when prevented from keeping an appointment or completing an assignment;
- raise any class-related concern with the instructor first, and follow the resolution procedures described later in this chapter;
- adhere to instructor-level and University-level policies on attendance, withdrawal, and related procedures;
- keep current contact information on file; and
- respond promptly to official University communications.

Registration

Students meet with an academic advisor before registering each term and register according to the dates published on the Academic Calendar (REG-004). A student with an outstanding financial obligation to the University is not permitted to register for a subsequent term until the obligation is resolved.

Foundation and new degree students are registered by the Office of the Registrar once their enrollment is confirmed through submission of their high school transcript. Late registration is permitted through the end of the published

Add/Drop period. Courses with inadequate enrollment may be removed from the schedule before that period closes. Students register in accordance with their approved Study Plan; registering outside the Study Plan requires the written approval of the academic advisor and the Dean of the School in which the student is enrolled.

The Semester System

The academic year is divided into two regular semesters and a summer term. The Fall semester begins in late August or early September and ends in late December or early January; the Spring semester begins in January and ends in May; the summer term is conducted between May and August. The current Academic Calendar, approved under REG-004, is published at aiu.edu.kw. Credit is awarded in semester credit hours, which may vary by department depending on contact hours and the balance of classroom, laboratory, and applied work.

Course Hour Load

Registration load is governed by REG-009 (Registration Load Policy) and is assessed once final grades and updated academic standing are available for each term.

Academic standing	Regular-semester load
CGPA below 2.00 (Academic Probation)	12–13 credit hours
CGPA 2.00 or above (Good Standing)	12–19 credit hours
CGPA 3.60 or above	12–21 credit hours
First semester with a GPA below 2.00	Up to 16 credit hours

A student in Good Standing, or a student on Academic Probation, may register above their standard band — up to 21 or 15 credit hours respectively — only where the additional load completes the student's degree at the end of that same semester, with Dean approval. A student wishing to register for 9 to 11 credit hours requires Dean approval; a student registering below 9 credit hours is administratively dropped for the semester unless expected to graduate with fewer than 9 remaining credits. The summer maximum is 7 credit hours (two courses), or 10 credit hours (three courses) for a student with a CGPA of 3.60 or above, or where the additional load completes the degree that summer. Students registered with AIU Disability Services (STU-003) may register below the standard minimum consistent with their documented accommodation.

Classification of Students

AIU undergraduate students are classified as follows:

Freshman:	0-29 semester credit hours earned
Sophomore:	30-59 semester credit hours earned
Junior:	60-89 semester credit hours earned
Senior:	90 or more semester credit hours earned

General Degree Requirements and Academic Policies

Students complete the degree requirements published in the catalog for the academic year in which they begin earning undergraduate credit at AIU. Transfer students are held to the same standard, regardless of when they began earning credit elsewhere.

Transfer Credit

Transfer credit is governed by REG-010 (Credit Transfer Policy), read together with Admission Policy EMA-007 for transfer admission. AIU considers coursework completed at institutions recognized by the Kuwait Ministry of Higher Education or an accrediting agency acceptable to AIU. The Registrar's Office, in consultation with the relevant School, evaluates each course for content equivalency (at least 75% content match to the AIU course), medium of instruction, and credit-hour comparability. The minimum transfer grade is C (2.0 of 4.0); courses graded Pass/Satisfactory without a letter grade are not normally eligible. A maximum of 50% of an undergraduate Study Plan may be satisfied through transfer credit. Transferred grades are not calculated into the AIU CGPA; transfer credit is recorded with the notation TR. No transfer credit is accepted for remedial, vocational, cooperative-education, physical-education-activity, internship/graduation-project, or thesis coursework, and a course completed at the 100- or 200-level is not accepted toward 300- or 400-level credit.

Credit by Examination

AIU recognizes credit earned through the Advanced Placement (AP) program, the International Baccalaureate (IB) Diploma Program, and the A-Level program, at the scores and AIU course equivalencies published in the

tables that follow. Credit earned by examination is not AIU institutional coursework and does not count toward the minimum 75% of degree credit that must be earned in residence at AIU under the Graduation Requirements described later in this chapter.

Advanced Placement (AP)

Students may earn up to 15 transfer credits at AIU based on qualifying AP exam scores. The minimum acceptable score ranges between 3 or 4 as it depends on the taken course.

Exam	Min. Score	AIU Equivalent	Hrs	Gen Ed
Art History	3, 4, 5	ARH 101	3	AH
Art Studio: 2D Design	3, 4, 5	ARD 102	3	
Art Studio: 3D Design	3, 4, 5	ARD 103	3	
Art Studio: Drawing	3, 4, 5	ARD 101	3	
Biology	3, 4	BIO 101, 102	4	NS
Biology	5	BIO 100, 101, 102	7	NS
Chemistry	3	CHM 110, 111	4	NS
Chemistry	4, 5	CHM 110, 111, 112, 113	8	NS
Computer Science A	3, 4, 5	CSC 110, 111	4	
Computer Science AB	3	CSC 110, 111	4	
Computer Science AB	4, 5	CSC 110, 111, 210	7	
CS Principles	4, 5	CSC 102	3	
Macroeconomics	3, 4, 5	ECO 202	3	SS
Microeconomics	3, 4, 5	ECO 201	3	SS
English Lit/Composition	3	ENG 101	3	EC
English Lit/Composition	4, 5	ENG 101, 301	6	EC
Environmental Science	3, 4, 5	BIO 100	3	NS
Math – Calculus AB	3, 4, 5	MAT 121	4	MA
Math – Calculus BC	3	MAT 121	4	MA
Math – Calculus BC	3, 4, 5	MAT 121, 122	8	MA
Music Literature	5	MUS 101	3	AH
Psychology	3, 4, 5	PSY 101	3	SS
Statistics	3, 4, 5	MAT 115	4	MA
World History	3, 4	HIS 101	3	AH
World History	5	HIS 101, 102	6	AH

International Baccalaureate (IB)

American high school graduates applying to AIU can transfer up to a maximum of 4 courses earned in IB Diploma Program (DP) or the International Baccalaureate (IB)

Transfer conditions are:

- A minimum grade of 6 on the standard level (based on IBO grading scale 1-7)
- A minimum grade of 5 in the Higher Level (based on IBO grading scale 1-7)

3. These DP or IB certificates need to be approved and verified by the International Baccalaureate organization.

Exam	Min. Score	AIU Equivalent	Hrs	Gen Ed
Art Design	4, 5	ARD 102	3	
Art Design	6, 7	ARD 102, 103	6	
Biology	4, 5	BIO 101, 102	4	NS
Biology	6, 7	BIO 100, 101, 102	7	NS
Business/Management	4-7	BUS 103	3	
Chemistry	4, 5	CHM 110, 111	4	NS
Chemistry	6, 7	CHM 110, 111, 112, 113	8	NS
Economics	4, 5	ECO 202	3	SS
Economics	6, 7	ECO 201, 202	6	SS
English	4, 5	ENG 101	3	EC
English	6, 7	ENG 101, 301	6	EC
European History	4, 5	HIS 101	3	AH
European History	6, 7	HIS 101, 102	6	AH
Mathematics	4-7	MAT 121	4	MA
Music	4-7	MUS 101	3	AH
Psychology	4-7	PSY 101	3	SS
Theatre	4-7	THR 101	3	AH

A-Level

AIU awards college credit for students earning A-Level subjects above a minimum of 8 different IGCSE subjects with a minimum grade of “C” for each subject. Only subjects classified as academic (Including arts and creativity group subjects) will be considered for corresponding AIU courses.

Subject	AIU Equivalent	Hrs	Gen Ed
Craft and Design	ARD 102	3	
Biology	BIO 101, 102	4	NS
Business	BUS 103	3	
Chemistry	CHM 110, 111	4	NS
Economics	ECO 202	3	SS
English Language	ENG 101	3	EC
Mathematics	MAT 121	4	MA

Accreditation

- Collegiate work will be considered for transfer credit from post-secondary institutions that offer the baccalaureate degree, associate degree, or diploma leading to the baccalaureate degree and are fully accredited by the Kuwait Ministry of Higher Education or by an international accrediting body such as WASC. Coursework from institutions that have been granted official candidacy status will be accorded conditional acceptance until full accreditation is granted.

2. Collegiate work will be considered for transfer credit for courses completed at colleges and universities outside of Kuwait which are accredited or approved by the Ministry of Higher Education (or other appropriate governmental agency) of the country in which they are located. Students seeking transfer credit from international institutions are required to submit a course-by-course evaluation completed by a National Association of Credential Evaluation Services (NACES)-accredited organization.

Transferability, Equivalency, and Applicability

1. Transferability refers to the conditions under which the University accepts credit from other post-secondary institutions for inclusion in the student's record. The Office of the Registrar is responsible for determining transferability.
 2. Equivalency entails equating transfer credit, both in hours and content, to coursework at American International University. Credit will not be awarded for courses that are not deemed equivalent to courses offered by AIU. Exceptions to this policy shall only be approved by the Academic Affairs Council (AAC).
 3. Applicability of credit toward a degree refers to the prerogative of the academic divisions to count specific credit toward the fulfillment of a student's degree requirements. The student's school of enrollment is responsible for determining applicability.
- An individual School or degree program may require students to pass a subject competence exam before some transfer credit will be accepted. This includes courses listed on the official transfer equivalency table.
2. Transfer credit is generally awarded for academic credit earned at regionally accredited institutions or from institutions that are candidates for regional accreditation if the course credit was earned during the candidacy period.
 3. The evaluation and award of AIU credit for transferred coursework will be based on official transcripts. To be eligible for evaluation, coursework must appear on an official transcript from the institution that initially conferred the credit in question.
 4. American International University follows a semester calendar and awards credits earned in semester hours. Earned hours assigned to coursework completed at institutions on non-semester based academic calendars will be converted and reported on the AIU transcript as semester hours. The most common non-semester based academic calendar is the quarter system. Quarter credits are converted to semester credits by multiplying the number of quarter credits by 2/3. For example, 30 quarter credits equal 20 semester credits.
 5. Credit granted by another institution for non-traditional experiences will not be accepted based on that institution's transcript. To receive credit for nontraditional experiences [e.g. Advanced Placement (AP), International Baccalaureate (IB), College Level Examination Program (CLEP), etc.], the student must present official documentation from the original provider of the nontraditional experience.

Governing Policies

1. Approving a course for transfer credit:
 - For a course to be considered for credit, it must be presented to the AAC by the dean of the appropriate School. Once the AAC has approved, official approval must be given by the Vice President for Academic Affairs (VPAA) or designee.
 - Once a course is approved, it will be recorded in the official transfer equivalency table maintained by the Office of the Registrar. Approved courses no longer need to be considered by the AAC or VPAA unless the course syllabus or content has changed. If so, the course must be reevaluated by the AAC.
 - No course will be accepted for transfer credit if it has not been approved.
6. The following types of credit are not transferable and will not count toward a degree:
 - Placement credit granted by another institution.
 - Remedial or developmental courses
 - Technical courses (courses which apply only toward a technical certificate, not an academic degree)
 - Occupational, vocational, and some workforce courses from two-year institutions
 - Courses classified as below freshman level by the originating institution.

- Courses in religion that are doctrinal, confessional or sectarian in nature.
 - Courses applying to a previously earned baccalaureate degree.
- Credit is granted based on coursework earned, not degrees. Students transferring to American International University with an associate degree or Diploma will not be automatically granted junior standing.
 - Transferred courses will be posted to the AIU transcript with a grade of “TR,” and will not be calculated into the overall (cumulative) GPA.
 - Courses in which a grade below “C-” was earned will not be accepted for transfer credit. In rare cases, exceptions may be considered subject to the recommendation of the Dean and the Office of the Registrar, and approval by the VPAA.
 - Students who have earned a significant number of credits may be considered for limited exceptions to standard transfer credit policies, upon review and recommendation by the Dean and the Office of the Registrar, and approval by the VPAA.
 - Courses for which a student has been awarded academic clemency, bankruptcy, forgiveness, etc., by the institution at which the courses were completed will not be posted to the AIU transcript.
 - Students are required to submit official transcripts for all post-secondary institutions attended.

Equivalency and Applicability of Credit

If the content and learning outcomes of a course taken elsewhere are deemed to be equivalent to a course offered by AIU, then credit for that course will be posted to the student’s transcript. No credit will be awarded for courses that are not deemed equivalent to courses offered by AIU. Exceptions to this policy must be approved by the dean of the School which houses the department within which credit is awarded, and by the Vice President for Academic Affairs.

Transfer credits will be applied as appropriate to a student’s degree program. The authority to apply transferred credits toward degree requirements rests with the student’s school of enrollment.

Changing majors or schools within American International

University will not affect the equivalencies established for a student’s transfer work, but may affect the applicability of the credit towards the new degree program.

A maximum 25% of the credits applied to the requirements to earn a baccalaureate degree at American International University may be transferred from other institutions. Students should contact their school of enrollment for the specific number of hours required for their degree.

The policies and procedures for applying transferred credit are discussed in each college’s section of AIU’s Academic Catalog.

Grades and Grade Points

AIU uses the four-point undergraduate grading scale established by REG-014 (Grades and Academic Standing Policy):

Letter grade	Points	Percentage range
A	4.0	93–100
A-	3.7	90–92
B+	3.3	87–89
B	3.0	83–86
B-	2.7	80–82
C+	2.3	77–79
C	2.0	73–76
C-	1.7	70–72
D+	1.5	67–69
D	1.0	63–66
D-	0.7	60–62
F	0	0–59

The minimum passing grade for an undergraduate course is D-. Additional transcript notations include P (Pass) and NP (No Pass) for Pass/Fail coursework; U (Continue) for a course extending beyond the semester; I (Incomplete), governed below; W (Withdrawn); WF (Withdrawal with Fail, calculated as an F); FA (Fail for Absence, assigned under the Class Attendance Policy below); TR (Transfer Credit); and E (Excluded), the notation applied to a superseded grade when a course is repeated under the Course Repeat Policy below.

The Semester GPA (SGPA) is the average of the points earned in a single semester; the Cumulative GPA (CGPA) is the average across all AIU coursework to date, rounded to two decimal places. The CGPA is the basis for Academic Standing, graduation eligibility, and graduation honors.

After a degree has been conferred, no grade applied toward that degree may be changed.

Additional Grade Notations

Incomplete (I)

An Incomplete is a temporary grade assigned, under REG-015 (Incomplete Grades Policy), when a student is unable to complete a final examination, project, or required training component for a documented, genuine reason accepted by the Dean of the relevant School. A student with an Incomplete resolves it, typically through a makeup examination arranged with the instructor and Department, before the end of the Add/Drop period of the following regular semester. An Incomplete not resolved by that deadline, and not extended by the Dean, automatically becomes an F. Where the underlying circumstance persists, the Dean may instead approve withdrawal with a grade of W. A grade of I is not calculated in the student's GPA.

Withdrawn (W)

A grade of W is assigned to a course dropped after the Add/Drop deadline but before the final withdrawal deadline published on the Academic Calendar, consistent with REG-007 and REG-018. A W is not calculated in the GPA but is counted in attempted credit hours.

Withdrawn Failing (WF) and Fail for Absence (FA)

A grade of WF is assigned to a course dropped after the final withdrawal deadline and is calculated as an F in the CGPA. A grade of FA is assigned under the Class Attendance Policy below when a student exceeds the maximum permitted absence threshold and is barred from the final examination; FA is calculated as an F in the CGPA unless the Dean approves a change to W on the basis of a documented excuse.

Grade Point Average

Quality points for each credit hour are assigned on a scale of 4.00. Grade points are computed by multiplying the value of the letter grade by the number of credits for the course. For example, a student who earns an A in a three-credit course earns 12 quality points.

The Grade Point Average (GPA) is computed by dividing the total quality points earned by the number of GPA hours attempted (for credit hours graded "A" through "F").

The Semester GPA (or Term GPA) is the GPA computed for

the current semester. This is the measure of academic performance for one semester, and helps determine Academic Standing for that term, as well as eligibility for semester honors (the Dean's and President's Lists).

The Overall GPA (or Cumulative GPA, AIU GPA, or Institutional GPA) is the GPA computed for all undergraduate work completed at AIU. The Overall GPA is the basis for the University's Academic Standing and progress standards. This GPA also determines students' eligibility to graduate and to receive Latin honors at graduation.

After a degree has been granted, no grade in a course applied toward that degree may be changed.

Grade Appeal and Grade Change Policy

A student who believes a final grade was assigned unfairly has a right to a fair, documented review, under STU-002 (Student Grievance and Academic Appeals Policy), Article 4. AIU respects the professional academic judgment of its faculty: a grade appeal is not a mechanism for re-grading an assignment or substituting the University's judgment for the instructor's on questions of academic quality. A grade appeal may be filed only on one or more of the following grounds:

- a calculation or recording error — the final grade does not reflect the marks actually awarded;
- application of grading criteria that were not disclosed in the syllabus or in official course communication;
- bias, discrimination, personal conflict, or other improper non-academic influence on the grade; or
- a significant procedural irregularity in the assessment that disadvantaged the student.

Before filing a formal appeal, the student must first discuss the grade with the instructor, contacting the instructor within 10 working days of the grade's publication; the instructor responds within 5 working days. Where this discussion does not resolve the matter, the student files a formal, written Grade Appeal with the Vice President for Enrollment and Student Affairs (VPESA) within two weeks of the grade's publication. The Dean of the relevant School (or the VPAA for a cross-School course) reviews the appeal and the instructor's response and issues a written decision within 15 working days; the Dean may dismiss the appeal, direct a recalculation, direct a second faculty member's review, or direct a replacement assessment.

opportunity, but does not assign a grade directly. A student dissatisfied with the Dean's decision may appeal further, within 10 working days, to the Student Academic Grievance Committee (SAGC), whose decision is AIU's final internal determination. The complete procedure, including the SAGC's composition and hearing process, is published in STU-002.

A student whose concern is limited to a suspected arithmetic or transcription error in a final examination, not disclosed grading criteria, bias, or a procedural irregularity, may instead use the faster Final Exam Review process at REG-016: an online application, filed within two weeks of the grade's posting, reviewed by a three-member Department Examination Committee for a fee. REG-016 does not replace the Grade Appeal process above for any broader concern.

Separately, an instructor who independently identifies an error, prejudice, or arbitrariness in a grade already submitted may request a grade change directly with the Registrar, with Dean approval, at any time before the student's graduation; this instructor-initiated process is distinct from the student-initiated Grade Appeal described above.

Course Repeat Policy

Under REG-013 (Repeating Courses Policy), a student who fails a compulsory course must repeat it; a student who fails an elective course may repeat it or select an alternative elective from the same Study Plan group. A course already passed with a grade of C+ or below may be repeated once to improve the CGPA; a course already passed with a grade of B- or higher may not be repeated for credit. When a course is repeated, the higher grade and its credit hours are calculated in the CGPA; the lower grade remains on the transcript with the notation E (Excluded) and is not counted toward CGPA or graduation credit. All attempts appear on the transcript. A repeat of a course originally completed at another institution and transferred to AIU is calculated in the AIU CGPA. Each School may set additional restrictions on repeating its own courses; see the relevant School's section of this catalog.

Academic Standing

Academic Standing is determined at the end of each regular semester (Fall and Spring) based on CGPA, under REG-014

and REG-017 (Probation and Dismissal Policy). Courses for which a student received a tuition refund, and courses dropped during the Add/Drop period, are not included in the calculation.

CGPA	Standing
3.60 to 4.00	Excellent
3.00 to below 3.60	Very Good
2.50 to below 3.00	Good
2.00 to below 2.50	Satisfactory
Below 2.00	Academic Probation

A student whose CGPA falls below 2.00 is placed on Academic Probation, is required to obtain a registration PIN from their Academic Advisor before registering (REG-006), and is limited to a maximum load of 13 credit hours (extendable to 15 with departmental agreement). Probation notifications are issued in January (Fall performance) and June (Spring performance).

A student clears a first probation by returning the CGPA to 2.00 or above by the end of the following regular semester. A student who does not clear a first probation receives a second probation and elects either to continue in the same program with School Council endorsement, acknowledging that dismissal follows if the CGPA is not cleared the following semester, or to change major, in which case probation is cleared or continues based on the recalculated CGPA in the new major. A student whose CGPA falls below 1.00 at the end of any semester may require to be transferred to another program once during their period of study.

A student is dismissed from AIU on any of the following grounds: three consecutive probations in the same major; five probations, consecutive or not, during the student's period of study; two probations in one program followed by two consecutive probations after a change of program; a CGPA below 1.00 more than once; failure to meet the conditions of a conditional admission (EMA-006); or exceeding the maximum period of study under REG-005 without an approved extension. A student who has completed more than 90 credit hours with a CGPA of 1.95 or above and receives a fifth, non-consecutive probation is given one additional regular semester to recover before dismissal is applied.

A student who disputes an Academic Standing determination, for example, a claim that the CGPA

was miscalculated, or that exceptional, documented circumstances materially affected the outcome and could not have been raised earlier, may file an Academic Standing Appeal with the VPESA within 10 working days of the written notification, under Policy STU-002 Article 5. The appeal is reviewed by an Academic Standing Review Panel comprising the relevant Dean, the VPAA, and the Registrar, whose written decision issues within 10 working days; a further appeal to the VPAA is available within 10 working days of that decision. Disagreement with the CGPA threshold itself is not a ground for appeal.

Academic Honors

Semester Honors

The Dean's List and President's List are compiled at the close of each Fall and Spring semester and posted to the transcript. The Dean's List recognizes a student enrolled in at least 12 credit hours with a semester GPA of 3.50 to 3.99; the President's List recognizes the same enrollment with a semester GPA of 4.00, provided the student has no Incomplete grade and did not repeat a course to improve a prior grade that semester.

Graduation Honors

Under REG-002 (Awards and Graduation Policy) and REG-014 Article 4, a student graduating with a CGPA of 3.80 to 4.00 receives Highest Honors; a student graduating with a CGPA of 3.60 to 3.79 receives Honors. Honors are recorded on the academic record once all coursework is complete and are indicated on the diploma and transcript. A student sanctioned with Academic Probation, Academic Dismissal, or a formal disciplinary sanction at any point during their studies is not eligible for graduation honors.

Latin Honors

At graduation, Latin honors may be conferred based upon a student's cumulative grade point average. To be eligible for these honors, students must have earned a minimum of 64 credit hours in residence at AIU and achieved the following minimum cumulative grade point averages:

- 3.90 – 4.00: summa cum laude
- 3.70 – 3.89: magna cum laude
- 3.50 – 3.69: cum laude

Whether awards are conferred shall depend upon the total academic record of the student, including his or her

compliance with university rules and regulations, and the vote of the Academic Standards and Awards Committee.

The sanctions of Academic Warning 3-4, Academic Suspension, or Academic Dismissal received at any time during the student's period of study at AIU shall automatically disqualify a student from consideration for Latin honors.

These honors are indicated on both the student's diploma (printed degree) and the transcript.

Examinations and Final Examination Administration

Final examinations are held at the end of each term on the schedule published at my.aiu.edu.kw; one or more announced tests may also be given during the term. Grades are released to students through MyAIU at the close of each term.

The following examination administration standards apply to every AIU examination. Students must arrive at least 15 minutes before the scheduled start time and be seated and ready to begin 10 minutes before that time; the examination room closes 15 minutes after the official start, after which no student is admitted; a student may not leave during the first 15 minutes of the examination. Students must bring their AIU Student ID, switch off and stow all electronic devices, bring only the specific items approved for that examination, and remain silent throughout, raising a hand to address a proctor. Communication between students, possession of unauthorized notes, devices or materials, and unauthorized food or an unaccompanied restroom break (unless there is a documented medical need) are prohibited. A student who does not comply with these standards may be disqualified from the examination and, where the conduct constitutes academic misconduct, is referred for disciplinary action under the Academic Integrity section below.

Transcripts

The Office of the Registrar issues official transcripts, at the applicable fee, to the named student or to a recognized third party upon the student's written request or consent, consistent with AIU's privacy standards under Policy ADM-002. A transcript is not issued while the student has an outstanding financial obligation to the University.

Records Policy for Students with Uncleared Financial Obligations

A student with an outstanding financial obligation continues to have grades recorded in their permanent academic record, but transcripts are withheld and registration for the following term is not permitted until the obligation is resolved. A student who does not resolve a tuition obligation by the Finance Department's published deadline is subject to being dropped from all courses and, where the obligation remains unresolved, to withdrawal from the University under REG-018.

Academic Integrity

AIU expects every student's academic work to be the product of their own thought, research, and self-expression. Academic misconduct, including cheating, plagiarism, fabrication, misrepresentation, and bribery, and any attempt to help another student commit these acts, is addressed under STU-001 (Student Conduct and Disciplinary Policy). Consistent with ACA-006 (Artificial Intelligence Use Policy), academic misconduct also includes using a generative AI tool to produce the substantive content of an assessment that requires original human work, disclosing AI use selectively or not at all where disclosure is required, arranging for another person or service to use AI on one's behalf, and using AI output to misrepresent one's own competency on an assessment intended to test it.

Depending on severity, an allegation of academic misconduct is addressed through AIU's Standard, Enhanced, or Severe disciplinary track. A student subject to a complaint receives written notice of the charge, the opportunity to respond, access to the evidence relied upon, and, for Enhanced and Severe matters, a formal hearing before the Student Conduct Committee. Sanctions range from a reduced or failing grade on the assignment or course to suspension or dismissal from the University, depending on the severity, the student's prior record, and the extent of any deliberate misrepresentation.

A student who wishes to appeal a finding of academic misconduct does so in writing within 10 working days of the written decision. A Standard-track appeal is decided by the VPESA within 10 working days; an Enhanced-track appeal is decided by the VPAA within 15 working days; a Severe-track appeal (suspension or dismissal) is decided

by the President within 20 working days, with a final right of appeal to the Board Academic Affairs Committee where the President upholds a dismissal. A student who has given written notice of intent to appeal may continue attending class until the appeal is resolved. The complete Academic Integrity and Student Conduct framework, including the full range of sanctions and the composition of the Student Conduct Committee, is published in STU-001 in the Student Handbook.

Class Attendance Policy

AIU expects students to attend all scheduled classes, practical sessions, seminars, and examinations for their registered courses. Consistent with REG-011 (Student Attendance Policy), class attendance is not used as an assessment measure: a student's course grade is not raised or lowered on the basis of attendance within the thresholds below. Attendance is nonetheless systematically recorded, and excessive absence carries the consequences described here.

Absence threshold (of total contact hours)	Consequence
10%	First warning issued by email
15%	Final warning issued by email
20%	Barred from the final examination and assigned a grade of FA, unless the Dean of the School approves a documented excuse changing the result to W
25%	Permitted only for a student officially representing Kuwait or AIU in an approved activity

A student who is called for compulsory Kuwaiti national or military service duty notifies instructors in advance and, where arrangements to complete assigned coursework can be made, receives an attendance waiver for the resulting absences; where such arrangements cannot be made, the student withdraws from the semester consistent with the Registration, Add, and Drop provisions of REG-007. Submission of false or fabricated documentation in support of an absence is treated as academic misconduct under the Academic Integrity section above, in addition to any attendance consequence. Exceptions for an individual student, including approval of a documented excuse, are granted by the Dean of the relevant School.

Textbook Policy

Where a textbook, print or electronic, is assigned for a course, students are required to obtain it, and instructors verify that each student has done so; non-compliance may affect the course grade at the instructor's discretion, as stated in the course syllabus.

Course Withdrawal

A student may withdraw from one or more individual courses before the withdrawal deadline published on the Academic Calendar, consistent with REG-007. A grade of W is assigned; a course withdrawn after the deadline is assigned WF. Students are strongly encouraged to consult their academic advisor before withdrawing, since a reduced course load may affect financial aid or scholarship eligibility under FIN-007 and may delay graduation. No notation is made for a course dropped during the Add/Drop period at the start of the semester.

Study Postponement (Leave of Absence)

A student needing to temporarily suspend their studies, for health, family, or other documented reasons, applies for an Optional Withdrawal (Study Postponement) through the e-services portal, under REG-018, up to two weeks before the start of the final examination period, after clearing any outstanding financial balance. An approved Optional Withdrawal does not count toward the maximum period of study under REG-005. The combined maximum period of Optional and Academic Withdrawal for an undergraduate program is 4 semesters; a student who does not return as expected, or who exceeds this maximum, is subject to Registration Termination. During an approved leave, a student may not enroll at another institution for the purpose of transferring credit back to AIU. PUC-sponsored students follow the additional approval steps required by their sponsor.

Withdrawal from University

A student who wishes to withdraw from AIU with no intent to return submits a University Withdrawal request through the e-services portal under REG-018, including an effective date and, for a student who is a minor under Kuwaiti law, a guardian's acknowledgment, after clearing all financial and

administrative obligations (Library, Facilities and Security, Finance, and, where applicable, International Student and Immigration Compliance).

Administrative Withdrawal and Dismissal

A student may be administratively withdrawn or dismissed from AIU for failure to maintain Academic Standing (see above); failure to register and exceeding the maximum permitted withdrawal period under REG-018; exceeding the maximum period of study under REG-005 without an approved extension; a finding of academic or non-academic misconduct under STU-001; failure to meet financial obligations to the University; or violation of other AIU policy. A dismissal is permanent and is indicated on the student's transcript. A dismissed student may apply for readmission only as described in the Admission Policies chapter of this catalog.

Graduation

Applying to Graduate

Under REG-002 (Awards and Graduation Policy), the Registration Office opens the graduation application in a student's final expected semester; the student declares their intention to graduate through the approved platform. The Registration Office audits the student's transcript and Study Plan, sends the expected-graduate list to the relevant School for confirmation, and, once final grades post, performs a final audit before closing the record as a graduate. The graduation list is reviewed by the VPAA, endorsed by the Deans Council, and submitted to the Board of Trustees, which confers degrees at its next scheduled meeting. A graduation fee, covering the commencement ceremony, regalia, and PUC/Ministry of Higher Education processing, is charged upon application and is payable to Student Accounts before graduation.

Graduation Requirements

To earn a baccalaureate degree from AIU, a student must earn at least 75% of the credits applied toward the degree in residence at AIU; a student within one semester of completing all requirements may not take courses at another institution during that final semester. University-wide minimum requirements are a cumulative GPA of 2.00 or higher, and a GPA of 2.00 or higher on all coursework applying to the major and to any required concentration.

Individual Schools may set higher GPA requirements; see the relevant School's section of this catalog.

School	Credit hours required
Architecture & Design	120
Arts & Sciences	124
Business	124
Education	124
Engineering & Computing	132

Degree Audit

Upon receiving the Application for Degree (approved and signed by the student's advisor), the Office of the Registrar reviews the application and conducts a degree audit analyzing a student's progress toward fulfilling all degree requirements.

Once final grades for the semester have been officially posted, the Office of the Registrar performs a final audit of each candidate's records to ensure that all outstanding graduation requirements have been satisfied.

Commencement and Post Baccalaureate Study

Commencement is held after the Fall and/or Spring semester for students who have completed degree requirements and cleared financial obligations; a student completing requirements in Summer or Fall may participate in the following Spring ceremony. A holder of a bachelor's degree from an accredited institution may pursue a second bachelor's degree at AIU as a post-baccalaureate student, presumptively satisfying General Education requirements (but not major, ancillary, or residency requirements), and must complete at least 60 additional credit hours (for a 120-hour degree) in residence at AIU.

Majors

A major is a defined program of study within a degree, comprising a minimum of 30 semester hours specified by the academic department. A new major, or a change to an existing major, is approved through the curriculum-approval process by the Office of the Vice President for Academic Affairs; only formally approved majors appear in this catalog. A completed major appears on the transcript and on the diploma.

Change of Major

A student wishing to change their major begins with their academic advisor. A PUC-scholarship student may apply only during the designated period announced by the Office of the Registrar, must have completed between 24 and 75 credit hours with a minimum CGPA of 2.67 (a minimum CGPA of 3.00 and a scientific-stream high school certificate for a change into an engineering major), and is limited to one change of major during their period of study; PUC approval is required and is not guaranteed. A self-paid student may apply at any time, with the change effective the following semester. A student changing majors accepts any financial and academic consequences, including credits that do not apply to the new major.

Foundation Program

Mission

Our mission is to deliver high-quality English and Mathematics instruction that prepares students for success in an English-based academic environment. In one academic year, learners advance from foundational proficiency to university-ready skills through intensive training in language, quantitative reasoning, and research. Grounded in best practices, the program promotes critical thinking, active learning, and cross-cultural competence through a structured curriculum, continuous assessment, and individualized support in a student-centered setting.

Curriculum Overview

The Foundation Program provides integrated English and Mathematics pathways that prepare students for the linguistic, analytical, and academic demands of undergraduate study across the Schools of Architecture and Design, Business, Engineering and Computing, and Arts and Sciences. Curriculum and course learning outcomes are aligned with university-level expectations to ensure academic readiness and successful matriculation into degree programs.

Program Structure

The Foundation Program is delivered through morning and evening schedules and consists of two semesters of integrated academic English and Mathematics instruction. Students are required to complete 25 instructional hours weekly over four class days. The curriculum is designed to develop academic literacy, research, oral communication, quantitative reasoning, and independent learning skills necessary for success in undergraduate study.

Methods of Instruction

The Foundation Program employs a student-centered instructional model delivered through 90-minute learning blocks designed to support sustained engagement, guided practice, feedback, and reflection. Instruction emphasizes critical thinking, collaboration, problem-solving, and authentic academic tasks aligned with undergraduate expectations. The curriculum is supported through differentiated instruction, continuous formative assessment, and the integrated use of Canvas and National Geographic Spark to ensure instructional consistency, evidence-based teaching practices, and ongoing monitoring of student achievement.

English Program Introduction

The English Foundation Program is designed to prepare students for the linguistic and academic demands of undergraduate study through the development of academic reading, writing, research, and oral communication skills. Delivered through integrated and blended instructional modalities, the curriculum emphasizes critical thinking, applied language use, academic independence, and measurable achievement of program learning outcomes.

Upon completion of each level, students will be able to:

Level I English

- Identify main ideas, supporting details, and organizational features in straightforward texts on familiar and academic topics.
- Write organized paragraphs that communicate ideas using appropriate structure, supporting details, and basic academic vocabulary.
- Use core grammatical structures and vocabulary

to communicate meaning effectively in written and spoken contexts.

- Deliver short, organized presentations and participate in discussions on familiar topics using clear pronunciation and appropriate communication skills.

Level II English

Positions students for success in first-year composition and other academic courses requiring independent reading, writing, and research.

- Analyze academic texts by identifying main arguments, supporting details, and implied meaning.
- Write coherent multi-paragraph essays with a clear thesis, logical organization, and appropriate academic language.
- Deliver organized academic presentations with clear structure, appropriate register, and control of ideas.
- Develop a focused research question, locate and evaluate sources, and integrate information using appropriate citation.

Math Foundation Program

The Math Foundation Program is designed to prepare students for the quantitative demands of undergraduate study through the development of mathematical reasoning, analytical problem-solving, and academic independence. The curriculum emphasizes conceptual understanding, applied learning, and measurable achievement of program learning outcomes.

Level I Math

- Solve foundational algebraic equations, simplify expressions, and apply proportional reasoning and basic geometric concepts with accuracy.
- Apply structured problem-solving strategies to interpret and solve routine academic and real-world mathematical problems.
- Use basic mathematical reasoning to explain steps, justify solutions, and identify errors.
- Present mathematical work clearly using appropriate notation, graphs, and written or verbal explanations.

Level II Math

Positions students for success in gateway courses including calculus, statistics, and other quantitative degree requirements.

- Analyze and solve problems involving functions, trigonometry, analytic geometry, and vectors.
- Apply mathematical models and quantitative reasoning to solve complex academic and real-world problems.
- Evaluate and justify solutions using logical reasoning, multiple representations, and appropriate methods.
- Communicate mathematical ideas clearly and precisely using correct notation, graphs, tables, and explanations.

Foundation Program Achievement Scale

The Achievement Scale describes the level of performance students are expected to demonstrate upon successful completion of each Foundation Program level.

Level I

Students demonstrate foundational academic proficiency in English and Mathematics through supported application of core skills and concepts. In English, students identify main ideas, supporting details, and basic organizational patterns in written and spoken texts using guided academic strategies such as annotation, note-taking, and structured response development. In writing and speaking, students produce short, organized responses demonstrating emerging control of academic language and communication skills. In Mathematics, students apply foundational mathematical concepts and procedures to solve structured problems with guidance and support.

Level II

Students demonstrate developing academic independence in English and Mathematics through increasingly accurate and effective application of academic skills and problem-solving strategies. In English, students analyze academic texts, recognize relationships between ideas, and produce organized multi-paragraph writing and structured oral presentations using appropriate academic language and supporting evidence. In Mathematics, students apply conceptual understanding and quantitative reasoning skills to solve increasingly complex and applied problems with improved accuracy, independence, and analytical control.

Admission Requirements

Applicants admitted to undergraduate degree programs are required to demonstrate proficiency in university-level English and Mathematics. Proficiency may be demonstrated through one or more of the following methods:

- Completion of the AIU English and/or Mathematics Placement Examination(s)
- Submission of qualifying scores from approved standardized examinations, including:
 - English proficiency: IELTS, TOEFL iBT, SAT Evidence-Based Reading and Writing, or ACT English
 - Mathematics proficiency: SAT Mathematics or ACT Mathematics

Duration of Study

The duration of study in the Foundation Program is determined by placement level, academic achievement, and demonstrated readiness for undergraduate coursework. Students' progress through sequenced English and Mathematics levels designed to ensure attainment of the competencies required for matriculation into undergraduate degree programs. Progression is guided through continuous assessment, academic support, and structured recovery pathways where necessary.

Foundation Program Progression

Progression to the next Foundation Program level requires successful completion of all English and Mathematics requirements with a minimum overall grade of 60% (D-) or higher. Students who do not meet the required standard must repeat the level prior to advancement.

Satisfactory Completion of the Foundation Program

Satisfactory completion of each Foundation Program level requires a minimum overall grade of 60% (D-) or higher in both English and Mathematics courses. Student advancement is determined through continuous assessment, demonstrated attainment of program learning outcomes, and evidence of academic readiness for

subsequent levels of study.

Completion of the Foundation Program signifies that students have met the competencies and academic standards required for matriculation into undergraduate degree programs.

Certificate of Completion

The Certificate of Completion is awarded to students who successfully complete the required Foundation Program levels with a minimum overall grade of 60% (D-) or higher in both English and Mathematics. The certificate formally recognizes attainment of the academic competencies required for progression into undergraduate degree programs.

Advancement to Undergraduate Programs

Successful completion of the Foundation Program prepares students for progression into undergraduate programs through continued academic advising and structured transition support aligned with university expectations.

Foundation Program Grading System

The Foundation Program adheres to the official grading policies of the American International University. Student achievement in English and Mathematics courses is assessed through standardized academic criteria aligned with course learning outcomes and university expectations.

Policy on Attendance and Lateness

Foundation Program courses meet regularly throughout the academic week and require consistent attendance and active participation due to the intensive nature of the curriculum. The program adheres to the University's official attendance policy.

Students who exceed the allowable absence threshold in any course may receive a failing grade unless valid documentation is submitted for approved exceptional circumstances, including serious medical conditions, bereavement of an immediate family member, authorized academic activities, or official national athletic participation. Students with approved excused absences

remain responsible for completing all missed coursework and assessments as directed by the instructor.

Students who do not provide approved documentation for excessive absences are responsible for officially withdrawing from the course by the published withdrawal deadline and will receive a grade of "W." Students who neither withdraw nor submit approved documentation will receive a grade of "FN" (Failure Due to Non-Attendance).

General Education Curriculum Requirements

The General Education program at AIU is an integral part of the learning experience to provide broad knowledge as well as intellectual and personal development beyond what can be found in any specific discipline or program. This prepares students to be socially responsible critical thinkers who actively contribute to a global society as lifelong learners.

American International University has established seven competencies that form the foundation of the learning outcomes in our courses. Upon successful completion of the General Education program, students will be able to demonstrate:

- critical thinking
- effective communication
- ethical reasoning
- global self-awareness
- information literacy
- mathematical and scientific reasoning
- quantitative and digital literacy

With the understanding that our students will pursue a variety of academic majors, the General Education requirements are designed to ensure that all students will acquire experiential and activity-based learning and the application of knowledge in concrete situations as part of their AIU experience. Therefore, students are required to take a set of courses outside their major to develop their appreciation of broad disciplinary areas and how to connect between them.

The General Education curriculum is incorporated into the course requirements for each degree and major at AIU.

Some programs may require specific courses to satisfy some General Education requirements, while others may allow students to choose from any courses offered which carry the appropriate designation.

Beginning in the Fall 2026 semester, all students pursuing undergraduate degrees at AIU must complete the following:

- Six (6) hours of English Communication (EC)
- Three (3) hours of Oral Communication (OC)
- Six (6) hours of Arts & Humanities (AH)
- Six (6) hours of Social Sciences (SS)
- Three (3) hours of Mathematics (MA)
- Six (6) hours of Natural Sciences (NS)*
- Three (3) hours of Computer Skills (CS)
- One (1) hour of Wellness (WL)
- Two (2) hours of AIU Experience (EX)

A course may be used to satisfy only one General Education requirement. For example, if a course carries a designation for both Arts & Humanities (AH) and Oral Communication (OC), it may only be used to satisfy one of these requirements. An additional course or courses must be completed to satisfy the remaining requirement.

Course credits awarded by examination (such as Advanced Placement) may satisfy General Education requirements.

Review of General Education courses is an ongoing process. New courses may be approved and added to the list of those that meet the curriculum requirements, and the designations for existing courses may be discontinued. A course carries General Education designation if the course is approved at the time the course is taken.

General education credit may be earned for courses taken at another institution, if the courses are deemed equivalent to the courses offered at AIU.

Following is a list of courses which satisfy each General Education requirement:

Arts & Humanities (AH)

Course	Hours
ANT 140 Food and Culture	3
ANT 210 World Cultures	3
ARH 101 Art History Ancient to Medieval	3
ARH 102 Art History Renaissance to Modern	3

Arts & Humanities (AH)

CDM 102 Video Editing	3
CDM 103 Digital Photography	3
CDM 104 Video Production Techniques	3
COM 110 Public Speaking for Tomorrow's Leaders	3
ENG 220 English Literature	3
ENG 230 American Literature	3
FLM 101 Introduction to Film	3
FLM 110 History of Film	3
HIS 101 World History I	3
HIS 102 World History II	3
HIS 180 The Age of Islamic Empires: 600-1600	3
HIS 181 The Modern Middle East	3
MUS 101 Music Appreciation	3
PHL 101 Introduction to Philosophy	3
PHL 112 Professional Ethics	3
THR 101 Theatre Appreciation	3
AIG 201 AI Evolution for Professionals	3

Computer Skills (CS)

Course	Hours
CSC 101 Computer Essentials	3
AID 200 Introduction to AI for Design Innovation	3

English Communication (EC)

Course	Hours
ENG 101 College Writing	3
ENG 303 Creative Writing	3
ENG 301 Technical Writing	3

AIU Experience (EX)

Course	Hours
AIU 100 The AIU Experience	1
AIU 300 Career Development	1

Mathematics (MA)

Course	Hours
MAT 105 Math for the Arts	3
MAT 112 Mathematics for Elementary School Teachers	3
MAT 113 Elementary Functions	3
MAT 115 Quantitative Methods I	3
MAT 116 Quantitative Methods II	3
MAT 121 Calculus I	4
MAT 122 Calculus II	4

Natural Sciences (NS)

Course	Hours
BIO 100 Basic Life Diversity	3
BIO 101 Basic Life Mechanisms	3
BIO 102 Basic Life Mechanisms Lab	1

Mathematics (MA)	
CHM 101 Basic Chemistry	3
CHM 110 General Chemistry I	3
CHM 111 General Chemistry I Lab	1
CHM 112 General Chemistry II	3
CHM 113 General Chemistry II Lab	1
GEO 100 Geology	3
GEO 101 Geology Lab	1
PHY 120 Physics I	3
PHY 121 Physics I Laboratory	1
PHY 122 Physics II	3
PHY 123 Physics II Laboratory	1

Oral Communication (OC)

Course	Hours
COM 110 Public Speaking for Tomorrow's Leaders	3
COM 350 Debate	3
ENG 302 Technical Presentations	3

Social Sciences (SS)

Course	Hours
ANT 100 Introduction to Anthropology	3
ANT 211 Globalization	3
ARD 250 Introduction to Urban Design	3
ECO 201 Principles of Microeconomics	3
ECO 202 Principles of Macroeconomics	3
PBH 100 Public Health	3
PSC 100 Introduction to Political Science	3
PSY 101 Psychology	3
SOC 101 Understanding Human Society	3
AIG 101 Introduction to AI & Society	3

Wellness (WL)

Course	Hours
AIU 111 Wellness for Females	1
AIU 112 Wellness for Males	1

School of Architecture and Design

About the School

The mission of AIU's School of Architecture and Design is to educate its students and the public in the creation and appreciation of art and design, to discover and transmit knowledge, and to make lasting contributions to

a global society through critical thinking, scholarship and innovation.

Design plays an intricate role in the daily lives of those who come across it, intentionally or not. Through vision, execution, and perception, designers provide for and curate spaces and products that inspire the user. From organic materials to graphic art, design comes in a variety of forms and factors. The School of Architecture and Design provides students with programs that nurture their interest in design and bring forward innovative and creative solutions.

School of Architecture and Design Vision and Mission Statements

SCAD Vision Statement:

The mission of AIU's School of Architecture & Design is to educate its students and the public in the creation and appreciation of art and design, to discover and transmit knowledge and to make lasting contributions to a global society through critical thinking, scholarship, and innovation.

SCAD Mission Statement:

Design plays an intricate role in the daily lives of those who come across it, intentionally or not. Through vision, execution, and perception, designers provide for and curate spaces and products that inspire the user. From organic materials to graphic art, design comes in a variety of forms and factors. The School of Architecture and Design provides students with programs that nurture their interest in design and bring forward innovative and creative solutions.

Degrees and Programs Offered

The School of Architecture and Design offers one undergraduate degree, the Bachelor of Fine Arts (BFA). Students may major in Graphic Design or Interior Design.

Admission Requirements

Freshman Students

A student who meets the criteria for admission to American International University is eligible for admission to the School of Architecture and Design.

Transfer Students

A student seeking to transfer into the AIU School of Architecture and Design from another institution must provide an official transcript from each college or university previously attended.

Only 25% of the credits applied to an undergraduate degree at AIU may come from another institution. Therefore, since 120 hours are required for the BFA degree, only 30 transferred hours may be applied toward the degree requirements. Degree credit is not typically awarded for transferred courses at the 300 or 400 level. The authority to apply or deny transferred credit rests with the AIU Office of the Registrar and the Dean of the School.

Students with Bachelor's Degrees

Students who have completed an undergraduate degree and wish to complete a second degree in the School of Architecture and Design must satisfy all the requirements described for the Bachelor of Fine Arts degree in this catalog. A minimum of 60 hours must be completed in residence at AIU to earn a second bachelor's degree.

Student Responsibilities

- Each student is responsible for selecting courses that will allow him or her to make reasonable progress toward a degree. Students should meet with their assigned advisor in the Student Success Center to develop a long-term academic plan.
- Each student is responsible for following University and School policies appearing in official documents (including the University website) which govern academic programs, curricula, courses, and completion of degrees.
- Each student is expected to attend all classes and pursue successful completion of all courses in which

they enroll.

- The AIU email address is our official means of communication, and students are expected to respond promptly to all communications from the University, the School of Architecture and Design, and their academic advisor.
- Each student is expected to be familiar with the current academic calendar.

Maximum Class Hour Load Per Semester

Normally, students can register for up to 18 semester hours. However, during the graduation year, they must maintain a GPA of 3 or higher and obtain a special permission from both the Dean of the School and the Vice President for Academic Affairs to register for up to 22 hours.

Department and Program Requirements

Both programs in the School of Architecture and Design require the following courses in addition to the major course requirements:

General Education Courses

AIU's General Education curriculum is required for all undergraduate students and consists of 36 hours of coursework from nine core areas. Students in the School of Architecture and Design must complete these specific courses to satisfy General Education requirements:

Course	Hours
AIU 100 The AIU Experience (EX)	1
AIU 111 or 112 Wellness (WL)	1
AIU 300 Career Development (EX)	1
ARH 101 Art History: Ancient to Medieval (AH)	3
ARH 102 Art History: Renaissance to Modern (AH)	3
ENG 101 College Writing (EC)	3
ENG 301 Technical Writing (EC)	3
ENG 302 Technical Presentations (OC)	3
PSY 101 Psychology (SS)	3
Total Hours	21

Students must also choose courses to complete the remaining General Education requirements:

- Mathematics: three hours designated MA
- Natural Sciences: six hours designated NS
- Social Sciences: three hours designated SS
- Computer Skills: three hours designated CS

School of Architecture and Design Core Courses

All students in the School of Architecture and Design must complete the following courses, regardless of their major:

Course	Hours
ARD 101 Basic Drawing	3
ARD 102 2D Art & Design	3
ARD 103 3D Art & Design	3
ARH 202 Islamic Art & Architecture	3
ARD 301 Design Concepts	3
ARD 390 Professional Practice in Design	3
ARD 450 Design Philosophy	3
ARD 452 Design Management	3
Total Hours	24

Major in Graphic Design

The Bachelor of Fine Arts in Graphic Design prepares students for professional careers in contemporary visual communication across print, digital, interactive, and emerging media industries. The program is designed for students with strong interests in visual communication and creative technologies.

The curriculum provides a strong foundation in graphic design principles, including creativity, innovation, visual communication, aesthetics, critical thinking, and design problem-solving, while integrating contemporary technologies, interdisciplinary practices, and current industry standards. Students explore diverse design methodologies that address aesthetic, social, cultural, environmental, political, and philosophical issues through visual communication and digital media.

The program is structured to align with international academic and professional standards, emphasizing creative

development, technical proficiency, conceptual thinking, research skills, and aesthetic awareness. Flexible electives allow students to deepen their expertise based on individual interests and career goals.

Graphic Design Major Vision Statement:

The Bachelor of Fine Arts in Graphic Design at the American International University aspires to become a leading regional and internationally recognized program in creative visual communication and digital design education. The program envisions cultivating innovative, ethical, and technologically proficient designers who contribute meaningfully to society through creative problem-solving, interdisciplinary collaboration, and impactful visual communication. The program seeks to empower students with advanced conceptual, aesthetic, and technical capabilities while fostering intellectual curiosity, artistic expression, cultural awareness, and professional responsibility. Through the integration of contemporary digital media, emerging technologies, industry-standard practices, and global design perspectives, the program aims to prepare graduates who can lead and excel in the evolving fields of graphic design, advertising, multimedia, branding, web and interactive design, and creative industries regionally and globally.

Graphic Design Major Mission Statement:

Graphic Design program at American International University aims to prepare graduates for attaining the highest level of conceptual, aesthetic, and ethical performance with an extensive education that emphasizes creative design of Graphic Design using digital media while acquiring distinguished technical skill, intellectual capacity, spiritual insight and effective graphical, verbal communication, professional skills and sense of community to prosper in the marketplace regionally and globally.

Graphic Design Major Objectives

- Foster creativity, innovation, critical thinking, independent learning, and problem-solving abilities through educational experiences that support students' academic, professional, and personal development.
- Develop students' mastery of graphic design principles, visual communication strategies, digital technologies,

and contemporary creative processes for effective design creation, presentation, and documentation.

- Equip students with specialized knowledge, technical competencies, ethical awareness, cultural understanding, communication skills, and practical experiences required for professional practice in graphic design, advertising, publishing, multimedia, and related industries.
- Prepare graduates to synthesize conceptual, technical, and ethical knowledge into innovative design solutions while engaging effectively in interdisciplinary collaboration, teamwork, and professional communication to address diverse visual communication needs.
- Encourage lifelong learning, research, adaptability, and continuous professional growth to enable graduates to respond successfully to emerging technologies, evolving industry trends, and global design practices.

Major Course Requirements

All students majoring in Graphic Design must complete the following courses:

Course	Hours
GRD 100 Intro to Visual Communication	3
GRD 110 Typography I	3
GRD 202 Graphic Design I	3
GRD 205 Introduction to Animation	3
GRD 210 Typography II	3
GRD 221 Illustration I	3
GRD 301 Interactivity in Graphic Arts	3
GRD 302 Graphic Design II	3
GRD 305 Branding	3
GRD 321 Illustration II	3
GRD 331 History of Graphic Design	3
GRD 402 Graphic Design III	3
GRD 404 Packaging Design	3
GRD 407 Information Design	3
GRD 490 Internship	3
GRD 495 Senior Design Project I	3
GRD 497 Senior Design Project II	3
ARD/ARH/GRD Elective (see list)	3
ARD/ARH/GRD Elective (see list)	3
Design Studio Elective (any ARD/GRD course)	3
Total Hours	60

ARD/ARH/GRD/AID Electives

Course	Hours
ARD 104 Time Based Art & Design	3
ARD 201 Intermediate Drawing	3
ARD 302 History of Modern Design I	3
ARD 303 Landscaping	3
ARD 402 History of Modern Design II	3
ARH 301 Twentieth Century Art	3
ARH 401 Contemporary Art	3
GRD 204 Printmaking Techniques	3
GRD 206 Advertising Design	3
GRD 304 Web-Based Design	3
GRD 306 Publication Design	3
GRD 405 Graphic Design Portfolio	3
GRD 410 Advanced Typography	3
GRD 440 Interactivity	3
GRD 493 Special Topics	3
GRD 494 Directed Project in Graphic Design	3
AID 300 Artificial Intelligence in Design Practice	3
AID 400 AI Capstone Project	3
Total Hours Required for Degree:	120

Suggested 4-Year Plan of Study

Freshman (Year 1)			
Fall Semester	Hrs.	Spring Semester	Hrs.
AIU 100	1	AIU 111/112	1
ARD 101	3	ARD 103	3
ARD 102	3	ARH 101	3
GenEd SS course	3	GRD 110	3
ENG 101	3	PSY 101	3
GRD 100	3	GenEd Math course	3
Total	16	Total	16
Sophomore (Year 2)			
Fall Semester	Hrs.	Spring Semester	Hrs.
ARH 102	3	ARH 202	3
GRD 202	3	GRD 205	3
GRD 221	3	GRD 210	3
Graphic Design elective	3	GRD 302	3
GenEd Computer Science	3	GenEd NS course	3
Total	15	Total	15
Junior (Year 3)			
Fall Semester	Hrs.	Spring Semester	Hrs.
ARD 301	3	AIU 300	1
ENG 301	3	ARD 390	3
GRD 301	3	ENG 302	3
GRD 321	3	GRD 305	3

Freshman (Year 1)			
GRD 331	3	GRD 402	3
		GenEd NS course	3
Total	15	Total	16
Summer Semester - Internship		GRD 490	3
Senior (Year 4)			
Fall Semester	Hrs.	Spring Semester	Hrs.
ARD 450	3	ARD 452	3
GRD 407	3	GRD 404	3
GRD 495	3	GRD 497	3
Art/Design Studio Elective	3	Graphic Design elective	3
Total	12	Total	12

Major in Interior Design

The Interior Design Program at the American International University prepares future professionals to create innovative, sustainable, functional, and human-centered interior environments that enhance quality of life, well-being, productivity, and public health, safety, and welfare. The curriculum emphasizes conceptual design thinking, spatial planning, sustainability, digital technologies, and interdisciplinary collaboration within residential, commercial, hospitality, retail, exhibition, and furniture design fields.

Students develop strong design knowledge through the application of design principles, technical skills, research, and advanced visualization tools. The program integrates historical foundations, contemporary practices, global perspectives, and emerging industry trends into the design process. It also encourages critical and creative thinking by examining the relationship between space, function, culture, aesthetics, and human behavior. Through synthesis and innovation, students create comprehensive design solutions that respond effectively to complex environmental, social, and professional challenges.

Interior Design Major Vision Statement:

The Bachelor of Fine Arts in Interior Design at the American International University aspires to become a leading regional and internationally recognized program in innovative, sustainable, and human-centered interior design education. The program envisions cultivating creative, ethical, and technologically proficient designers who contribute positively to society through critical

thinking, interdisciplinary collaboration, and transformative spatial solutions. It seeks to empower students with advanced conceptual, aesthetic, technical, and research capabilities while fostering cultural awareness, professional responsibility, environmental consciousness, and design innovation. Through the integration of contemporary design practices, emerging technologies, sustainability principles, global perspectives, and industry-standard methodologies, the program aims to prepare graduates who can lead and excel in the evolving fields of residential, commercial, hospitality, retail, exhibition, furniture, and experiential interior design regionally and globally.

Interior Design Major Mission Statement:

The Interior Design program at the American International University aims to prepare graduates to achieve the highest levels of conceptual, creative, technical, and ethical performance through a comprehensive education in interior design and spatial innovation. The program emphasizes human-centered, sustainable, and functional design solutions while developing strong technical skills, critical thinking, visual communication, and professional practice. Through interdisciplinary collaboration, digital technologies, and global design perspectives, the program prepares graduates to contribute effectively to the interior design profession and to prosper regionally and globally.

Interior Design Major Objectives

- Designing creative, functional, and human-centered interior environments that enhance health, safety, welfare, productivity, and quality of life through innovative problem-solving.
- Applying strong theoretical, technical, and practical knowledge in spatial planning, construction drawings, detailing, lighting, acoustics, ergonomics, and advanced digital design technologies to develop professional interior design solutions.
- Integrating historical, cultural, and contemporary design perspectives with sustainability principles to create meaningful spaces that respect heritage, diversity, and environmental responsibility.
- Demonstrating effective communication, collaboration, research, and presentation skills while working efficiently within interdisciplinary and professional design teams.

- Developing critical thinking, analytical, and lifelong learning skills that support professional growth, ethical practice, and leadership in the evolving interior design industry.

Major Course Requirements

All students majoring in Interior Design must complete the following courses:

Course	Hours
IDE 100 Technical Drawing	3
IDE 101 Architectural Drawing	3
IDE 211 CAD I	3
IDE 212 CAD II	3
IDE 221 Interior Design Studio I	3
IDE 222 Interior Design Studio II	3
IDE 301 Interior Perspective & Illustration	3
IDE 321 Interior Design Studio III	3
IDE 341 Furniture & Product Design	3
IDE 421 Interior Design Studio IV	3
IDE 431 Building Construction Systems I	3
IDE 432 Building Construction Systems II	3
IDE 433 Interior Materials	3
IDE 441 Lighting Systems	3
IDE 490 Internship	3
IDE 495 Senior Design Project I	3
IDE 497 Senior Design Project II	3
ARD/ARH/IDE Elective (see list)	3
ARD/ARH/IDE Elective (see list)	3
ARD 250 Introduction to urban Design	3

Total Hours 60

ARD/ARH/IDE/AID Electives

Course	Hours
ARD 104 Time Based Art & Design	3
ARD 201 Intermediate Drawing	3
ARD 302 History of Modern Design I	3
ARD 303 Landscaping	3
ARD 402 History of Modern Design II	3
ARH 301 Twentieth Century Art	3
ARH 401 Contemporary Art	3
IDE 204 Design Concept & Representation	3
IDE 225 3D Model Construction	3
IDE 305 Interior Design Trends	3
IDE 401 Environmental Design	3

Course	Hours
IDE 404 Interior Architecture	3
IDE 405 Ergonomics in Interior Design	3
IDE 492 Directed Study in Interior Design	3
IDE 493 Special Topics	3
IDE 494 Directed Project in Graphic Design	3
AID 300 Artificial Intelligence in Design Practice	3
AID 400 AI Capstone Project	3

Total Hours Required for Degree: 120

Suggested 4-Year Plan of Study

Freshman (Year 1)			
Fall Semester	Hrs.	Spring Semester	Hrs.
AIU 100	1	AIU 111/112	1
ARD 101	3	ARD 103	3
ARD 102	3	ARH 101	3
ENG 101	3	IDE 101	3
IDE 100	3	PSY 101	3
GenEd SS course	3	GenEd Mathematics	3
Total	16	Total	16
Sophomore (Year 2)			
Fall Semester	Hrs.	Spring Semester	Hrs.
ARH 102	3	ARH 202	3
IDE 211	3	IDE 221	3
IDE 221	3	IDE 222	3
IDE 301	3	Interior Design Elective	3
GenEd Computer Science	3	ARD 250	3
Total	15	Total	15
Junior (Year 3)			
Fall Semester	Hrs.	Spring Semester	Hrs.
ARD 301	3	AIU 300	1
ENG 301	3	ARD 390	3
IDE 321	3	ENG 302	3
IDE 341	3	IDE 421	3
GenEd NS course	3	IDE 433	3
		GenEd NS course	3
Total	15	Total	16
Summer Semester - Internship		IDE 490	3
Senior (Year 4)			
Fall Semester	Hrs.	Spring Semester	Hrs.
ARD 450	3	ARD 452	3
IDE 431	3	IDE 432	3
IDE 441	3	IDE 497	3
IDE 495	3	Interior Design elective	3
Total	12	Total	12

School of Arts and Sciences

About the School

The AIU School of Arts & Sciences is home to a number of crucial academic areas of the University, including the departments of English, mathematics, and the natural Sciences. Almost all General Education courses reside in the school, from Arts and Humanities to Social Sciences.

School of Arts and Sciences Vision and Mission Statements

SAS Vision Statement:

To be a leading center for liberal education and scientific learning in the region, known for fostering academic excellence, interdisciplinary inquiry, and innovative teaching. We aim to prepare students to engage thoughtfully with the world's evolving challenges through a strong foundation in the sciences, humanities, and global perspectives.

SAS Mission Statement:

The School of Arts and Sciences at AIU is dedicated to providing high-quality general education and specialized training in Biology and Biotechnology. We cultivate a dynamic academic environment where faculty and students collaborate in research, exploration, and creative thinking. Through a broad-based curriculum and scientific rigor, we empower students with critical thinking, ethical responsibility, and the skills necessary to thrive in a global society and contribute meaningfully to the advancement of knowledge and public well-being.

Degrees and Programs Offered

The School of Arts and Sciences offers one undergraduate degrees, the Bachelor of Science (BS), with one associated major, Biotechnology.

Admission Requirements

Freshman Students

A student who meets the criteria for admission to American International University is eligible for admission to the School of Arts and Sciences.

Transfer Students

A student seeking to transfer into the AIU School of Arts and Sciences from another institution must provide an official transcript from each college or university previously attended.

Only 25% of the credits applied to an undergraduate degree at AIU may come from another institution. Therefore, since 124 hours are required for the BS degree, only 30 transferred hours may be applied toward the requirements for either degree. Credit is not typically awarded for transferred courses at the 300 or 400 level. The authority to apply or deny transferred credit rests with the AIU Office of the Registrar and the Dean of the School.

Students with Bachelor's Degrees

Students who have completed an undergraduate degree and wish to complete a second degree in the School of Arts and Sciences must satisfy all the requirements described for the BS degree in this catalog. A minimum of 60 hours must be completed in residence at AIU to earn a second bachelor's degree.

General Degree Requirements and Academic Policies

Students earning a degree from the School of Arts and Sciences must complete all University, School, and departmental requirements as specified in this catalog.

Student Responsibilities

- Each student is responsible for selecting courses that will allow him or her to make reasonable progress toward a degree. Students should meet with their assigned advisor in the Student Success Center to develop a long-term academic plan.
- Each student is responsible for following University

- and School policies appearing in official documents (including the University website) which govern academic programs, curricula, courses, and completion of degrees.
- Each student is expected to attend all classes and pursue successful completion of all courses in which they enroll.
- The AIU email address is our official means of communication, and students are expected to respond promptly to all communications from the University, the School of Arts and Sciences, and their academic advisor.
- Each student is expected to be familiar with the current academic calendar.

Maximum Class Hour Load Per Semester

Students may register for a maximum of 18 semester hours during the fall and spring semesters. Special permission from the Dean of the School and the Associate Vice President for Academic Affairs is required to enroll in more than 18 hours.

Department and Program Requirements

The School of Arts and Sciences requires the following courses in addition to the major course requirements:

General Education Curriculum

AIU's General Education curriculum is required for all undergraduate students and consists of a minimum of 36 hours of coursework from nine core areas. All AIU students must complete these specific courses to satisfy General Education requirements:

Course	Hours
AIU 100 The AIU Experience (EX)	1
AIU 111 or 112 Wellness (WL)	1
AIU 300 Internship & Career Preparation (EX)	1
ENG 101 College Writing (EC)	3

Total Hours 6

Students must also choose courses to complete the remaining General Education requirements:

- English Communication: three hours designated EC
- Oral Communication: three hours designated OC
- Arts & Humanities: six hours designated AH
- Mathematics: three hours designated MA
- Natural Sciences: six hours designated NS
- Social Sciences: six hours designated SS

Some majors may require specific courses to satisfy General Education requirements. See individual major descriptions for a list of these courses.

School of Arts and Sciences Core Requirements

All students earning a Bachelor of Science degree from the School of Arts and Sciences must complete a minimum of 21 hours of Natural Sciences (BIO, CHM, GEO, PHY) and Mathematics (MAT) courses beyond the General Education curriculum and their specific major course requirements, as well as a 3-hour internship course.

Course subject areas within the School of Arts and Sciences include:

- AIG – Artificial Intelligence
- ANT – Anthropology
- BIO – Biology
- CHM – Chemistry
- COM – Communication
- ENG – English
- GEO – Geology
- HIS – History
- MAT – Mathematics
- MUS – Music
- PBH – Public Health
- PHL – Philosophy
- PHY – Physics
- PSY – Psychology
- SOC – Sociology
- THR – Theatre

Bachelor of Science Degree

The School of Arts and Sciences offers one major, Biotechnology, for the BS degree.

Major in Biotechnology

The Bachelor of Science in Biotechnology Program aims to produce skilled and knowledgeable biotechnologists who are interested in careers in biotechnology and molecular medicine in the private, public, and academic sectors. The curricular emphasis is on molecular biology and genetics, microbiology, and emerging areas such as bioinformatics and genomics.

The program aims to supply society with biologically literate citizens who are capable of responsible decision-making. We aim to produce ambitious, creative graduates who are interested in continuing their education in the biosciences, and who will contribute to the advancement of agriculture, medicine, and environmental sciences through the application of biotechnology theory and recombinant DNA technology. Throughout the program, we will enhance students' ability to integrate their acquired math, computer, and bioscience knowledge and skills to investigate and solve biological problems. Graduates will practice scientific inquiry and appreciate its role in the development of research, science, technology, and society.

Biotechnology Major Vision Statement:

To establish a center for biotechnology education and research that is recognized nationally and internationally, cultivating graduates who excel as leaders in scientific discovery, technological innovation, and the ethical application of biotechnology to improve human health, agriculture, and the environment

Biotechnology Major Mission Statement:

Our mission of the undergraduate program in Biotechnology is to establish a robust foundation in biological sciences and biotechnology applications, including principles of tissue engineering, fostering critical thinking, ethical awareness, and innovation. The program aims to prepare students for successful careers in biotechnology industries, research institutions, and further academic pursuits, by

providing them with hands-on experience, interdisciplinary knowledge, and a global perspective on scientific challenges and solutions.

Biotechnology Major Objectives

Within a few years of graduation, graduates of the Bachelor of Science in Biotechnology program are expected to:

- **Apply Biotechnology Knowledge and Skills:** Utilize principles of molecular biology, genetics, microbiology, bioinformatics, and related biosciences to address challenges in biotechnology, healthcare, agriculture, and environmental sciences.
- **Engage in Professional Practice and Research:** Demonstrate competence in laboratory techniques, scientific inquiry, data analysis, and problem-solving to contribute effectively in biotechnology industries, research institutions, and interdisciplinary professional environments.
- **Pursue Lifelong Learning and Advanced Studies:** Continue professional growth through advanced education, research, certifications, and lifelong learning in biotechnology and related scientific fields.
- **Demonstrate Ethical and Social Responsibility:** Practice biotechnology in an ethical, responsible, and socially conscious manner while recognizing the impact of biotechnology on society, health, and the environment.
- **Exhibit Communication, Teamwork, and Leadership Skills:** Function effectively in multidisciplinary and multicultural teams, communicate scientific concepts clearly, and demonstrate leadership and innovation in professional and academic settings.

General Education Curriculum

Students majoring in Biotechnology must complete these specific courses to satisfy General Education requirements:

Course	Hours
CHM 110 General Chemistry I (NS)	3
CHM 111 General Chemistry I Laboratory (NS)	1
ENG 101 College Writing (EC)	3
ENG 301 Technical Writing (EC)	3
ENG 302 Technical Presentations (OC)	3

Course	Hours
MAT 121 Calculus I (MA)	4
PHL 112 Professional Ethics (AH)	3
PHY 120 Physics I (NS)	3
PHY 121 Physics I Laboratory (NS)	1
Total Hours	24

Students must also choose courses to complete the remaining General Education requirements:

- Arts & Humanities: three hours designated AH
- Social Sciences: six hours designated SS
- Computer Sciences: three hours designated CS
- AIU Experience: three hours designated EX

School Core Requirements (BS)

Students majoring in Biotechnology must complete the following specific courses to satisfy the School of Arts and Sciences Core requirements for the BS degree:

Course	Hours
BIO 100 Basic Life Diversity	3
CHM 112 General Chemistry II	3
CHM 113 General Chemistry II Laboratory	1
MAT 115 Quantitative Methods I	3
MAT 116 Quantitative Methods II	3
CHM 230 Organic Chemistry I	3
CHM 231 Organic Chemistry I Laboratory	1
CHM 240 Organic Chemistry II	3
CHM 241 Organic Chemistry II Laboratory	1
BIO 490 Internship	3
Total Hours	24

Major Course Requirements

All students majoring in Biotechnology must complete the following courses with no less than D-:

Course	Hours
BIO 101 Basic Life Mechanisms	3
BIO 102 Basic Life Mechanisms Laboratory	1
BIO 201 Introduction to Cell Biology	4
BIO 210 Microbiology	4

Course	Hours
BIO 310 Genetics	4
CHM 310 Physical Chemistry I	3
BIO 315 Bioinformatics	3
BIO 320 Human Physiology	3
BIO 330 Cellular Biochemistry	3
BIO 375 Histology	3
BIO 376 Histology Lab	1
BIO 380 Molecular Biology and Biotechnology	4
BIO 410 Biometry	3
BIO 435 Bioenergetics	3
BIO 450 Principles & Applications of Biotechnology I	3
BIO 460 Principles & Applications of Biotechnology II	3
BIO 495 Senior Project I	1
BIO 496 Senior Project II	3
Total Hours	52

Students must also choose a specialization (three courses):

Bioinformatics

Course	Hours
BIO 417 Bioinformatics Using MATLAB	3
BIO 422 Evolutionary Genomics and Bioinformatics	3
BIO 440 Computational Biology	3

Clinical Laboratory Sciences

Course	Hours
BIO 411 Clinical Biochemistry	3
BIO 425 Basic Human Pathology	3
BIO 431 Hematology and Blood Banking	3

Tissue Engineering:

Course	Hours
BIO 405 Infection and Innate Immunology	3
BIO 421 3D Bioprinting	3
BIO 430 Tissue Culture and Modulation	3

Total Hours Required for Degree: 124

Suggested 4-Year Plan of Study

Freshman (Year 1)			
Fall Semester	Hrs.	Spring Semester	Hrs.
AIU 100	1	AIU 111/112	1
BIO 100	3	BIO 101	3
CHM 110	3	BIO 102	1
CHM 111	1	CHM 112	3
ENG 101	3	CHM 113	1
MAT 121	4	GenEd Computer Science	3
		GenEd AH course	3
Total	15	Total	15
Sophomore (Year 2)			
Fall Semester	Hrs.	Spring Semester	Hrs.
BIO 201	4	BIO 210	4
CHM 230	3	CHM 240	3
CHM 231	1	CHM 241	1
PHY 120	3	MAT 115	3
PHY 121	1	GenEd SS course	3
GenEd SS course	3		
Total	15	Total	14
Junior (Year 3)			
Fall Semester	Hrs.	Spring Semester	Hrs.
BIO 310	4	AIU 300	1
BIO 320	3	BIO 330	3
BIO 375	3		
BIO 376	1	BIO 380	4
ENG 301	3	CHM 310	3
MAT 116	3	BIO 315	3
Total	17	Total	14
Summer Semester - Internship		BIO 490	3
Senior (Year 4)			
Fall Semester	Hrs.	Spring Semester	Hrs.
BIO 410	3	BIO 460	3
BIO 435	3	BIO 496	3
BIO 450	3	Specialization course	3
			3
BIO 495	1	Specialization course	
ENG 302	3	PHL 112	3
Specialization course	3		
Total	16	Total	15

School of Business

About the School

The American International University School of Business exists to prepare students for careers in the global marketplace and for graduate study in the United States and elsewhere. Grounded in the values of trust, mutual respect, lifelong learning, and excellence, the school equips graduates with the practical experience, ethical reasoning, and leadership skills needed to succeed in a dynamic and constantly evolving business environment.

Through a rigorous American-style curriculum, students engage with both theoretical foundations and real-world applications across a broad range of business disciplines. Faculty members bring extensive academic and professional expertise, ensuring instruction remains relevant and responsive to the demands of the modern workplace. Classes foster a collaborative and intellectually stimulating environment where students are encouraged to think critically, communicate effectively, and grow as principled professionals.

The school is committed to developing graduates who are not only career-ready but also capable of contributing meaningfully to Kuwait's economy and the broader global business landscape.

School of Business Vision Statement:

The School of Business at AIU aspires to be a model of excellence in higher education, shaping the future of Kuwait and the Gulf region. We empower learners, faculty, and stakeholders through innovative academic programs and impactful industry research, fostering leaders who embrace trust, mutual respect, and excellence in a dynamic and constantly evolving global business landscape.

School of Business Vision Statement:

The School of Business at AIU is committed to cultivating an educational environment that nurtures leaders dedicated to creating a positive impact in the world. We equip students with practical experience grounded in the values of trust, mutual respect, lifelong learning, and excellence, while developing international partnerships that enrich our academic programs and prepare graduates to excel in the

global business landscape.

Degrees and Programs Offered

AIU's School of Business offers one undergraduate degree, the Bachelor of Science in Business Administration (BSBA). Students earning this degree must complete all University, School, and departmental requirements as specified in this catalog. Students may choose a major in accounting, entrepreneurship, finance, global supply chain management, management, or marketing.

Admission Requirements

Freshman Students

A student who meets the criteria for admission to American International University is eligible for admission to the School of Business.

Transfer Students

A student seeking to transfer into the AIU School of Business from another institution must provide an official transcript from each college or university previously attended.

Only 25% of the credits applied to an undergraduate degree at AIU may come from another institution. Therefore, since 124 hours are required for the BSBA degree, only 30 transferred hours may be applied toward the degree requirements. Degree credit is not typically awarded for transferred courses at the 300 or 400 level. The authority to apply or deny transferred credit rests with the AIU Office of the Registrar and the Dean of the School.

Students with Bachelor's Degrees

Students who have completed an undergraduate degree and wish to complete a second degree in business must meet the requirements described for business majors in this catalog. A minimum of 60 hours of coursework must be completed at AIU to earn a second bachelor's degree.

Student Responsibilities

- Each student is responsible for selecting courses that will allow him or her to make reasonable progress toward a degree. Students should meet with their

advisor in the Student Success Center to develop a long-term academic plan.

- Each student is responsible for following University and School policies appearing in official documents (including the University website) which govern academic programs, curricula, courses, and completion of degrees.
- Each student is expected to attend all classes and pursue successful completion of all courses in which they enroll.
- The AIU email address is our official means of communication, and students are expected to respond promptly to all communications from the University, the School of Business, and their academic advisor.
- Each student is expected to be familiar with the current academic calendar.

Maximum Class Hour Load Per Semester

Students may register for a maximum of 19 semester hours during the fall and spring semesters. Special permission from the Dean of the School and the office of Vice President for Academic Affairs is required to enroll in more than 19 hours.

Department and Program Requirements

A total of 124 hours, distributed as follows, are required to earn a degree of Bachelor of Science in Business Administration:

General Education Courses

AIU's General Education curriculum is required for all undergraduate students and consists of at least 36 hours of coursework from nine core areas. Students in the School of Business must complete these specific courses to satisfy AIU's General Education requirements:

Course	Hours
AIU 100 The AIU Experience (EX)	1
AIU 111 or 112 Wellness (WL)	1
AIU 300 Career Development (EX)	1
COM 350 Debate (OC)	3
ECO 201 Principles of Microeconomics (SS)	3
ECO 202 Principles of Macroeconomics (SS)	3

Course	Hours
ENG 101 College Writing	3
ENG 303 Creative Writing (OC)	3
MAT 115 Quantitative Methods I (MA)	3
PHL 112 Professional Ethics (AH)	3
CSC 101 Computer Essentials (CS)	3
Total Hours: 27	

Students must also choose courses to complete the remaining General Education requirements:

- Natural Science: six hours designated NS.
- Arts & Humanities: three hours designated AH.

School of Business Core Courses

All students in the School of Business must complete the following courses, regardless of their major:

Course	Hours
PSY 101 Introduction to Psychology	3
BUS 103 Critical Thinking for Consumer Decisions	3
BUS 104 Personal Financial Planning	3
MAT 116 Quantitative Methods II	3
ACC 201 Introduction to Financial Accounting	3
ACC 205 Managerial Accounting I	3
MGT 201 Organizational Behavior	3
MKT 201 Marketing Management	3
BUS 210 Business Law	3
FIN 211 Business Finance	3
GSC 301 Operations & Supply Chain Management	3
BUS 307 Business Information Systems	4
MGT 401 Strategic Management	3
BUS 490 Internship	3
MKT 101 Business & Sustainability	3
Total Hours: 46	

SB Electives

FIN 301 Financial Statements Analysis and Models

FIN 401 Bank Management

FIN 410 International Business Finance

GSC 302 Global Supply Chain Management I

GSC 303 Logistics and Transportation

GSC 350 Strategic Procurement

GSC 403 Quality Management

ENT 305 The Entrepreneur & New Venture Creation

ENT 306 Entrepreneurial Fundraising and Marketing

ENT 365 Managing & Commercializing Innovation

ENT 415 Social Entrepreneurship

MGT 301 Advanced Organizational Behavior

MGT 302 Managing Org. Structure & Processes

ENT 305 Entrepreneurship & New Venture Creation

MGT 370 Human Resource Management I

MGT 420 Project Management

MKT 303 Consumer Behavior

MKT 304 Integrated Marketing Communications

MKT 360 Marketing Research Techniques & Applications

MKT 410 Digital Marketing and Analytics

MKT 440 Strategic Marketing & Sales Management

ACC 251 Intermediate Financial Accounting I

ACC 402 Accounting Systems

BUS 301 – Introduction to AI in Business

Major Programs

The following majors are offered by the School of Business. Each major requires 27 hours of coursework:

- Accounting
- Entrepreneurship
- Finance
- Global Supply Chain Management
- Management
- Marketing

Electives

In addition to the specific course requirements listed above, students must complete as many additional hours as required to reach the minimum of 124 earned hours required for the BSBA degree.

Major Requirements

The following are the specific courses required for each major in the School of Business.

Accounting

Course	Hours
ACC 251 Intermediate Financial Accounting I	3
ACC 301 Intermediate Financial Accounting II	3
ACC 305 Managerial Accounting II	3
ACC 351 Intermediate Financial Accounting III	3
ACC 401 Advanced Accounting	3
ACC 402 Accounting Systems	3
ACC 411 Auditing	3
Two School of Business courses (300 or 400 level)	6
Total Hours: 27	

Entrepreneurship

Course	Hours
ENT 305 The Entrepreneur & New Venture Creation	3
ENT 306 Entrepreneurial Fundraising and Marketing	3
ENT 365 Managing & Commercializing Innovation	3
ENT 415 Social Entrepreneurship	3
ENT 445 Collaborative Design for Entrepreneurs	3
ENT 465 Managing Entrepreneurship & Org. Change	3
Three School of Business courses (300 or 400 level)	9
Total Hours: 27	

Finance

Course	Hours
FIN 301 Financial Statements Analysis and Models	3
FIN 302 Security Analysis and Portfolio Management	3
FIN 311 Advanced Business Finance	3
FIN 401 Bank Management	3
FIN 410 International Business Finance	3
FIN 411 Corporate Financial Strategies	3
Three School of Business courses (300 or 400 level)	9
Total Hours: 27	

Global Supply Chain Management

Course	Hours
GSC 302 Global Supply Chain Management I	3
GSC 303 Logistics and Transportation	3
GSC 350 Strategic Procurement	3
GSC 402 Global Supply Chain Management II	3
GSC 403 Quality Management	3
GSC 420 Production Management	3
(Three School of Business courses (300 or 400 level)	9
Total Hours	27

Management

Course	Hours
MGT 301 Advanced Organizational Behavior	3
MGT 302 Managing Org. Structure & Processes	3
ENT 305 Entrepreneurship & New Venture Creation	3
MGT 370 Human Resource Management I	3
MGT 420 Project Management	3
MGT 470 Human Resource Management II	3
Three School of Business courses (300 or 400 level)	9
Total Hours: 27	

Marketing

Course	Hours
MKT 303 Consumer Behavior	3
MKT 304 Integrated Marketing Communications	3
MKT 360 Marketing Research Techniques & Applications	3
MKT 410 Digital Marketing and Analytics	3
MKT 440 Strategic Marketing & Sales Management	3
MKT 460 Advanced Marketing Management	3
Three School of Business courses (300 or 400 level)	9
Total Hours: 27	

Total Hours Required for Degree: 124

Suggested 4-Year Plan of Study

Accounting

Freshman (Year 1)			
Fall Semester	Hrs.	Spring Semester	Hrs.
AIU 100	1	BUS 104	3
AIU 111/112	1	CSC 101	3
BUS 103	3	ECO 201	3
ENG 101	3	MAT 116	3
MAT 115	3	MKT 101	3
PSY 101	3		
Total	14	Total	15

Sophomore (Year 2)			
Fall Semester	Hrs.	Spring Semester	Hrs.
ACC 201	3	ACC 205	3
ECO 202	3	ACC 251	3
ENG 303	3	BUS 210	3
MKT 201	3	FIN 211	3
GenEd AH course	3	MGT 201	3
Total	15	Total	15

Junior (Year 3)			
Fall Semester	Hrs.	Spring Semester	Hrs.
ACC 301	3	ACC 305	3
AIU 300	1	ACC 351	3
BUS 307	4	PHL 112	3
COM 350	3	GenEd NS course	3
GSC 301	3	Electives (SB)	3
GenEd NS course	3		
Total	17	Total	15
Summer Semester - Internship.	BUS 490		3

Senior (Year 4)			
Fall Semester	Hrs.	Spring Semester	Hrs.
ACC 401	3	ACC 402	3
ACC 411	3	MGT 401	3
Electives (SB)	3	Elective (SB)	3
Electives (SB)	3	Electives (SB)	3
Electives (SB)	3	Electives (SB)	3
Total	15	Total	15

Entrepreneurship

Freshman (Year 1)			
Fall Semester	Hrs.	Spring Semester	Hrs.
AIU 100	1	BUS 104	3
AIU 111/112	1	CSC 101	3
BUS 103	3	ECO 201	3
ENG 101	3	MAT 116	3
MAT 115	3	MKT 101	3
PSY 101	3		
Total	14	Total	15

Freshman (Year 1)

Sophomore (Year 2)			
Fall Semester	Hrs.	Spring Semester	Hrs.
ACC 201	3	ACC 205	3
ECO 202	3	BUS 210	3
ENG 303	3	FIN 211	3
MKT 201	3	MGT 201	3
GenEd AH course	3	GenEd NS course	3
Total	15	Total	15

Junior (Year 3)			
Fall Semester	Hrs.	Spring Semester	Hrs.
AIU 300	1	ENT 306	3
BUS 307	4	ENT 365	3
COM 350	3	PHL 112	3
ENT 305	3	GenEd NS course	3
GSC 301	3	Elective (SB)	3
Elective (SB)	3		
Total	17	Total	15
Summer Semester - Internship.	BUS 490		3

Senior (Year 4)			
Fall Semester	Hrs.	Spring Semester	Hrs.
ENT 415	3	ENT 465	3
ENT 445	3	MGT 401	3
Elective (SB)	3	Elective (SB)	3
Elective (SB)	3	Elective (SB)	3
Elective (SB)	3	Elective (SB)	3
Total	15	Total	15

Finance

Freshman (Year 1)

Fall Semester	Hrs.	Spring Semester	Hrs.
AIU 100	1	BUS 104	3
AIU 111/112	1	CSC 101	3
BUS 103	3	ECO 201	3
ENG 101	3	MAT 116	3
MAT 115	3	MKT 101	3
PSY 101	3		
Total	14	Total	15

Sophomore (Year 2)			
Fall Semester	Hrs.	Spring Semester	Hrs.
ACC 201	3	ACC 205	3
ECO 202	3	BUS 210	3
ENG 303	3	FIN 211	3
MKT 201	3	MGT 201	3
GenEd AH course	3	GenEd NS course	3
Total	15	Total	15

Junior (Year 3)			
Fall Semester	Hrs.	Spring Semester	Hrs.

Freshman (Year 1)			
AIU 300	1	FIN 311	3
BUS 307	4	PHL 112	3
COM 350	3	GenEd NS course	3
FIN 301	3	FIN 302	3
GSC 301	3	Elective (SB)	3
Elective (SB)	3		
Total	17	Total	15
Summer Semester - Internship		BUS 490	3

Senior (Year 4)			
Fall Semester	Hrs.	Spring Semester	Hrs.
FIN 401	3	FIN 411	3
FIN 410	3	MGT 401	3
Elective (SB)	3	Elective (SB)	3
Elective (SB)	3	Elective (SB)	3
Elective (SB)	3	Elective (SB)	3
Total	15	Total	15

Global Supply Chain Management

Freshman (Year 1)			
Fall Semester	Hrs.	Spring Semester	Hrs.
AIU 100	1	BUS 104	3
AIU 111/112	1	CSC 101	3
BUS 103	3	ECO 201	3
ENG 101	3	MAT 116	3
MAT 115	3	MKT 101	3
PSY 101	3		
Total	14	Total	15

Sophomore (Year 2)			
Fall Semester	Hrs.	Spring Semester	Hrs.
ACC 201	3	ACC 205	3
ECO 202	3	BUS 210	3
ENG 303	3	FIN 211	3
MKT 201	3	MGT 201	3
GenEd AH course	3	GenEd NS course	3
Total	15	Total	15

Junior (Year 3)			
Fall Semester	Hrs.	Spring Semester	Hrs.
AIU 300	1	GSC 302	3
BUS 307	4	GSC 303	3
COM 350	3	GSC 350	3
GSC 301	3	PHL 112	3
Elective (SB)	3	GenEd NS course	3
Total	14	Total	18
Summer Semester - Internship		BUS 490	3

Senior (Year 4)			
Fall Semester	Hrs.	Spring Semester	Hrs.

Freshman (Year 1)			
GSC 402	3	GSC 420	3
GSC 403	3	MGT 401	3
Elective (SB)	3	Elective (SB)	3
Elective (SB)	3	Elective (SB)	3
Elective (SB)	3	Elective (SB)	3
Total	15	Total	15

Management

Freshman (Year 1)			
Fall Semester	Hrs.	Spring Semester	Hrs.
AIU 100	1	BUS 104	3
AIU 111/112	1	CSC 101	3
BUS 103	3	ECO 201	3
ENG 101	3	MAT 116	3
MAT 115	3	MKT 101	3
PSY 101	3		
Total	14	Total	15

Sophomore (Year 2)			
Fall Semester	Hrs.	Spring Semester	Hrs.
ACC 201	3	ACC 205	3
ECO 202	3	BUS 210	3
ENG 303	3	FIN 211	3
MKT 201	3	MGT 201	3
GenEd AH course	3	GenEd NS course	3
Total	15	Total	15

Junior (Year 3)			
Fall Semester	Hrs.	Spring Semester	Hrs.
AIU 300	1	MGT 302	3
BUS 307	4	MGT 370	3
COM 350	3	PHL 112	3
GSC 301	3	ENT 305	3
MGT 301	3	GenEd NS course	3
Elective (SB)	3		
Total	17	Total	15

Summer Semester - Internship		BUS 490	3
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Senior (Year 4)			
Fall Semester	Hrs.	Spring Semester	Hrs.
MGT 420	3	MGT 401	3
Elective (SB)	3	MGT 470	3
Elective (SB)	3	Elective (SB)	3
Elective (SB)	3	Elective (SB)	3
Elective (SB)	3	Elective (SB)	3
Total	15	Total	15

Marketing

Freshman (Year 1)			
Fall Semester	Hrs.	Spring Semester	Hrs.
AIU 100	1	BUS 104	3
AIU 111/112	1	CSC 101	3
BUS 103	3	ECO 201	3
ENG 101	3	MAT 116	3
MAT 115	3	MKT 101	3
PSY 101	3		
Total	14	Total	15
Sophomore (Year 2)			
Fall Semester	Hrs.	Spring Semester	Hrs.
ACC 201	3	ACC 205	3
ECO 202	3	BUS 210	3
ENG 303	3	FIN 211	3
MKT 201	3	MGT 201	3
GenEd AH course	3	GenEd NS course	3
Total	15	Total	15
Junior (Year 3)			
Fall Semester	Hrs.	Spring Semester	Hrs.
AIU 300	1	MKT 304	3
BUS 307	4	MKT 360	3
GSC 301	3	PHL 112	3
COM 350	3	Elective (SB)	3
MKT 303	3	GenEd NS course	3
Elective (SB)	3		
Total	17	Total	15
Summer Semester - Internship		BUS 490	3
Senior (Year 4)			
Fall Semester	Hrs.	Spring Semester	Hrs.
MKT 410	3	MGT 401	3
MKT 440	3	MKT 460	3
Elective (SB)	3	Elective (SB)	3
Elective (SB)	3	Elective (SB)	3
Elective (SB)	3	Elective (SB)	3
Total	15	Total	15

School of Education

About the School

The School of Education at American International University prepares future educators, instructional leaders, and education professionals to serve diverse learning communities in Kuwait and beyond through

innovative, research-informed, and practice-oriented teacher education. The School offers undergraduate programs in Elementary Education and Secondary Education with concentrations in English, Mathematics, and Science, integrating strong disciplinary knowledge with contemporary pedagogical practice, digital learning, assessment literacy, and inclusive education principles.

Grounded in international standards and aligned with the expectations of the Kuwaiti Ministry of Higher Education, the curriculum is benchmarked against leading educator preparation programs, including those in the USA, to support global academic alignment and student mobilities. Through coursework, practicum experiences, student teaching, internships, service learning, and community engagement, students develop the professional competencies needed to foster student achievement, educational equity, innovation, and sustainable development. The School emphasizes ethical leadership, reflective practice, and evidence-based teaching that contributes to lifelong learning and the advancement of quality education.

School Vision

The School of Education aspires to become a leading regional center for educator preparation, educational innovation, and community engagement by preparing reflective, ethical, and globally competent educators who advance excellence in teaching and learning.

The School seeks to cultivate transformative educators equipped to address the evolving educational needs of Kuwait and the wider global community through inclusive practices, research-informed, clinical instruction, technology integration, and service learning. Guided by international standards and benchmarked against respected institutions in the USA, the School is committed to advancing quality education, educational equity, and sustainable development through collaborative partnerships, experiential learning, and continuous improvement.

School Mission

The mission of the School of Education at American International University is to prepare highly qualified educators for elementary and secondary schools through

rigorous academic preparation, field-based experiences, and learner-centered pedagogical training in English, Mathematics, and Science education.

The School equips future teachers with strong disciplinary knowledge, professional ethics, assessment literacy, digital competencies, and inclusive instructional practices necessary to support diverse learners and improve educational outcomes. Through alignment with international educator preparation standards and benchmarking, the School promotes academic excellence, innovation, service learning, and research-informed practice.

Graduates are prepared to contribute meaningfully to schools and communities while advancing the goals of quality education, lifelong learning, and sustainable development in Kuwait and beyond.

Degrees and Programs Offered

AIU's School of Education offers a Bachelor of Arts degree (BA) in five disciplines:

- Elementary Education – English
- Elementary Education – Mathematics
- Elementary Education - Science
- Secondary Education – English
- Secondary Education – Mathematics

Students earning a degree from the School of Education must complete all University, School, and departmental requirements as specified in this catalog.

Admission Requirements

Freshman Students

A student who meets the criteria for admission to American International University is eligible for admission to the School of Education.

Transfer Students

A student seeking to transfer into the AIU School of Education from another institution must provide an official transcript from each college or university previously

attended.

Only 25% of the credits applied to an undergraduate degree at AIU may come from another institution. Therefore, since 124 hours are required for the BA degree in Education, only 30 transferred hours may be applied toward the degree requirements. Degree credit is not typically awarded for transferred courses at the 300 or 400 level. The authority to apply or deny transferred credit rests with the AIU Office of the Registrar and the Dean of the School.

Students with bachelor's Degrees

Students who have completed an undergraduate degree and wish to complete a second degree in education must satisfy all the requirements described for education majors in this catalog. A minimum of 60 hours must be completed in residence at AIU to earn a second bachelor's degree.

Student Responsibilities

- Each student is responsible for selecting courses that will allow him or her to make reasonable progress toward a degree. Students should meet with their assigned advisor in the Student Success Center to develop a long-term academic plan.
- Each student is responsible for following University and School policies appearing in official documents (including the University website) which govern academic programs, curricula, courses, and completion of degrees.
- Each student is expected to attend all classes and pursue successful completion of all courses in which they enroll.
- The AIU email address is our official means of communication, and students are expected to respond promptly to all communications from the University, the School of Education, and their academic advisor.
- Each student is expected to be familiar with the current academic calendar.

Maximum Class Hour Load Per Semester

Students may register for a maximum of 19 semester hours during the fall and spring semesters. Special permission from the Dean of the School and the Associate Vice President for Academic Affairs is required to enroll in more than 19 hours.

Department and Program Requirements

All programs in the School of Education have 124 CH and include the following courses in addition to the major and specialization requirements.

General Education Courses

AIU's General Education curriculum is required for all undergraduate students and consists of a minimum of 36 hours of coursework from nine core areas. Students in the School of Education must complete these specific courses to satisfy AIU's General Education requirements:

Course	Hours
AIU 100 The AIU Experience (EX)	1
AIU 111 or 112 Wellness (WL)	1
AIU 300 Career Development (EX)	1
CSC 101 Computer Essentials	3
ENG 101 College Writing (EC)	3
ENG 301 Technical Writing (EC)	3
ENG 302 Technical Presentations (OC)	3
MAT 115 Quantitative Methods	3
PSY 101 Introduction to Psychology (SS)	3
Total Hours: 21	

Students must also choose courses to complete the remaining General Education requirements. (Some majors may require specific courses for these areas).

- Arts & Humanities: six hours designated AH
- Natural Sciences: six hours designated NS
- Social Sciences: three hours designated SS "AIG 101 Recommended"

School of Education Core Courses

All students in the School of Education must complete the following courses, regardless of their major:

Course	Hours
EDU 101 Foundation of Education in Kuwait	3
EDU 102 Curriculum and Assessment	3
EDU 205 Educational Psychology	3
EDU 211 Differentiated Instruction for Diverse Learners	3
EDU 240 Introduction to the Philosophy of Education	3

Course	Hours
EDU 250 Prof. Engagement, Advocacy, & Planning	3
EDU 305 Reading and Writing in All Disciplines	3
EDU 310 Classroom Management	3
EDU 320 Computer Applications in Teaching	3
EDU 430 Supportive Environments, Engaged Learning	3
EDU 460 Education Research Methods	3
EDU 490 Internship	4
EDU 498 Practicum	3
EDU 499 Student Teaching	6

Total Hours: 46

Elementary Education – English

Major Course Requirements

All students majoring in Elementary Education – English must complete the following courses:

Elementary Education Cluster:

Course	Hours
EDU 210 Analysis of Elementary Teaching	3
EDU 226 Classroom Culture & Student Engagement	3
EDU 336 Foundations of Child Development in Elementary Education	3
EDU 356 Instructional Design for Elementary Teaching	3
EDU 475 Assessment & Data Literacy for Elementary Teachers	3
ENG 115 Literacy I	3
Total Hours: 18	

English Cluster:

Course	Hours
ENG 120 Young Adult Literature	3
ENG 208 English Grammar and Usage	3
ENG 215 Linguistics in Education	3
ENG 220 English Literature	3
ENG 230 American Literature	3
EDU 485 Culture as Basis for Language Learning	3

Total Hours: 18

Electives:

Students must also choose 2 additional EDU or ENG courses (6 CH) to complete the remaining Degree requirements.

Total Hours Required for Degree: 124

Suggested 4-Year Plan of Study

Freshman (Year 1)			
Fall Semester	Hrs.	Spring Semester	Hrs.
AIU 100	1	AIU 111/112	1
ENG 101	3	EDU 102	3
CSC 101	3	ENG 115	3
EDU 101	3	ENG 120	3
PSY 101	3	MAT 115	3
GenEd NS course	3	GenEd SS course	3
Total	16	Total	16
Sophomore (Year 2)			
Fall Semester	Hrs.	Spring Semester	Hrs.
EDU 205	3	EDU 211	3
EDU 210	3	EDU 240	3
EDU 226	3	EDU 250	3
ENG 208	3	ENG 215	3
GenEd AH course	3	ENG 220	3
Total	15	Total	15
Junior (Year 3)			
Fall Semester	Hrs.	Spring Semester	Hrs.
EDU 305	3	AIU 300	1
EDU 310	3	EDU 336	3
EDU 320	3	EDU 356	3
ENG 230	3	ENG 301	3
GenEd NS course	3	Education elective I	3
		GenEd AH course	3
Total	15	Total	16
Summer Semester –			
Internship		EDU 490	4
Senior (Year 4)			
Fall Semester	Hrs.	Spring Semester	Hrs.
EDU 430	3	EDU 460	3
EDU 475	3	EDU 499	6
EDU 485	3	Education elective II	3
EDU 498	3		
ENG 302	3		
Total	15	Total	12

Elementary Education – Mathematics

Major Course Requirements

All students majoring in Elementary Education – Mathematics must complete the following courses:

Elementary Education Cluster:

Course	Hours
EDU 211 Differentiated Instruction for Diverse Learners	3
EDU 226 Classroom Culture & Student Engagement	3
EDU 336 Foundations of Child Development in Elementary Education	3
EDU 356 Instructional Design for Elementary Teaching	3
EDU 475 Assessment & Data Literacy for Elementary Teachers	3
ENG 115 Literacy I	3
Total Hours: 18	

Mathematics Cluster:

Course	Hours
MAT 113 Elementary Functions	4
MAT 116 Quantitative Methods II	3
MAT 121 Calculus I	4
MAT 200 Discrete Mathematics	3
MAT 201 Mathematical Reasoning Seminar*	1
MAT 211 Geometry for Middle School Teachers	3
MAT 215 Algebra	3
MAT 310 Mathematical Proof	3
MAT 312 Theory of Numbers	3
Total Hours: 27	

* Elementary Education - Mathematics only

Electives:

Students must also choose one additional EDU or MAT course (3 CH) to complete the remaining Degree requirements.

Total Hours Required for Degree: 124

Suggested 4-Year Plan of Study

Freshman (Year 1)			
Fall Semester	Hrs.	Spring Semester	Hrs.
ENG 101	3	AIU 111/112	1

Freshman (Year 1)			
PSY 101	3	ENG 115	3
EDU 101	3	MAT 113	4
CSC 101	3	EDU 102	3
AIU 100	1	GenEd SS course	3
GenEd NS course	3		
Total	16	Total	14

Sophomore (Year 2)

Fall Semester	Hrs.	Spring Semester	Hrs.
EDU 205	3	EDU 211	3
EDU 226	3	EDU 240	3
MAT 115	3	EDU 250	3
MAT 121	4	MAT 116	3
GenEd AH course	3	MAT 200	3
		MAT 201	1
Total	16	Total	16

Junior (Year 3)

Fall Semester	Hrs.	Spring Semester	Hrs.
EDU 305	3	AIU 300	1
EDU 310	3	EDU 336	3
EDU 320	3	EDU 356	3
ENG 301	3	MAT 215	3
MAT 211	3	GenEd NS course	3
Total	15	Total	13

Summer Semester Internship

EDU 490 4

Senior (Year 4)

Fall Semester	Hrs.	Spring Semester	Hrs.
EDU 430	3	EDU 460	3
EDU 475	3	EDU 499	6
EDU 498	3	MAT 312	3
MAT 310	3	Education Elective	3
GenEd AH Course	3		
Total	15	Total	15

Secondary Education – English

Major Course Requirements

All students majoring in Secondary Education – English must complete the following courses:

Secondary Education Cluster:

Course	Hours
EDU 212 Differentiated Instruction and Digital Learning for Diverse Learners	3

Course	Hours
EDU 251 Foundations of Secondary Education & Adolescent Development	3
EDU 366 Instructional Design for Secondary Classrooms	3
EDU 386 Secondary Methods	3
EDU 477 Assessment & Data Literacy for Secondary Teachers	3
EDU 485 Classroom Culture & Student Engagement in Secondary Schools	3

Total Hours: 18

English Cluster:

Course	Hours
ENG 120 Young Adult Literature	3
ENG 208 English Grammar and Usage	3
ENG 215 Linguistics in Education	3
ENG 220 English Literature	3
ENG 230 American Literature	3
ENG 330 Modern American Literature	3

Total Hours: 18

Electives:

Students must also choose 2 additional EDU or ENG courses (6 CH) to complete the remaining Degree requirements.

Total Hours Required for Degree: 124

Suggested 4-Year Plan of Study

Freshman (Year 1)			
Fall Semester	Hrs.	Spring Semester	Hrs.
AIU 100	1	AIU 111/112	1
ENG 101	3	EDU 102	3
CSC 101	3	EDU 205	3
EDU 101	3	ENG 120	3
PSY 101	3	MAT 115	3
GenEd AH course	3	GenEd NS course	3
Total	16	Total	16
Sophomore (Year 2)			
Fall Semester	Hrs.	Spring Semester	Hrs.
EDU 211	3	EDU 212	3
EDU 251	3	EDU 240	3
ENG 208	3	EDU 250	3
GenEd SS course	3	ENG 215	3
GenEd NS course	3	ENG 220	3
Total	15	Total	15

Freshman (Year 1)			
Junior (Year 3)			
Fall Semester	Hrs.	Spring Semester	Hrs.
EDU 305	3	AIU 300	1
EDU 310	3	EDU 386	3
EDU 320	3	EDU 477	3
EDU 366	3	ENG 301	3
ENG 230	3	Education Elective	3
Total	15	Total	13
Summer Semester Internship		EDU 490	4
Senior (Year 4)			
Fall Semester	Hrs.	Spring Semester	Hrs.
EDU 430	3	EDU 460	3
EDU 485	3	EDU 499	6
EDU 498	3	Education Elective	3
ENG 302	3	GenEd AH Course	3
ENG 330	3		
Total	15	Total	15

Secondary Education – Mathematics

Major Course Requirements

All students majoring in Secondary Education – Mathematics must complete the following courses:

Secondary Education Cluster:

Course	Hours
EDU 212 Differentiated Instruction and Digital Learning for Diverse Learners	3
EDU 251 Foundations of Secondary Education & Adolescent Development	3
EDU 366 Instructional Design for Secondary Classrooms	3
EDU 386 Secondary Methods	3
EDU 477 Assessment & Data Literacy for Secondary Teachers	3
EDU 485 Classroom Culture & Student Engagement in Secondary Schools	3

Total Hours: 18

Mathematics Cluster:

Course	Hours
MAT 113 Elementary Functions	4
MAT 116 Quantitative Methods II	3
MAT 121 Calculus I	4
MAT 200 Discrete Mathematics	3

Course	Hours
MAT 201 Mathematical Reasoning Seminar*	1
MAT 211 Geometry for Middle School Teachers	3
MAT 310 Mathematical Proof	3
MAT 312 Theory of Numbers	3

Total Hours: 24

*Secondary Education - Mathematics only

Total Hours Required for Degree: 124

Suggested 4-Year Plan of Study

Freshman (Year 1)			
Fall Semester	Hrs.	Spring Semester	Hrs.
AIU 100	1	AIU 111/112	1
ENG 101	3	EDU 102	3
CSC 101	3	EDU 205	3
EDU 101	3	MAT 113	4
PSY 101	3	GenEd AH course	3
GenEd SS course	3		
Total			
16		14	

Sophomore (Year 2)

Fall Semester	Hrs.	Spring Semester	Hrs.
EDU 211	3	EDU 240	3
EDU 212	3	EDU 250	3
EDU 251	3	MAT 116	3
MAT 115	3	MAT 200	3
MAT 121	4	MAT 201	1
Total			
16		13	

Junior (Year 3)

Fall Semester	Hrs.	Spring Semester	Hrs.
EDU 305	3	AIU 300	1
EDU 310	3	EDU 386	3
EDU 320	3	EDU 477	3
EDU 366	3	ENG 301	3
MAT 211	3	GenEd AH course	3
		GenEd NS course	3
Total			
15		16	

Summer Semester Internship EDU 490 4

Senior (Year 4)

Fall Semester	Hrs.	Spring Semester	Hrs.
EDU 430	3	EDU 460	3
EDU 485	3	EDU 499	6
EDU 498	3	MAT 312	3
ENG 302	3	GenEd NS course	3
MAT 310	3		
Total			
15		15	

Elementary Education – Science

Major Course Requirements

All students majoring in Elementary Education – Science must complete the following courses:

Elementary Education Cluster:

Course	Hours
EDU 226 Classroom Culture & Student Engagement	3
EDU 336 Foundations of Child Development in Elementary Education	3
EDU 356 Instructional Design for Elementary Teaching	3
EDU 475 Assessment & Data Literacy for Elementary Teachers	3
ENG 115 Literacy I	3
Total Hours: 15	

Sciences Cluster:

Course	Hours
PHY 120 Physics I	3
PHY 121 Physics I Laboratory	1
PHY 122 Physics II	3
PHY 123 Physics II Laboratory	1
CHM 110 General Chemistry I	3
CHM 111 General Chemistry I Lab	1
CHM 112 General Chemistry II	3
CHM 230 Organic Chemistry I	3
BIO 100 Basic Life Diversity	3
BIO 101 Basic Life Mechanisms	3
Total Hours: 24	

Electives:

Students must also choose 1 additional EDU or sciences course (3 CH) to complete the remaining Degree requirements.

Total Hours Required for Degree: 124

Suggested 4-Year Plan of Study

Freshman (Year 1)			
Fall Semester	Hrs.	Spring Semester	Hrs.
AIU 100	1	AIU 111/112	1
CSC 101	3	EDU 102	3
EDU 101	3	ENG 115	3
ENG 101	3	PHY 120	3
MAT 105	3	PHY 121	1
PSY 101	3	GenEd SS course	3
Total	16	Total	14
Sophomore (Year 2)			
Fall Semester	Hrs.	Spring Semester	Hrs.
BIO 100	3	CHM 110	3
EDU 205	3	CHM 111	1
EDU 226	3	EDU 211	3
PHY 122	3	EDU 240	3
PHY 123	1	EDU 250	3
GenEd AH course	3	MAT 115	3
Total	16	Total	16
Junior (Year 3)			
Fall Semester	Hrs.	Spring Semester	Hrs.
CHM 112	3	AIU 300	1
EDU 305	3	BIO 101	3
EDU 310	3	EDU 336	3
EDU 320	3	EDU 356	3
ENG 301	3	ENG 302	3
		GenEd AH course	3
Total	15	Total	16
Summer Semester Internship		EDU 490	4
Senior (Year 4)			
Fall Semester	Hrs.	Spring Semester	Hrs.
CHM 230	3	EDU 460	3
EDU 430	3	EDU 499	6
EDU 475	3	GenEd NS course	3
EDU 498	3		
Education elective	3		
Total	15	Total	12

School of Engineering and Computing

About the School

The School of Engineering and Computing (SEC) is dedicated to empowering students through high-quality education in engineering and computer science, preparing graduates to lead and innovate in Kuwait and the GCC. The school offers Bachelor of Science degrees in seven disciplines: Biomedical Engineering, Chemical Engineering, Civil Engineering, Computer Science, Electrical and Computer Engineering, Industrial Engineering, and Mechanical Engineering. Through transformative experiences such as team-based learning, global perspectives, research, internships, and community service, students are equipped for impactful professional careers and lifelong learning. Admission requires a science high school certificate, and students are expected to take ownership of their academic journey by working closely with advisors, adhering to university policies, and maintaining active engagement in their coursework. The SEC is committed to developing the next generation of engineers and computing professionals ready to make a meaningful difference on both a regional and global scale.

SEC Vision and Mission Statements

SEC Vision Statement:

At AIU's School of Engineering and Computing, we empower students to collaborate with visionary faculty, developing innovative technologies that enhance lives and expand knowledge, preparing them to lead and innovate in Kuwait and the GCC.

SEC Mission Statement:

At the American International University School of Engineering and Computing, our mission is to empower students with a high-quality education in engineering and computer science, preparing them for impactful professional careers and lifelong learning. Through transformative experiences such as team-based learning, global perspectives, research, internships, and community

service, students are equipped to lead and innovate on a regional and global scale.

Degrees and Programs Offered

AIU's School of Engineering and Computing offers a Bachelor of Science degree (BS) in seven disciplines:

- Biomedical Engineering (BME)
- Chemical Engineering (CHE)
- Civil Engineering (CVE)
- Computer Science (CSC)
- Electrical and Computer Engineering (ECE)
- Industrial Engineering (INE)
- Mechanical Engineering (MCE)

Students earning a degree from the School of Engineering and Computing must complete all university, school, and program requirements as specified in this catalog.

Admission Requirements

Freshman Students

A student who meets the criteria for admission to American International University is eligible for admission to the School of Engineering and Computing, subject to the following restrictions:

- Science High School Certificate
- Approved Minimum High School Percentage

See the Admissions section of this catalog for specific requirements by high school type.

Transfer Students

A student seeking to transfer into the AIU School of Engineering and Computing from another institution must provide an official transcript from each college or university previously attended.

*CSC 101 may be transferred, as it is a General Education course.

Students with Bachelor' Degree

Students who have completed an undergraduate degree and wish to complete a second degree in engineering must satisfy all the requirements described for engineering majors in this catalog. A minimum of 60 hours must be completed in residence at AIU to earn a second bachelor's degree.

Student Responsibilities

- Each student is responsible for selecting courses that will allow him or her to make reasonable progress toward a degree. Students should meet with their assigned advisor in the Student Success Center to develop a long-term academic plan.
- Each student is responsible for following university and school policies appearing in official documents (including the university website), which govern academic programs, curricula, courses, and completion of degrees.
- Each student is expected to attend all classes and pursue successful completion of all courses in which they enroll.
- The AIU email address is our official means of communication, and students are expected to respond promptly to all communications from the university, the School of Engineering and Computing, and their academic advisor.
- Each student is expected to be familiar with the current academic calendar.

Maximum Class Hour Load Per Semester

Normally, students can register for up to 18 semester hours. However, during the graduation semester, they must maintain a GPA of 3.5 or higher and obtain special permission from both the Dean of the School and the Vice President for Academic Affairs to register for up to 21 hours.

Internship Registration

Internships are typically offered during the summer semester for students who have completed a minimum of 87 credit hours. Eligible students are expected to enroll in the internship as a standalone course. However, if the internship is taken during a regular semester, students are

permitted to register for up to 3 additional credit hours alongside it.

Department and Program Requirements

While the total number of required hours will vary for each major, all programs in the School of Engineering and Computing require the following courses in addition to the major and specialization requirements.

General Education Courses

AIU's General Education curriculum is required for all undergraduate students and consists of at least 36 hours of coursework from nine core areas. Students in the School of Engineering and Computing must complete these specific courses to satisfy general education requirements. (Because labs are required, engineering students will complete 38 hours of general education coursework).

Course	Hours
AIU 100 The AIU Experience (EX)	1
AIU 111 or 112 Wellness (WL)	1
AIU 300 Career Development (EX)	1
CSC 101 Computer Essentials (CS)	3
ECO 201 Principles of Microeconomics (SS)*	3
EGR 150 Probability & Statistics in Engineering (MA)	3
ENG 101 College Writing (EC)	3
ENG 301 Technical Writing (EC)	3
ENG 302 Technical Presentations (OC)	3
PHL 112 Professional Ethics (AH)	3
PHY 120 Physics I (NS)	3
PHY 121 Physics I Laboratory (NS)	1
PHY 122 Physics II (NS)	3
PHY 123 Physics II Laboratory (NS)	1
Arts & Humanities Elective (AH)	3
Social Sciences Elective (SS)	3
Total Hours	38

*ECO 201 is not required for Computer Science or Industrial Engineering majors; they may choose a different SS course.

School of Engineering and Computing Core Courses

All students in the School of Engineering and Computing must complete the following courses, regardless of their major:

Course	Hours
EGR 100 Design in Engineering	3
CSC 102 Intro to Programming*	3
CHM 110 General Chemistry I	3
CHM 111 General Chemistry I Lab	1
MAT 121 Calculus I	4
MAT 122 Calculus II	4
MAT 221 Calculus III	4
MAT 230 Differential Equations and Matrix Algebra	4
EGR 490 Internship	1
Senior Design Project I in major area (495)**	1
Senior Design Project II in major area (496)	3
Engineering Technical Elective (300/400 level)	3
Total Hours	34

*CSC 102 and MAT 230 are not required for computer science majors. CSC 102 satisfies CSC 110.

**Senior Design Project I (SDP I) for ECE majors has been revised to a 3-credit-hour course. Consequently, the total number of credit hours assigned to SEC courses in the ECE curriculum is 36 CHs.

School of Engineering and Computing Technical Elective Courses

All SEC students are expected to register between 3 and 6 credit hours based on their respective study plans, noting that major required courses—as classified within those plans—cannot be registered under this option:

Course	Hours
INE 452 Artificial Intelligence and Machine Learning	3
INE 436 Quality Management Systems	3
INE 465 Systems Engineering in Design	3
INE 461 Leadership & Strategic Management for Engineers	3
INE 456 Cyber-Physical Industrial Applications	3
INE 460 Project Management	3
INE 370 Safety Engineering	3
BME 310 Biomedical Signals and Systems	3
BME 493 Special Topics in Biomedical Engineering	3

Course	Hours
CHE 450 Polymer Science and Engineering	3
CHE 451 Air, Water and Waste Management	3
CHE 430 Renewable Energy	3
CHE 452 Environmental Nanotechnology	3
MCE 461 Sustainable Power Generation	3
MCE 465 Energy Conversion Systems	3
MCE 467 Fundamental Fuel Cell Systems	3
CSC 493 Special Topics in Computer Science	3
CVE 350 Transportation Engineering	3
CVE 482 Smart Cities and Communities.	3
CVE 481 Introduction to Building Information Modeling	3
ECE 450 Internet of Things	3
ECE 493 Special Topics in Electrical and Computer Engineering.	3
ECE 300 Electrical Circuits II	3
EGR 301 Applied Artificial Intelligence	3
CSC 350 Information Systems	3

Biomedical Engineering Program (BME)

Biomedical engineering (BME) is one of the fastest-growing disciplines in engineering. This field developed from the knowledge that engineering principles can be applied to better understand how the human body functions and the effect outside forces have on it, whether diagnostic or traumatic. A biomedical engineer brings together traditional engineering principles with the life sciences in a completely integrated fashion. The result is an engineer who views the human body as a complex system, its diseases and injuries as breakdowns in that system, and medical interventions as design alternatives for the repair of the system. As the population ages and medical costs increase, biomedical engineers are required both to understand the mechanistic causes of injury and disease and to design and implement interventions to prevent and mitigate the suffering of individuals and to reduce the cost of medical care to society.

AIU's Biomedical Engineering program is built upon a strong foundation of engineering that integrates biomedical sciences early in the curriculum and continuously throughout subsequent coursework. To prepare students for careers and/or further education, traditional lectures are combined with problem-based and project-based learning to allow students to immediately apply their foundational knowledge to biomedical engineering challenges. From the first week of the program, students are introduced to real-world biomedical engineering problems and tools to develop a thorough understanding of the challenges faced

in clinical medicine.

Biomedical Engineering Program Educational Objectives:

The program educational objectives of the Biomedical Engineering program at AIU are to produce graduates who are able to:

- Pursue a successful career in the biomedical engineering profession, contributing to the development and innovation of the healthcare sector in Kuwait and the GCC region.
- Commit to professional and ethical standards.
- Engage in graduate studies and academic research.
- Embrace continuous learning, professional development, and the advancement of managerial and leadership skills.

Biomedical Engineering Program Vision Statement:

To achieve academic leadership, excellence, and proficiency in biomedical engineering education, healthcare solution innovation, and research at both national and regional levels.

Biomedical Engineering Program Mission Statement:

To educate and inspire the next generation of biomedical engineers, conduct pioneering research that addresses critical healthcare challenges, and collaborate with industry and healthcare providers to bring cutting-edge technologies to market. We are dedicated to creating a diverse and inclusive environment that promotes interdisciplinary learning and societal impact.

Major Course Requirements

All students majoring in Biomedical Engineering must complete the following courses:

Course	Hours
BIO 101 Basic Life Mechanisms	3
BIO 102 Basic Life Mechanisms Laboratory	1
ECE 200 Electrical Circuits I	3
ECE 201 Electrical Circuits I Laboratory	1

Course	Hours
BME 101 Introduction to Biomedical Engineering	1
BME 240 Anatomy for Engineers	2
BME 241 Physiology for Engineers	2
BME 300 Medical Imaging I	3
BME 310 Biomedical Signals & Systems	3
BME 311 Biomedical Signals & Systems Laboratory	1
BME 315 Biomedical Instrumentation I	3
BME 320 Biomechanics	3
BME 325 Image Processing	3
ECE 320 Electronics I	3
BME 330 Biomaterials and Biocompatibility	3
BME 341 Engineering Physiology & Instrumentation Laboratory	1
BME 345 Biomedical Sensors	3
ECE 350 Electronics II	3
ECE 351 Electronics II Laboratory	1
BME 371 Biomechanics Lab	1
BME 395 Biomedical Engineering Seminar	1
BME 415 Biomedical Instrumentation II.	3
BME 470 Upper and Lower Limbs Prosthesis	3
BME Technical Electives (300/400 level)	3
BME Technical Electives (300/400 level)	3
BME Technical Elective (400 level)	3
Total Hours: 60	

Total Hours Required for Degree: 132

Suggested 4-Year Plan of Study

Freshman (Year 1)			
Fall Semester	Hrs.	Spring Semester	Hrs.
AIU 100	1	AIU 111/112	1
BIO 101	3	CHM 110	3
BIO 102	1	CHM 111	1
ENG 101	3	CSC 101	3
BME 101	1		
MAT 121	4	MAT 122	4
PHY 120	3	PHY 122	3
PHY 121	1	PHY 123	1
Total	17	Total	16
Sophomore (Year 2)			
Fall Semester	Hrs.	Spring Semester	Hrs.
BME 240	2	BME 241	2
CSC 102	3	BME 371	1
ECE 200	3	BME 310	3
ECE 201	1	BME 311	1
EGR 100	3	ECE 320	3
MAT 221	4	BME 320	3

Freshman (Year 1)			
		MAT 230	4
Total	16	Total	17
Junior (Year 3)			
Fall Semester	Hrs.	Spring Semester	Hrs.
		AIU 300	1
EGR 150	3	BME 325	3
BME 395	1	BME 345	3
BME 330	3	BME 315	3
ECE 350	3		
ECE 351	1	BME 341	1
BME 300	3	BME elective	3
ENG 301	3	ENG 302	3
Total	17	Total	17
Summer Semester - Internship		EGR 490	1
Senior (Year 4)			
Fall Semester	Hrs.	Spring Semester	Hrs.
BME 495	1	BME 496	3
BME elective	3	BME 470	3
PHL 112	3	BME elective	3
GenEd AH course	3	ECO 201	3
GenEd SS course	3	Engr. Tech elective	3
BME 415	3		
Total	16	Total	15

Chemical Engineering Program (CHE)

The Bachelor of Science in Chemical Engineering program (CHE) at AIU enables students to become qualified engineers who can generate effective solutions by using engineering approaches in the field of Chemical Engineering. Graduates of the program will be well versed in technology and in social and environmental issues.

To fulfill this mission, the program provides the undergraduate student with a thorough foundation in the basic tenets of chemical engineering and technologies and a broad introduction into chemistry, engineering materials, thermal sciences, reaction and separation sciences, energy and environment protection, and chemical systems. The program provides a strong background for graduate study in the diverse areas branching out of the chemical engineering field. The technical focus is complemented with topics in general education, leading to a well-rounded member of the global society.

Chemical Engineering Program Mission Statement

The mission of the Chemical Engineering program is to deliver exceptional education, research, and service that prepare students for professional practice and lifelong learning. By advancing core scientific and technological knowledge, and through a commitment to innovation, collaboration, and societal impact, the program empowers graduates to contribute meaningfully to Kuwait, the GCC, and the global community.

Chemical Engineering Program Vision Statement

The Chemical Engineering Program aims to lead in education, research, and societal engagement by fostering innovation, interdisciplinary collaboration, and ethical responsibility. Committed to sustainability and lifelong learning, the program prepares engineers to address global challenges and make lasting contributions to industry and society.

Chemical Engineering Program Educational Objectives:

Within a few years after graduation, graduates of Chemical Engineering Program are expected to be able to:

- Excel in chemical engineering practices by solving complex problems and contributing effectively to industry and society.
- Apply experimentation and engineering judgment to analyze data and develop informed conclusions for solving real-world challenges.
- Demonstrate ethical and innovative potential by evaluating challenges responsibly and creatively, with a focus on sustainability and public welfare.
- Communicate and function effectively by exhibiting leadership and teamwork to create a collaborative and inclusive environment.
- Engage in lifelong learning and growth by pursuing continuous learning and professional development to adapt to future challenges.

Major Course Requirements

All students majoring in Chemical Engineering must complete the following courses:

Course	Hours
EGR 101 Materials Science for Engr. Applications	3
EGR 102 Materials Science Laboratory	1
CHM 230 Organic Chemistry I	3
CHM 231 Organic Chemistry I Laboratory	1
CHM 240 Organic Chemistry II	3
CHE 280 Material and Energy Balances	4
CHE 210 Transport Phenomena I for CHE	3
CHM 310 Physical Chemistry	3
CHE 220 Thermodynamics I: Chemical Equilibria	4
CHE 330 Transport Phenomena II	3
CHE 340 Kinetics and Reactor Design	4
CHE 350 Measurements Laboratory	2
CHE 380 Separation Processes	3
CHE 395 Chemical Engineering Seminar	1
CHE 420 Product and Process Design	3
CHE 491 Directed Study I	1
CHE 460 Process Dynamics and Simulation	3
CHE 461 Process Dynamics and Simulation Lab	1
CHE 480 Safety in the Chemical Process Industry	3
CHE 482 Chemical Engineering Laboratory	2

Total Hours 51

Specialization Courses for Chemical Engineering

Chemical Engineering students are required to complete 9 credits from the technical elective list below:

Course	Hours
CHE 430 Renewable Energy	3
CHE 431 Oil and Gas Processing	3
CHE 432 Biofuels and Biorefineries	3
CHE 440 Drug Design, Development, and Delivery	3
CHE 441 Pharmaceutical Technology	3
CHE 442 Quality Assurance and Process Validation	3
CHE 450 Polymer Science & Engineering	3
CHE 451 Air, Water, & Waste Management	3
CHE 452 Environmental Nanotechnology	3
CHE 473 Water Desalination & Treatment	3

Total Hours Required for Degree: 132

Suggested 4-Year Plan of Study

Freshman (Year 1)			
Fall Semester	Hrs.	Spring Semester	Hrs.
AIU 100	1	AIU 111/112	1
EGR 100	3	CHM 110	3
ENG 101	3	CHM 111	1
MAT 121	4	CSC 101	3
PHY 120	3	MAT 122	4
PHY 121	1	PHY 122	3
		PHY 123	1
Total	15	Total	16
Sophomore (Year 2)			
Fall Semester	Hrs.	Spring Semester	Hrs.
CHE 280	4	CHE 210	3
CHM 230	3	CHE 220	4
CHM 231	1	CSC 102	3
EGR 101	3	MAT 230	4
EGR 102	1	EGR 150	3
MAT 221	4		
Total	16	Total	17
Junior (Year 3)			
Fall Semester	Hrs.	Spring Semester	Hrs.
CHE 380	3	CHE 420	3
CHE 330	3	CHE 491	1
CHE 340	4	CHE 350	2
PHL 112	3	CHM 240	3
ENG 301	3	CHE 395	1
AIU 300	1	CHM 310	3
		ENG 302	3
Total	17	Total	16
Summer Semester - Internship		EGR 490	1
Senior (Year 4)			
Fall Semester	Hrs.	Spring Semester	Hrs.
CHE 482	2	CHE 496	3
ECO 201	3	Specialization course 2	3
CHE 460	3	Specialization course 3	3
CHE 461	1	GenEd AH course	3
CHE 480	3	GenEd SS course	3
CHE 495	1	Engr. Tech elective	3
Specialization course 1	3		
Total	16	Total	18

Civil Engineering Program (CVE)

Everywhere you look, you will see the work of civil and environmental engineers. They are responsible for the design, construction, and maintenance of our infrastructure, from the roads we travel to the drinking water we get from our taps, from tunnels and airports to stadiums and skyscrapers. In AIU's Civil Engineering program (CVE), you will learn from our renowned faculty experts and benefit from our high-impact practices of student success, team-based learning, global perspective, undergraduate research, internships and co-ops, and community service. Our program is designed to prepare graduates for success in their immediate, as well as long-term, professional careers as skilled practitioners. It provides a robust foundation for obtaining a professional license, pursuing advanced studies, and engaging in lifelong learning.

Civil Engineering Program Vision Statement:

The Civil Engineering (CVE) program seeks to be a beacon of excellence, shaping the future of infrastructure and environmental sustainability. By offering students robust academic experiences, hands on learning, and a commitment to ethical principles, the department aims to graduate skilled engineers who can make a real difference in communities and tackle most pressing challenges in society.

Civil Engineering Program Mission Statement:

The Civil Engineering program is designed to prepare graduates for success in their immediate, as well as long-term, professional careers as skilled practitioners. It provides a robust foundation for obtaining a professional license, pursuing advanced studies, and engaging in lifelong learning. At AIU, students will learn from our renowned faculty experts and benefit from our high impact practices of student success, team-based learning, global perspective, undergraduate research, internships and co-ops, and community service.

Civil Engineering Program Educational Objectives:

Within a few years after graduation, graduates of Civil Engineering Program are expected to be able to:

- Have a successful career in Civil Engineering related field and be able to plan, design and construct Civil Engineering systems.

- Pursue advanced studies and engage in life-long learning.
- Understand the ethical implications of the Civil Engineering profession.

Major Course Requirements

All students majoring in Civil Engineering will take the following fundamental courses:

Course	Hours
GEO 100 Geology	3
EGR 200 Statics	3
EGR 205 Elementary Mechanics of Materials	3
CVE 207 CAD in Civil Engineering	2
CVE 300 Applied Fluid Mechanics	3
CVE 305 Applied Fluid Mechanics Lab	1
CVE 310 Intro to Construction Engineering	3
CVE 320 Structural Analysis	3
CVE 322 Reinforced Concrete Design (D)	3
CVE 330 Civil Engineering Materials	3
CVE 335 Civil Engineering Materials Lab	1
CVE 340 Geotechnical Engineering I	3
CVE 345 Geotechnical Engineering Lab	1
CVE 395 Civil Engineering Seminar	1

Total Hours 33

Students will choose two fundamental courses from the following:

Course	Hours
CVE 350 Transportation Engineering	3
CVE 360 Environmental Engineering	3
CVE 370 Water Resources Engineering	3

Students will choose four advanced courses from the following:

Construction

Course	Hours
CVE 411 Legal & Professional Aspects of CVE	3
CVE 413 Construction Techniques and Methods	3
CVE 412 Construction Cost Estimating (D)	3

Structures

Course	Hours
CVE 321 Steel Design (D)	3
CVE 324 Introduction to Structural Dynamics	3
CVE 329 Advanced Structural Analysis	3
CVE 421 Advanced Steel Design (D)	3
CVE 422 Advanced Reinforced Concrete Design (D)	3
CVE 423 Bridge Design and Evaluation (D)	3
CVE 425 Finite Element Analysis Fundamentals	3

Materials

Course	Hours
CVE 430 Pavement Asset Management	3

Geotechnical

Course	Hours
CVE 440 Geotechnical Engineering II (D)	3
CVE 441 Geo-environmental Engineering	3
CVE 445 Geotechnical Engineering III (D)	3

Transportation

Course	Hours
CVE 450 Transportation Design (D)	3
CVE 451 Highway Design (D)	3

Environmental

Course	Hours
CVE 461 Advanced Environmental Engineering (D)	3
CVE 462 Environmental Chemistry	3

Water Resources

Course	Hours
CVE 470 Hydrologic Analysis and Design (D)	3
CVE 471 Open Channel Hydraulics	3
CVE 472 Groundwater	3

Finally, students will choose a track (three courses):

Smart Cities

Course	Hours
CVE 481 Introduction to Building Information Modeling	3
CVE 482 Smart Cities and Communities	3
CVE 483 Infrastructure Rehabilitation	3

Building Information Management Modeling

Course	Hours
CVE 481 Introduction to Building Information Modeling	3
CVE 485 BIM for Collaboration and Coordination	3
CVE 486 BIM in Project Management Strategy	3

Sustainable Design and Green Construction

Course	Hours
CVE 487 Energy, Emissions, Environment (E3) Design	3
CVE 488 Energy-Efficient and Green Buildings	3
CVE 489 Sustainability Assessment and Management	3

Total Hours Required for Degree: 132

Suggested 4-Year Plan of Study

Freshman (Year 1)			
Fall Semester	Hrs.	Spring Semester	Hrs.
AIU 100	1	AIU 111/112	1
EGR 100	3	CHM 110	3
ENG 101	3	CHM 111	1
MAT 121	4	CSC 101	3
PHY 120	3	MAT 122	4
PHY 121	1	PHY 122	3
		PHY 123	1
Total	15	Total	16
Sophomore (Year 2)			
Fall Semester	Hrs.	Spring Semester	Hrs.
CSC 102	3	EGR 205	3
CVE 207	2	MAT 230	4
ECO 201	3	PHL 112	3
EGR 150	3	GEO 100	3
EGR 200	3	GenEd SS course	3
MAT 221	4		
Total	18	Total	16
Junior (Year 3)			
Fall Semester	Hrs.	Spring Semester	Hrs.
CVE 300	3	AIU 300	1

Freshman (Year 1)			
CVE 305	1	CVE 322	3
CVE 310	3	CVE 340	3
CVE 320	3	CVE 345	1
CVE 330	3	CVE 395	1
CVE 335	1	ENG 301	3
GenEd AH course	3	CVE 350, 360, or 370	3
		CVE 350, 360, or 370	3
Total	17	Total	18
Summer Semester - Internship		EGR 490	1
Senior (Year 4)			
Fall Semester	Hrs.	Spring Semester	Hrs.
Advanced CVE course	3	CVE 496	3
CVE 495	1	ENG 302	3
Advanced CVE course	3		
Advanced CVE course	3	Engr. Tech elective	3
Advanced CVE course	3	Specialization course 2	3
Specialization course 1	3	Specialization course 3	3
Total	16	Total	15

Computer Science (CSC)

The goal of the Computer Science (CSC) program is to provide undergraduate students with a strong foundation in both computer science theory and programming practice that is necessary to solve real-world engineering problems. Using state-of-the-art software and hardware, students will learn to develop their theoretical and programming skills in order to allow them to apply these learned techniques to analyze a problem, evaluate possible solutions, and create a solution as part of a program development team.

Computer Science Program Vision

To be recognized as one of the top Computer Science departments in Kuwait and the GCC countries to provide quality American education and produce highly talented, globally recognizable entrepreneurs with sound ethics who will shape society with latest technological advancements and innovative ideas in Computer Science.

Computer Science Program Mission Statement

The mission of the Computer Science program is to provide a comprehensive and rigorous undergraduate American education that prepares students for successful careers and lifelong learning in Computer Science and related fields

within a global context. We are committed to delivering a curriculum that blends theoretical foundations with practical application, emphasizing innovation, problem-solving, ethics, and leadership skills while fostering engagement with industry, research opportunities, and interdisciplinary projects.

Computer Science Program Educational Objectives:

Within a few years after graduation, graduates of Computer Science Program are expected to be able to:

- Analyze real-world problems and evaluate and develop solutions with strong foundation in both computer science theory and programming practice.
- Adapt dynamically to the workspace within global standards to promote personal and professional success.
- Contribute to modern society in the context of technological advancement and involvement.
- Excel as lifelong learners who value the importance of new technologies and their applications to improve quality of human life.

Major Course Requirements

All students majoring in Computer Science must complete the following courses:

Course	Hours
CSC 110 Problem Solving & Programming	3
CSC 111 Problem Solving & Programming Laboratory	1
CSC 210 Object-Oriented Programming	3
CSC 211 Object-Oriented Programming Laboratory	1
CSC 220 Data Structures and Algorithms	3
CSC 221 Data Structures and Algorithms Laboratory	1
MAT 200 Discrete Mathematics	3
MAT 225 Elementary Linear Algebra	3
CSC 230 Programming with Python	3
CSC 310 Computer Architecture and Organization	3
CSC 315 Algorithm Design and Analysis	3
CSC 330 Computing Theory	3
CSC 340 Software Engineering	3
CSC 342 Computer Operating Systems	3
CSC 375 Web Technology	3
CSC 376 Web Technology Laboratory	1
CSC 395 Computer Science Seminar	1

Course	Hours
CSC 410 Introduction to Computer Networking	3
CSC 411 Software Project Management	3
CSC 426 Computer Systems Security	3
CSC 427 Computer Systems Security Laboratory	1
CSC 435 Parallel and Distributed Computing	3
CSC 470 Database Management Systems	3
CSC 471 Database Management Systems Laboratory	1

Total Hours 58

Students must choose one of the following specializations:

Artificial Intelligence

Course	Hours
CSC 475 Artificial Intelligence	3
CSC 476 Intro to Machine Learning and Applications	3
CSC 477 Deep Learning	3

Data Science

Course	Hours
CSC 479 Principles of Data Science	3
CSC 476 Intro to Machine Learning and Applications	3
CSC 480 Ethics and Privacy in Data Science	3

Blockchain

Course	Hours
CSC 490 Blockchain Foundations	3
CSC 491 Cryptocurrencies and Blockchain Technologies	3
CSC 492 Blockchain Security	3

Cybersecurity

Course	Hours
CSC 441 e-Business Security	3
CSC 443 Digital Forensics and Incident Response	3
CSC 444 Fundamental of Penetration Testing	3

Total Hours Required for Degree: 132

Suggested 4-Year Plan of Study

Freshman (Year 1)			
Fall Semester	Hrs.	Spring Semester	Hrs.
CSC 101	3	AIU 100	1
GenEd SS course	3	GenEd SS course	3
ENG 101	3	CSC 110	3
MAT 121	4	CSC 111	1
PHY 120	3	MAT 122	4
PHY 121	1	PHY 122	3
		PHY 123	1
Total	17	Total	16
Sophomore (Year 2)			
Fall Semester	Hrs.	Spring Semester	Hrs.
AIU 111/112	1	CSC 220	3
		CSC 221	1
CSC 210	3	EGR 150	3
CSC 211	1	ENG 301	3
CHM 110	3		
CHM 111	1		
MAT 221	4	MAT 200	3
EGR 100	3	PHL 112	3
Total	16	Total	16
Junior (Year 3)			
Fall Semester	Hrs.	Spring Semester	Hrs.
CSC 230	3	AIU 300	1
CSC 310	3	CSC 330	3
CSC 315	3	CSC 342	3
CSC 395	1	CSC 375	3
		CSC 376	1
CSC 470	3	CSC 410	3
CSC 471	1		
MAT 225	3	CSC 340	3
Total	17	Total	17
Summer Semester - Internship		EGR 490	1
Senior (Year 4)			
Fall Semester	Hrs.	Spring Semester	Hrs.
CSC 411	3	CSC 496	3
CSC 426	3	Specialization course 2	3
CSC 427	1		
CSC 435	3	Specialization course 3	3
CSC 495	1	GenEd AH course	3
ENG 302	3	Engr. Tech elective	3
Specialization course 1	3		
Total	17	Total	15

Electrical and Computer Engineering (ECE)

Upon completing the Electrical and Computer Engineering (ECE) program, students will demonstrate proficiency in applying foundational engineering principles to address challenges, design, assess, and optimize the effectiveness of electrical and computer systems. The curriculum covers essential topics including electrical circuits, electronics, computer science, digital systems, power and control systems, signal processing, communications, and electromagnetic fields, combining theoretical understanding with hands-on applications.

ECE Program Vision Statement:

Eminence and Direction drives the ECE program, pioneering innovation, and setting new standards within the field.

ECE Program Mission Statement:

Our mission is to excel in education in Electrical and Computer Engineering that engages students, promotes research excellence, and empowers them to be globally recognized, through outstanding teaching, life-long learning, and the development of critical skills and leadership.

ECE Program Educational Objectives (PEO's):

The program educational objectives of the ECE program at AIU are to produce graduates who are able to:

- Demonstrate engineering principles, science, and mathematics to solve complex engineering problems, contributing to innovative solutions that address societal and global needs.
- Excel in leadership roles and work effectively in diverse, multidisciplinary teams to plan, execute, and achieve objectives while fostering a collaborative and inclusive environment.
- Engage in continuous professional development, life-long learning and skills while maintaining ethical standards, making informed decisions that consider global, cultural, social, and environmental factors.

ECE Students Outcomes (SO's):

After successful completion of the ECE curriculum, AIU-ECE students will be able to:

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. An ability to communicate effectively with a range of audiences.
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. An ability to develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgement to draw conclusions.
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Graduation Requirements

The undergraduate degrees offered by the ECE program at AIU are as follows:

- Major: A bachelor's degree in ECE
- Tracks:
 - Automation and Robotics.
 - Renewable Energy.
 - Smart Electronics and IoT.

Major Course Requirements

All students majoring in Electrical and Computer Engineering must complete the following courses:

Course	Hours
ECE 200 Electrical Circuits I	3
ECE 201 Electrical Circuits I Laboratory	1

Course	Hours
ECE 220 Introduction to Data Structures & Algorithms	3
EGR 250 Numerical Methods Using MATLAB	3
ECE 260 Digital Logic Design	3
ECE 261 Digital Logic Design Laboratory	1
ECE 263 Microcomputers	3
ECE 264 Microcomputers Laboratory	1
ECE 300 Electrical Circuits II	3
ECE 301 Electrical Circuits II Laboratory	1
ECE 320 Electronics I	3
ECE 330 Linear Systems and Signals	3
ECE 350 Electronics II	3
ECE 351 Electronics II Laboratory	1
ECE 361 Electromagnetics	3
ECE 395 Electrical Engineering Seminar	2
ECE 400 Communication Theory	3
ECE 410 Power Systems	3
ECE 420 Digital Signal Processing	3
ECE 447 Control Systems	3
Total Hours: 49	

Students must choose one of the following tracks:

Renewable Energy

Course	Hours
ECE 435 Alternative Energy Sources	3
ECE 436 Energy Conversion	3
ECE 439 Power System Economics	3

Smart Electronics and the Internet of Things

Course	Hours
ECE 450 Internet of Things	3
ECE 452 Cyber-Physical Systems	3
ECE 455 Advanced Digital Design	3

Automation and Robotics

Course	Hours
ECE 461 Introduction to Robotic Systems	3
ECE 463 Programmable Controllers	3
ECE 467 Image Processing and Robot Vision	3

Total Hours Required for Degree: 132

Suggested 4-Year Plan of Study

Freshman (Year 1)			
Fall Semester	Hrs.	Spring Semester	Hrs.
AIU 100	1	AIU 111/112	1
EGR 100	3	CHM 110	3
ENG 101	3	CHM 111	1
MAT 121	4	GenEd CS course	3
PHY 120	3	MAT 122	4
PHY 121	1	PHY 122	3
		PHY 123	1
Total	15	Total	16
Sophomore (Year 2)			
Fall Semester	Hrs.	Spring Semester	Hrs.
CSC 102	3	ECE 260	3
ECE 200	3	ECE 261	1
ECE 201	1	ECE 300	3
EGR 150	3	ECE 301	1
MAT 221	4	ECE 220	3
PHL 112	3	ENG 301	3
		MAT 230	4
Total	17	Total	18
Junior (Year 3)			
Fall Semester	Hrs.	Spring Semester	Hrs.
ECE 263	3	AIU 300	1
ECE 264	1		
ECE 320	3	ECE 350	3
ECE 330	3	ECE 351	1
ECE 361	3	ECE 447	3
ECE 395	2	ENG 302	3
EGR 250	3	Engr. Tech elective	3
		ECO 201	3
Total	18	Total	17
Summer Semester - Internship		EGR 490	1
Senior (Year 4)			
Fall Semester	Hrs.	Spring Semester	Hrs.
ECE 410	3	ECE 400	3
ECE 420	3	ECE 496	3
ECE 495	3	GenEd SS course	3
GenEd AH course	3	Specialization course 2	3
Specialization course 1	3	Specialization course 3	3
Total	15	Total	15

Industrial Engineering (INE)

Industrial Engineering Program Vision Statement

Empower leaders in industrial engineering to shape the future of diverse industries through pioneering sustainable and innovative solutions. We are committed to fostering collaborative excellence and principled leadership.

Industrial Engineering Program Mission Statement

Our mission is to develop leaders in industrial engineering with expertise across sectors such as manufacturing, logistics, healthcare, and information management. We equip our graduates with essential tools and techniques to drive their organizations towards sustainable competitive advantages. We are committed to providing a diverse and practical educational experience that enhances professional skills and adapts to the evolving demands of industries and stakeholders.

Industrial Engineering Program Educational Objectives:

The Industrial Engineering Program at AIU is dedicated to educational excellence, aiming to prepare graduates who will make significant contributions to their fields and communities. We are committed to fulfilling the expectations of our diverse stakeholders, including students, alumni, employers, and faculty members. The Educational Program Objectives detailed below are designed to be achieved by our graduates within three to five years of earning their degrees. These objectives build upon the foundational skills developed through both academic and practical training and are further enhanced by ongoing professional development and real-world experiences. Our graduates are expected to:

- Innovate and optimize organizational and societal outcomes using advanced industrial engineering tools, adapting to technological changes.
- Effectively solve complex challenges by integrating technological and human systems and excel in interdisciplinary team collaboration.
- Lead ethically and responsibly, committed to continuous professional development and

contributing positively to society and the engineering community.

Major Course Requirements

All students majoring in Industrial Engineering must complete the following courses:

Course	Hours
EGR 101 Materials Science for Engineering Applications.	3
EGR 102 Materials Science Laboratory	1
EGR 202 Engineering Economics	3
INE 212 Work Design	3
INE 300 Operations Research	3
INE 310 Design and Analysis of Production Systems	3
INE 311 Production Systems Laboratory	1
INE 320 Human Factors in Engineering	3
INE 321 Human Factors Laboratory	1
INE 327 Applied Engineering Statistics and Data Analytics	3
INE 326 Quality Control	4
INE 330 Facilities Design	3
INE 335 Product Engineering	3
INE 345 Manufacturing Process	3
INE 346 Manufacturing Process Lab	1
INE 395 Industrial Engineering Seminar	1
INE 440 Systems Simulation	3
INE 460 Project Management	3
INE 465 Systems Engineering in Design	3

Total Hours 48

Students must choose one of the following specializations:

Industrial Digitalization and Future Factories

Course	Hours
INE 400 Digital Automation	3
INE 450 Digital Manufacturing and Design	3
INE 452 Artificial Intelligence and Machine Learning	3
INE 456 Cyber-Physical Industrial Applications	3

Engineering Management

Course	Hours
INE 425 Supply Chain Management	3
INE 438 Risk Management and Decision Analysis	3
INE 461 Leadership & Strategic Management for Engineers.	3
INE 462 Cost Engineering	3

Sustainable Design in Engineering

Course	Hours
INE 448 Fundamentals of Sustainable Manufacturing	3
INE 470 Introduction to Sustainable Energy	3
INE 472 Sustainable Technology & Commercialization	3
INE 476 Advanced. Fabrication & Computer Integrated Manufacturing	3

Total Hours Required for Degree: 132

Suggested 4-Year Plan of Study

Freshman (Year 1)			
Fall Semester	Hrs.	Spring Semester	Hrs.
AIU 100	1	AIU 111/112	1
EGR 100	3	CHM 110	3
ENG 101	3	CHM 111	1
MAT 121	4	GenEd CS	3
PHY 120	3	MAT 122	4
PHY 121	1	PHY 122	3
		PHY 123	1
Total	15	Total	16
Sophomore (Year 2)			
Fall Semester	Hrs.	Spring Semester	Hrs.
CSC 102	3	EGR 202	3
EGR 101	3	ENG 301	3
EGR 102	1	INE 320	3
EGR 150	3	INE 321	1
INE 212	3	MAT 230	4
MAT 221	4	GenEd SS course	3
Total	17	Total	17
Junior (Year 3)			
Fall Semester	Hrs.	Spring Semester	Hrs.
ENG 302	3	AIU 300	1
INE 300	3	INE 310	3
INE 327	3	INE 311	1
INE 326	4	INE 460	3
INE 345	3	PHL 112	3
INE 346	1	Engr. Tech elective	3
INE 395	1	GenEd SS course	3
Total	18	Total	17
Summer Semester - Internship		EGR 490	1
Senior (Year 4)			
Fall Semester	Hrs.	Spring Semester	Hrs.
INE 330	3	INE 440	3
INE 335	3	INE 465	3
INE 495	1	INE 496	3
Specialization course 1	3	Specialization course 3	3

Freshman (Year 1)

Specialization course 2	3	Specialization course 4	3
GenEd AH course	3		
Total	16	Total	15

Mechanical Engineering (MCE)

Mechanical engineering (MCE) is a broad, versatile, and creative discipline concerned with the conversion of energy to useful work, the design and production of machines, and the interaction of solids, liquids, and gases within integrated systems. The role of a mechanical engineer is to take a product from an idea to the marketplace. Graduates will apply basic engineering principles to identify and solve complex engineering problems; design, specify the manufacturing of, and evaluate the performance of mechanical systems and processes. The overall goal of the degree program is to prepare students for success in their immediate and long-term professional careers as engineering practitioners as well as for pursuing graduate and professional studies and lifelong learning.

Mechanical Engineering Program Vision Statement:

To achieve global recognition in Mechanical Engineering by providing exceptional education, fostering adaptable, inquisitive, and entrepreneurial Engineers who excel in engineering practice, research, and public service.

Mechanical Engineering Program Mission Statement:

To provide a world-class education in Mechanical Engineering that instills the professional, technical, critical-thinking, and communication skills necessary for students to make impactful contributions to global and regional society.

Mechanical Engineering Program Educational Objectives

The objectives of the Bachelor of Science (BS) program in Mechanical Engineering at American International University (AIU) are to provide the education and training that will enable our graduates to perform the following:

- Pursue successful careers in engineering or advanced

- studies, demonstrating technical competency and applying fundamental and up-to-date knowledge in mechanical engineering disciplines.
- Apply comprehensive design methodologies, considering global, economic, environmental, and social impacts, while adhering to professional ethics.
- Engage in lifelong learning and contributing to the engineering community through creativity, leadership, and continuous self-improvement.

Major Course Requirements

All students majoring in Mechanical Engineering must complete the following courses:

Course	Hours
EGR 101 Materials Science for Engineering Apps	3
EGR 102 Materials Science Laboratory	1
ECE 200 Electrical Circuits I	3
EGR 200 Statics	3
EGR 205 Elementary Mechanics of Materials	3
EGR 210 Dynamics	3
MCE 210 Thermodynamics I	3
EGR 250 Numerical Methods Using MATLAB	3
MCE 310 Thermodynamics II	3
MCE 320 Heat Transfer	3
MCE 330 Applied Fluid Mechanics	3
MCE 335 Applied Fluid Mechanics Lab	1
MCE 340 Design of Machine Elements	3
MCE 345 Manufacturing Process: Theory & Lab	3
MCE 395 Mechanical Engineering Seminar	1
MCE 430 Thermal Fluid Systems Design	3
MCE 431 Thermal Science Laboratory	1
MCE 440 Vibrations	3
MCE 445 Vibrations Laboratory	1
MCE 443 Dynamic Modeling & Control of Systems	4

Total Hours 51

Students must choose one of the following specializations:

Mechanical Systems and Design

Course	Hours
MCE 407 Computer Aided Mechanical Design	3
MCE 417 Mechanical Systems Design	3
MCE 427 Reliability & Quality Control in Engineering	3

Control and Robotic Engineering

Course	Hours
MCE 450 Introduction to Robotics	3
MCE 452 Sensors, Actuators, and Computer Vision	3
MCE 455 Microprocessor Interfacing in Mech Systems	3

Renewable Energy

Course	Hours
MCE 461 Sustainable Power Generation	3
MCE 465 Energy Conversion Systems	3
MCE 467 Fundamental Fuel Cell Systems	3

Total Hours Required for Degree: 132

Suggested 4-Year Plan of Study

Freshman (Year 1)			
Fall Semester	Hrs.	Spring Semester	Hrs.
AIU 100	1	AIU 111/112	1
EGR 100	3	CHM 110	3
ENG 101	3	CHM 111	1
MAT 121	4	GenEd CS	3
PHY 120	3	MAT 122	4
PHY 121	1	PHY 122	3
		PHY 123	1
Total	15	Total	16
Sophomore (Year 2)			
Fall Semester	Hrs.	Spring Semester	Hrs.
CSC 102	3	AIU 300	1
EGR 101	3	EGR 205	3
EGR 102	1	EGR 210	3
EGR 150	3	MCE 210	3
EGR 200	3	MAT 230	4
MAT 221	4	PHL 112	3
Total	17	Total	17
Junior (Year 3)			
Fall Semester	Hrs.	Spring Semester	Hrs.
ECE 200	3	ECO 201	3
EGR 250	3	ENG 302	3
ENG 301	3	MCE 320	3
MCE 310	3	MCE 340	3
MCE 330	3	MCE 345	3
MCE 335	1	GenEd SS course	3
MCE 395	1		

Freshman (Year 1)			
Total	17	Total	18
Summer Semester - Internship		EGR 490	1
Senior (Year 4)			
Fall Semester	Hrs.	Spring Semester	Hrs.
MCE 430	3	MCE 496	3
MCE 431	1	Specialization course 1	3
MCE 440	3	Specialization course 2	3
MCE 445	1	Specialization course 3	3
MCE 443	4	GenEd AH course	3
MCE 495	1		
Eng. Tech elective	3		
Total	16	Total	15

Course Descriptions

Accounting (ACC) Courses

ACC 201 Introduction to Financial Accounting.

3 credit hours.

Prerequisite(s): None.

Theory and practical applications of financial accounting principles; preparation and evaluation of financial statements and the items that make up these statements using real-world examples. Use of the language of business to communicate financial information about business enterprises.

ACC 205 Managerial Accounting I.

3 credit hours.

Prerequisite(s): ACC 201.

Basic terms and concepts used in managerial accounting: cost behavior; cost-volume profit analysis; business planning and accounting controls.

ACC 251 Intermediate Financial Accounting I.

3 credit hours.

Prerequisite(s): ACC 201.

Accounting principles for preparing a complete set of

financial statements; how accounting meets the needs of various external users. Theories and practices of external financial reporting for organizations. Valuation and accounting for assets: cash, receivables, and inventory.

ACC 301 Intermediate Financial Accounting II.

3 credit hours.

Prerequisite(s): ACC 251.

Theories and practices underlying external financial reporting for organizations. Valuation of and accounting for specific items on the balance sheet, including property, plant and equipment, intangible assets, current and long-term liabilities, stockholders' equity, investments, income measurement concepts and issues.

ACC 305 Managerial Accounting II.

3 credit hours.

Prerequisite(s): ACC 205.

Analyzing, managing, and accounting for costs; relevance of cost management in manufacturing firms and other types of organization.

ACC 351 Intermediate Financial Accounting III.

3 credit hours.

Prerequisite(s): ACC 301.

Complex financial reporting topics, such as securities, earnings per share, income taxes, pensions, leases, changes and errors, disclosure issues.

ACC 401 Advanced Accounting.

3 credit hours.

Prerequisite(s): ACC 351.

Theories and practical applications of financial accounting: as learned in intermediate accounting courses; focus on accounting of consolidation and combination of business entities; accounting for foreign currency transactions; and interim and segment reporting.

ACC 402 Accounting Systems.

3 credit hours.

Prerequisite(s): ACC 301.

Implementation of accounting systems in a computer-intensive business environment; methods for developing and documenting Accounting Information Systems (AIS); hands-on use of enterprise resource planning software

package for accounting functions.

ACC 411 Auditing.

3 credit hours.

Prerequisite(s): ACC 301.

Principles and procedures used by public accountants in examination of financial statements of companies and other organizations; issuing an independent opinion; professional standards and responsibilities of the certified public accountant.

Artificial Intelligence – General (AIG) Courses

AIG 101 Introduction to AI & Society.

3 credit hours.

Prerequisite(s): None

General Education: Social Sciences (SS)

This course introduces students to the societal, ethical, legal, and professional implications of artificial intelligence. Topics include responsible AI use, bias, fairness, accountability, human-AI interaction, workforce transformation, privacy, surveillance, algorithmic bias, and the role of AI in contemporary society. Drawing from multiple disciplines, including technology, sociology, philosophy, and law, the course establishes foundational AI literacy for students across all disciplines and prepares them to engage with AI as informed and responsible users.

AIG 201 AI Evolution for Professionals.

3 credit hours.

Prerequisite(s): AIG 101

General Education: Arts & Humanities (AH)

This course introduces students to the historical and conceptual evolution of artificial intelligence, including search-based intelligence, informed heuristics, rule-based systems, machine learning, deep learning, natural language processing, and generative AI. Emphasis is placed on understanding why different AI paradigms emerged, how they are applied in professional contexts, and how foundational AI methods support discipline-specific problem solving. The course prepares students for advanced discipline-specific AI application and capstone-level AI integration.

American International University (AIU) Courses

AIU 100 AIU Experience.

1 credit hour.

Prerequisite(s): None.

General Education: Experience (EX)

Required of all first-year students. This course will play an instrumental role in socializing students into the university community by providing activities that will increase their connections with fellow students, academic advising staff, and their instructors. The essential goals for this requirement are to enhance student engagement, success, and retention by implementing high-impact practices within a student's first year in college. AIU Experience will also help students build key skills and habits that will allow them to successfully navigate the university and manage their busy lives. These range from time management, studying, and test-taking skills to engaging in community activities both on and off-campus. Student motivation, engagement, learning, achievement, persistence and degree attainment all can be fostered by these transformative educational experiences.

AIU 111 Wellness for Females.

1 credit hour.

Prerequisite(s): None.

General Education: Wellness (WL)

Integrates information of eight dimensions of wellness with campus resources and encourages healthful living for AIU students. Class will include regular meetings at various campus locations and will involve physical activity sessions.

AIU 112 Wellness for Males.

1 credit hour.

Prerequisite(s): None.

General Education: Wellness (WL)

Integrates information of eight dimensions of wellness with campus resources and encourages healthful living for AIU students. Class will include regular meetings at various campus locations and will involve physical activity sessions.

AIU 300 Career Development.

1 credit hour.

Prerequisite(s): Completion of a minimum of 60 credit hours or permission of the school dean.

General Education: Experience (EX)

This course provides students with career skills to identify and secure professional career opportunities. AIU 300 is designed to assist students in obtaining positions consistent with their career goals and aspirations.

Architecture & Design (AID) Courses

Artificial Intelligence in Design

AID 200 Introduction to AI for Design Innovation

3 credit hour.

Prerequisite(s): None

General Education: Computer Science (CS)

This course provides an interdisciplinary introduction to the application of artificial intelligence (AI) within the field of design. It explores how AI can serve as a transformative tool for design innovation, enhancing creative thinking, problem-solving, and interdisciplinary collaboration. Students will engage with AI tools to generate innovative design solutions while critically examining the ethical and social implications of AI in the creative industries. By integrating foundational AI knowledge with hands-on application and ethical analysis, this course prepares students to leverage AI as a responsible and innovative resource in their design practice. The course culminates in an AI-assisted design project that addresses real-world challenges, fostering a forward-thinking approach to the evolving intersection of design and technology.

AID 300 Artificial Intelligence in Design Practice.

3 credit hours.

Prerequisite(s): Completion of 45 Credit hours.

This course examines the integration of artificial intelligence within architecture and design, focusing on its impact on generative design, spatial analysis, and user-centered innovation. Students will engage with AI tools for conceptual development, parametric modeling, visualization, and automation. Through applied projects and critical inquiry, the course fosters interdisciplinary approaches and future-oriented design strategies, while addressing the ethical,

cultural, and environmental dimensions of AI in creative practice.

AID 400 AI Capstone Project.

3 credit hours.

Prerequisite(s): AID 300

This capstone course enables senior architecture and design students to develop a research-informed project addressing a real-world design challenge through artificial intelligence. Building on prior coursework, students apply AI in areas such as generative design, parametric modeling, spatial analytics, and sustainability. The course emphasizes independent inquiry, interdisciplinary collaboration, and critical reflection, culminating in a fully developed design supported by technical documentation, visualizations, and analytical rationale.

Anthropology (ANT) Courses

ANT 100 Introduction to Anthropology.

3 credit hours.

Prerequisite(s): None.

General Education: Social Science (SS)

Study of humanity, past and present: cultural diversity and change, human evolution, biological variability, archaeology, ethnography, language, and contemporary uses of anthropology.

ANT 140 Food and Culture.

3 credit hours.

Prerequisite(s): None.

General Education: Arts & Humanities (AH)

Uses food and foodways as a lens to understand social, cultural, political, and economic issues around the world. Lectures draw from the interdisciplinary field of food studies that includes anthropological and historical texts and films. Topics include commensality, globalization, nationalism, food taboos, power, memory, etiquettes, food justice, and food and health.

ANT 210 World Cultures.

3 credit hours.

Prerequisite(s): None.

General Education: Arts & Humanities (AH)

Human societies exhibit tremendous diversity. How and why do we differ? What do these differences mean in today's world? Explore, contrast, compare, and understand the differences between and within societies such as those of Amazon rain forest, China, Japan, Alaska, India, the United States, and France. Special attention will be focused on how anthropologists think about and represent cultural differences through ethnographic writing, film, and other media.

ANT 211 Globalization.

3 credit hours.

Prerequisite(s): None.

General Education: Social Science (SS)

Students develop analytical tools for appraising processes of globalization; acquire a familiarity with the current topical concerns of global studies; and examine economic, political, and cultural approaches to globalization.

Architecture & Design (ARD) Courses

ARD 101 Basic Drawing.

3 credit hours.

Prerequisite(s): None.

Corequisite: ARD 102.

Introduction to basic drawing skills such as linear perspective, light and shadow, use of dry and wet media, emphasis on composition. Drawing primarily still life subjects. Offered Every Term.

ARD 102 2D Art & Design.

3 credit hours.

Prerequisite(s): None.

Corequisite: ARD 101.

Core studio for visual communication in a spectrum of two-dimensional media and color theory. Explorations include elements and principles of design, basic digital technique, basic traditional material handling, creative thinking, critical discussion and problem solving. Offered Every Term.

ARD 103 3D Art & Design.

3 credit hours.

Prerequisite(s): ARD 102.

Core studio for visual communication in a spectrum of three-dimensional media and composition in the built environment. Explorations include elements and principles of design, basic digital techniques, material handling, shop experience, and creative problem solving. Offered Every Term.

ARD 104 Time Based Art & Design.

3 credit hours.

Prerequisite(s): None.

Core studio for visual communication in time-based media composition including elements and principles of design, basic time-based methods for audio/video production, performance, social practice, creative thinking, and critical discussion and problem solving.

ARD 201 Intermediate Drawing.

3 credit hours.

Prerequisite(s): ARD 101.

Further development of basic drawing skills and concepts. Continued exploration of media. Drawing based on observation and imagination.

ARD 250 Introduction to Urban Design.

3 credit hours.

Prerequisite(s): None.

General Education: Social Science (SS)

This course examines both the structure of cities and the ways they can be changed. It introduces the students to theories about how cities are formed, and the practice of urban design and development, using national and international examples. The course deals with urban design in both existing and new areas, including models of urban analysis, contemporary theories of urban design and implementation strategies, supplemented by the illustration of methods of urban design practice. The course involves different urban analysis exercises and small-scale projects, which could deal with the design of a specific public space or the design of a "building gap" amid an existing urban fabric.

ARD 301 Design Concepts.

3 credit hours.

Prerequisite(s): ARD 103.

Intended for the student who is entering the design field and requires an understanding of brand identity

development, design thinking, and product line development.

ARD 302 History of Modern Design I.

3 credit hours.

Prerequisite(s): ARH 102.

Major design trends in America and Europe from mid-nineteenth century to World War I. Covers a broad spectrum of the applied arts.

ARD 303 Landscaping.

3 credit hours.

Prerequisite(s): ARD 101.

Drawing or painting, as appropriate, outdoors at a variety of urban, suburban, and rural sites in the Kuwait City area; students are expected to drive or carpool to locations within an hour of Jahra. Interpretation of landscape subjects through observation and imagination.

ARD 390 Professional Practice in Design.

3 credit hours.

Prerequisite(s): ARD 301.

This course is a teaching guidance for the professional practice of design, and related topics such as: business of the design profession, project planning, client relationships, marketing, branding, and prospecting for global projects. This course enables the student to establish a thorough comprehension of the technical aspects of design; to acquire basic knowledge of design skills.

ARD 402 History of Modern Design II.

3 credit hours.

Prerequisite(s): ARD 302.

Major design trends in America and Europe from end of World War I through 1950s. Covers a broad spectrum of the applied arts.

ARD 450 Design Philosophy.

3 credit hours.

Prerequisite(s): Senior standing.

This course is an introduction to the fundamental philosophical issues raised by the contemporary practice of design. This course explores central issues about the nature of design and its products, and the rationality of design methods. Also, explores the key issues for design,

including: the place of aesthetics in design; design's relation to personal expression; the meaning of function; and design's relation to consumerism. The social responsibility of designers, and the impact of design practice on ethical reasoning are also discussed.

ARD 452 Design Management.

3 credit hours.

Prerequisite(s): Senior standing.

This course promotes understanding, awareness and knowledge of the design industry whilst encouraging creativity, innovation and ambition.

Students will learn how organisational structure, culture and strategy can encourage design field.

Also, the course considers how design relates to other business functions like marketing, finance and production, particularly in the new product development process.

Art History (ARH) Courses

ARH 101 Art History Ancient to Medieval.

3 credit hours.

Prerequisite(s): None.

General Education: Arts & Humanities (AH)

Survey of traditions and major developments in visual expression in the West, prehistory through medieval period. Art studied in context of its cultures; techniques of visual analysis.

ARH 102 Art History Renaissance to Modern.

3 credit hours.

Prerequisite(s): ARH 101.

General Education: Arts & Humanities (AH)

Traditions and developments in visual expression in the West, Renaissance through twentieth century. Art in context of its cultures; techniques of visual analysis.

ARH 202 Islamic Art and Architecture.

3 credit hours.

Prerequisite(s): ARH 101.

Survey of art and architecture of Islam from its origins in the seventh century to the Ottoman Empire.

ARH 301 Twentieth Century Art.

3 credit hours.

Prerequisite(s): ARH 102.

European and American paintings, sculpture, and new media surveyed from 1900 to present.

ARH 401 Contemporary Art.

3 credit hours.

Prerequisite(s): ARH 102.

Introduction for studio art majors: ideas and styles of modern art. The gap between those who make art and those who write about it. Access to the discipline of art history through tracing the origins of a variety of contemporary art practices.

Biology (BIO) Courses

BIO 100 Basic Life Diversity.

3 credit hours.

Prerequisite(s): None.

General Education: Natural Science (NS)

This course provides the fundamentals in Evolution biology focusing on organisms origins and diversity throughout earths history. During the course organisms origins, adaptaion, evolution and reproduction will be discussed for both prokaryotes and eukaryotes.

BIO 101 Basic Life Mechanisms.

3 credit hours.

Prerequisite(s): None.

General Education: Natural Science (NS)

This is course is an introduction to the basic life process at the cellular level. It is designed to focus on human cellular functions including biological molecules, energy and enzyme metabolism, cell types, cell structure and function, cell communication division and regulation, and classical and molecular genetics

BIO 102 Basic Life Mechanisms Lab.

1 credit hour.

Prerequisite(s): None.

Corequisite: BIO 101.

General Education: Natural Science (NS)

This course is designed to accompany BIO 101 in the practical and hands on experience in the laboratory.

BIO 201 Introduction to Cell Biology.

4 credit hours.

Prerequisite(s): BIO 101.

This course is designed to introduce the mechanisms of life and chemistry pathways in the different cells in the human body. It focuses on the different aspects of these cells, deferentiation and metabolisms.

BIO 210 Microbiology.

4 credit hours.

Prerequisite(s): BIO 201.

This course introduces the basic principles of microbiology in characterizing microbes and various testing methods. This includes understanding of the mechanisms of life and chemistry of these microbes. The laboratory component will introduce experience in testing and identification of these microorganisms.

BIO 310 Genetics.

4 credit hours.

Prerequisite(s): BIO 210.

This scope of this course is to introduce the the concept of genetic information in both in DNA and RNA. The importance of this information, regulation and mis-information resulting from mutations will be addressed. Genetic diseases are also introduced in the course.

BIO 320 Human Physiology.

3 credit hours.

Prerequisite(s): BIO 210.

This course provides a comprehensive and indepth study of the physiology of the human body.

Topics include body organization; homeostasis; cytology; histology; and the integumentary, skeletal, muscular, nervous systems and special senses.

BIO 315 Bioinformatics.

3 credit hours.

Prerequisite(s): BIO 310.

This course aims to provide the basics in computational biology through the utilization of digital softwares in the analysis of biological activities.

BIO 330 Cellular Biochemistry.

3 credit hours.

Prerequisite(s): BIO 310.

This course is designed to provide in depth study of the different biological chemical pathways that occur at a cellular level. Topics include cellular respiration, metabolisms, protein synthesis and enzymology.

BIO 375 Histology.

3 credit hours.

Prerequisite(s): BIO 210.

This course provides in-depth information on the different tissues of the human body. The composition of tissues within each organ system is discussed at the cellular level, with emphasis on structure–function relationships. The course also introduces basic concepts of histopathology and highlights the clinical relevance of tissue changes in disease.

BIO 376 Histology Lab.

1 credit hours.

Corequisite(s): BIO 375.

This laboratory course introduces the fundamental techniques and principles of histology, including tissue preparation, sectioning, staining, and microscopic examination. Emphasis is placed on the identification and analysis of tissue structure and organization, and the relationship between structure and function. Students develop practical skills in slide preparation, microscopy, and interpretation of histological features with a focus on clinical and histopathological relevance, as well as applications in biotechnology and biomedical sciences.

BIO 380 Molecular Biology and Biotechnology.

4 credit hours.

Prerequisite(s): BIO 310.

This course aims to provide the basics in molecular and testing methods in proteomics and genetics and the advancements seen to enhance such methods using biotechnology.

BIO 405 Infection & Immunology.

3 credit hours.

Prerequisite(s): BIO 380.

This course introduces the basics of human immunology addressing both aspects of the innate and adaptive immunity in relation to infections, allergies and autoimmunity. Immune pathways and proteins are introduced as well as cellular immunology.

BIO 410 Biometry.

3 credit hours.

Prerequisite(s): BIO 380.

This course is designed to rigorously introduce students into statistical data analysis for biological data. The course will introduce and cover examples of probability distributions, descriptive statistics, and parametric and non-parametric hypothesis tests.

BIO 411 Clinical Biochemistry.

3 credit hours.

Prerequisite(s): BIO 380.

This course is designed to address the importance of biochemistry in health and disease. The aim is to provide an understanding of the different pathways in the biological chemistry of the human body in order to understand the outcomes of disruptions of these mechanisms in health, disease or through medications.

BIO 417 Bioinformatics Using MATLAB.

3 credit hours.

Prerequisite(s): BIO 315.

This course offers students an in-depth exploration of the synergy between bioinformatics and computational biology. Topics will revolve on utilizing MATLAB for tasks such as sequence analysis, molecular modeling, and statistical analysis.

BIO 420 Basic Endocrinology.

3 credit hours.

Prerequisite(s): BIO 330.

This course provides in-depth information of the biochemistry of the different glands in the human body. The normal physiology and pathology of each of the glands are discussed in terms of the biochemical pathways.

BIO 421 3D Bioprinting.

3 credit hours.

Prerequisite(s): BIO 380.

This course aims to provide an overview of the emerging applications and importance of 3d printing technologies in the biology field. The topics will focus on tissue printing use live inks and their correspondant applications in tissue regeneration and organ transplant.

BIO 422 Evolutionary Genomics and Bioinformatics.

3 credit hours.

Prerequisite(s): BIO 315.

This course is designed to provide an indepth knowledge about evolution through understanding genomics and the applications of such information in the informatics systems.

BIO 425 Basic Human Pathology.

3 credit hours.

Prerequisite(s): BIO 330.

This course is designed to address the abnormal physiology of the human body that lead to different diseases and disorders.

BIO 430 Tissue Culture and Modulation.

3 credit hours.

Prerequisite(s): BIO 380.

This course is designed to provide the basic skills and understanding of tissue culture in the laboratories. Different cell types will be addressed and will be modulate or differentiated to different types.

BIO 431 Hematology and Blood Banking.

3 credit hours.

Prerequisite(s): BIO 330.

This course is designed to discuss at the protein level the function and function of the blood cells in the human body. It provides knowledge in blood banking techniques, protocols and safety which are followedby clinical technologists.

BIO 435 Bioenergetics.

3 credit hours.

Prerequisite(s): BIO 330.

This course aims to study the biochemical pathways related to the transformation of energy with in a living organism.

BIO 440 Computational Biology.

3 credit hours.

Prerequisite(s): BIO 315.

This course provides an understanding of different computational methodes used to analyze biological data.

BIO 450 Principles & Applications of Biotechnology I.

3 credit hours.

Prerequisite(s): BIO 380.

This course is designed to provide current information on the existing and cutting edge biotechnology applications and their descriptive methodology and principles.

BIO 460 Principles & Applications of Biotechnology II.

3 credit hours.

Prerequisite(s): BIO 450.

This course is designed to provide current information on the existing and cutting edge biotechnology applications and their descriptive methodology and principles.

BIO 490 Internship.

3 credit hours.

Prerequisite(s): Senior standing.

The internship will provide the students with an opportunity for hands-on experience in various industries both in the private and govermental sectors.

BIO 493 Special Topics in Biotechnology.

3 credit hours.

Prerequisite(s): BIO 380.

Topics of current and cutting edge topics will be discussed in this course as well as future and indevelopment technologies in biology.

BIO 494 Special Topics in Biotechnology 2.

3 credit hours.

Prerequisite(s): BIO 380.

Advanced Topics of current and cutting-edge technologies will be discussed in this course as well as future and in development technologies in biology and biotechnology.

BIO 495 Biotechnology Research Project I.

1 credit hour.

Prerequisite(s): BIO 380.

This course is designed to provide the students with an introduction on research projects to formulate a dissertation plan and provide time to gather knowledge for Biotechnology research project 2.

BIO 496 Biotechnology Research Project II.

3 credit hours.

Prerequisite(s): BIO 495.

This course is aimed to train students in data generation and experimental setup to properly execute a well defined dissertation plan designed from the course Biotechnology Research project 1.

Biomedical Engineering (BME) Courses

BME 101 Introduction to Biomedical Engineering

1 credit hour.

Prerequisite(s): BME major.

This course introduces students to the field of Biomedical Engineering (BME), integrating principles of engineering with biological and medical sciences. It provides an overview of major application areas including medical imaging, biomaterials, biomechanics, biosignals, and clinical engineering. Students will gain insight into the role of biomedical engineers in healthcare, emerging technologies, and ethical considerations in medical device development.

BME 240 Anatomy for Engineers.

2 credit hours.

Prerequisite(s): BIO 101.

A text and models based anatomy course for undergraduate students in biomedical engineering. This course is intended to give the students an introductory experience of the study of human anatomy in relation to engineering principles.

BME 241 Physiology for Engineers.

2 credit hours.

Prerequisite(s): BIO 101.

Introduction to human physiological and pathophysiological processes.

BME 300 Medical Imaging I.

3 credit hours.

Prerequisite(s): PHY 120, BME 240.

Involves the production of visual representations of body parts, tissues, or organs for use in clinical diagnosis and medical intervention. It introduces the physics principles underlying imaging techniques such as x-ray, computed tomography (CT), endoscopy, and ultrasound.

BME 310 Biomedical Signals and Systems.

3 credit hours.

Prerequisite(s): MAT 221.

Mathematical, engineering and computer techniques for describing and analyzing biomedical signals, including ECG, EEG, EMG, blood pressure, and tomographic images.

BME 311 Biomedical Signals and Systems Laboratory.

1 credit hour.

Prerequisite(s): None.

Corequisite: BME 310.

Lab which complements lecture material in BME 310.

BME 315 Biomedical Instrumentation I.

3 credit hours.

Prerequisite(s): ECE 350, BME 241.

Introduction and basic concepts of biomedical instrumentation. Introduction to measurement systems. Basic sensors and principles, amplifiers and filters, Origin of bio-potentials. Biopotential electrodes and biopotential amplifiers.

BME 320 Biomechanics I.

3 credit hours.

Prerequisite(s): PHY 122.

Broad introduction to the application of mechanical engineering principles to biomedical engineering, including motion analysis, injury and forensic biomechanics, cardiovascular and pulmonary mechanics, and design of implants with mechanical functions.

BME 325 Image Processing.

3 credit hours.

Prerequisite(s): CSC 102, BME 300.

Covers the use and development of algorithms for the visualization and analysis of medical images of numerous

modalities such as positron emission tomography (PET), magnetic resonance imaging (MRI), computed tomography (CT), or microscopy. It includes image enhancement, registration, segmentation, and visualization. The course will also include a project involving the application of image processing techniques.

BME 330 Biomaterials and Biocompatibility.

3 credit hours.

Prerequisite(s): BME 240, BME 241.

Broad introduction to the field of biomaterials and its application to tissue engineering, implant design, controlled drug delivery, and designer materials for therapeutic use.

BME 341 Engineering Physiology & Instrumentation Laboratory.

1 credit hour.

Prerequisite(s): BME 241.

Corequisite: BME315.

Measurement and analysis of physiological signals on living systems, with focus on neural, cardiovascular, respiratory and muscular systems. Includes a student-designed experiment on a physiological system.

BME 345 Biomedical sensors and measurements

3 credit hours.

Prerequisite(s): ECE 350.

Resistive, capacitive, inductive, electromagnetic, thermoelectric, elastic, piezoelectric sensing elements, optical and ultrasonic measurement systems, statistical and dynamic characteristic of measurement systems. Classification of biomedical telemetry systems.

BME 350 Medical Imaging II.

3 credit hours.

Prerequisite(s): BME 300.

Focuses on principles and engineering of medical imaging systems such as magnetic resonance imaging (MRI), positron-emission tomography (PET), and single-photon-emission tomography (SPECT).

BME 370 Biomechanics II.

3 credit hours.

Prerequisite(s): BME 320.

Introduces advanced topics in biomechanics including the mechanical behavior of body tissues under various loading conditions.

BME 371 Biomechanics Lab

1 credit hour.

Prerequisite with concurrency (s): BME 320

The lab will focus on human motion capture System, Gait Analysis and Movement tracking, Kinematics and Center of mass of the body and Force plate data analysis.

BME 375 Image Reconstruction.

3 credit hours.

Prerequisite(s): BME 300.

Provides students with an understanding of the fundamental concepts of image reconstruction and its applications in the medical field. It Covers examples of tomographic reconstructions from magnetic resonance imaging (MRI), x-ray computed tomography (CT), positron emission tomography (PET) and single photon emission computed tomography (SPECT).

BME 380 Dental Implants: Principles and Biomedical Applications.

3 credit hours.

Prerequisite(s): BME 330.

This course introduces biomedical engineering students to the fundamental principles and technologies behind modern dental implant systems. It covers the biological, mechanical, and material science aspects of implant design, with a focus on biocompatibility, osseointegration, and load-bearing performance. Students will explore current methods in digital implant planning, CAD/CAM fabrication, and imaging techniques relevant to dental applications. The course also addresses regulatory, clinical, and ethical considerations in dental implant development. Emphasis is placed on engineering analysis, innovation, and interdisciplinary collaboration between engineers and clinicians.

BME 390 Artificial Intelligence in Healthcare.

3 credit hours.

Prerequisites: CSC 102, BME 310

This course explores the application of artificial intelligence (AI) and machine learning (ML) in modern healthcare

and biomedical engineering. Students will learn how AI technologies are transforming diagnostics, medical imaging, predictive analytics, personalized medicine, clinical decision support, and healthcare operations. The course covers fundamental AI/ML concepts, algorithms, data types in healthcare, and model evaluation metrics, with a strong emphasis on ethical considerations, data privacy, and bias in AI systems. Case studies, recent research, and practical exercises will guide students in developing and critically assessing AI solutions for real-world clinical problems.

BME 395 Biomedical Engineering Seminar.

1 credit hour.

Prerequisite(s): Junior standing, BME major.

This course introduces background topics from main areas of biomedical engineering, including Biomechanics, Biomedical Instrumentation and Medical Imaging.

BME 400 Computer Applications in Biomedical Engineering.

3 credit hours.

Prerequisite(s): CSC 102, BME 315.

Application of numerical methods in biomedical engineering. Programming algorithms and development of data analysis interfaces using Matlab and Excel. Development and refinement of mathematical models, binary data storage and round-off error, algorithm truncation error, and application of Taylor series for function approximation, error estimation, and algorithm development. Numerical methods for solving: roots of equations, systems of linear equations, system optimization, regression and interpolation, integration, differentiation, and ordinary and partial differential equations. Attention is focused on application of techniques within biomedical engineering.

BME 405 Biomechanics of Human Movement.

3 credit hours.

Prerequisite(s): BME 320.

Introduction to principles and application of human motion analysis.

BME 411 Instrumentational Microscopic Analysis.

3 credit hours.

Prerequisite(s): BME 240.

Provides the students specializing in biomedical engineering with a basis for understanding the modern methods of microscopic analysis and the design of different types of instrumentation used for microscopic analysis and imaging.

BME 412 Lasers for Medical Applications.

3 credit hours.

Prerequisite(s): ECE 350.

Summarizes the wealth of recent research on the principles, technologies and application of lasers in diagnostics, therapy and surgery. Includes an overview of optics, optical components used in a typical laser, key principles of lasers and radiation interactions with tissue. The respective types of the laser (solid state, gas, dye, and semiconductor) are reviewed to provide an understanding of the wide diversity, and therefore, the large possible choice of these devices for a specific diagnosis, treatment, or surgery.

BME 415 Biomedical Instrumentation II.

3 credit hours.

Prerequisite(s): BME 315.

Concepts and design strategies for advanced medical instrumentation systems. Chemical biosensors. Clinical laboratory equipment: spectrophotometry, hematology and electrophoresis. Therapeutic and prosthetic devices: dialysis machine, electric stimulators, defibrillators, ventilators, and infant incubators. Electro surgery instruments and lithotripsy. Blood pressure, heart sounds, blood flow, and blood volume measurements. Safety requirements.

BME 420 Musculoskeletal Biomechanics.

3 credit hours.

Prerequisite(s): BME 320.

Structure and properties of the major tissue components of the musculoskeletal system and evaluation of how tissues combine to provide support and motion to the body.

BME 422 Regenerative Biology and Medicine.

3 credit hours.

Prerequisite(s): BME 240.

Introduces students specializing in biomedical engineering to the conceptual and methodological principles of modern regenerative biology and medicine. Includes a review of research methods and achievements in this field and the

translational applications of regenerative biology to tissue engineering and the development of regenerative therapies.

BME 430 Advanced Biomaterials.

3 credit hours.

Prerequisite(s): BME 330.

Introduction to study of both biological materials (bone, muscle, etc.) and materials for medical applications. Topics include tissue properties and effects of pathology, biocompatibility, and design considerations.

BME 435 Artificial Organs.

3 credit hours.

Prerequisite(s): BME 315.

Introduction to various technologies used to replace functions of internal body systems including extracorporeal and implantable devices.

BME 445 Clinical Engineering.

3 credit hours.

Prerequisite(s): BME 315.

Introduction to hospital organization and the role of clinical engineering in the management of health technology.

BME 452 Smart Sensor Design.

3 credit hours.

Prerequisite(s): BME 345.

Introduction to various types of sensors and the design of basic analog VLSI circuit building blocks.

BME 460 Rehabilitation Engineering.

3 credit hours.

Prerequisite(s): senior standing.

Overview of rehabilitation science, design and function of functional electrical stimulation (FES) for the rehabilitation of neuromuscular injuries and diseases (experimental use of FES equipment). In depth study of osseointegration (direct integration of titanium implants into bone) for the rehabilitation of injuries and diseases to various regions of the musculoskeletal system.

BME 470 Upper and Lower Limbs Prosthesis.

3 credit hours.

Prerequisite(s): BME 241, BME 315.

This course will give an overview of analysis of the aftermath of various injuries to human body, the methodology and requirements in the reconstruction of an injured or diseased system for the upper and lower extremities. Engineering replacement for living organs will be addressed as well as the factors involved in these replacements such as the geometry, material, and functionality, electrical, magnetic, and mechanical aspects.

BME 493 Special Topics in Biomedical Engineering.

3 credit hours.

Prerequisite(s): Senior standing.

Topics as announced in Schedule of Classes.

BME 495 Senior Design Project I.

1 credit hour.

Prerequisite(s): Senior standing.

First in a two-semester sequence during which student teams develop a design to address a biomedical engineering challenge; includes discussions with clinical faculty, analysis of current solutions, and finalization of conceptual design.

BME 496 Senior Design Project II.

3 credit hours.

Prerequisite(s): BME 495.

Second of a two-semester sequence. Students develop and test a prototype of their biomedical engineering design; culminates in a public design expo to exhibit student designs.

General Business (BUS) Courses

BUS 103 Critical Thinking for Consumer Decisions.

3 credit hours.

Prerequisite(s): None.

Development of critical thinking skills and the application of these skills in evaluation and decisions for a broad range of consumer issues including advertising interpretations, purchase decisions, job applications, and consumer protection.

BUS 104 Personal Financial Planning.

3 credit hours.

Prerequisite(s): None.

Introductory course designed to help students become financially literate and make proper financial decisions encountered in everyday life. Topics covered will include income, money management, spending and credit, as well as saving and investing.

BUS 210 Business Law.

3 credit hours.

Prerequisite(s): ENG 101.

Introduction to the domestic and international legal systems as they relate to business. Impact of the legal environment on decision-making and the legal and ethical implications of contracts.

BUS 301 AI in Business.

3 credit hours.

Prerequisite(s): None

This course focuses on the application of Artificial Intelligence (AI) to support business decision-making through data-driven insights. Students learn how to use machine learning techniques to analyze business data, identify patterns, and generate predictive and prescriptive solutions

BUS 307 Business Information Systems.

4 credit hours.

Prerequisite(s): CSC 101.

Introductory information systems course, which establishes a foundation for understanding the value of information systems in organizations. Provides a study of information systems in organizations and an overview of the manner in which information systems and technology support business processes, decision-making, and organizational strategy.

BUS 490 Internship.

3 credit hours.

Prerequisite(s): Senior standing and the following according to student major:

Accounting: ACC351

Entrepreneurship: ENT365, ENT306

Marketing: MKT 304, MKT360

Management: MGT302, MGT370

Global Supply Chain Management: GSC 303, GSC350

Finance: FIN301, FIN302, GSC301

All majors: AIU 300

Designed to afford AIU business students the opportunity to immerse themselves within a working environment and gain valuable on-the-job experience applying the theoretical knowledge gained from the courses. Students perform assigned tasks and responsibilities in a professional manner under supervision of host-employer for a minimum of 160 hours during the semester, abiding by the rules and regulations established by the employer; student must satisfactorily complete all course requirements outlined in the internship program for the School of Business.

BUS 492 Independent Study.

1-3 credit hours.

Prerequisite(s): None.

Other restrictions: Junior standing.

This course offers business students the opportunity to study in a particular area of their field under the guidance of an individual faculty member. Open to juniors and seniors with advice and permission of the appropriate faculty member and the approval of the dean. May be repeated once for credit. Students can apply a maximum of 6 hours of BUS 492 toward their degree.

BUS 493 Special Topics.

3 credit hours.

Prerequisite(s): None.

Other restrictions: Junior standing.

This course will cover subject matter outside the scope of permanently offered courses. Topics will be announced in each semester's Schedule of Classes. Students may earn up to 9 hours of BUS 493 across multiple semesters.

BUS 497 Undergraduate Research.

1-3 credit hours.

Prerequisite(s): None.

Other restrictions: Senior standing.

This course provides students with exposure to the research process and the opportunity to conduct research under the guidance of a faculty member. Students may take 1-3 hours per semester, and may earn up to 9 hours of BUS 497 across multiple semesters.

Creative & Digital Media (CDM) Courses

CDM 102 Video Editing.

3 credit hours.

Prerequisite(s): None.

General Education: Arts & Humanities (AH)

Students will learn how to edit videos, apply transitions, and perform color correction using DaVinci Resolve 17. This hands-on course will explain the logistics of digital workflow and file management while focusing on creativity.

CDM 103 Digital Photography.

3 credit hours.

Prerequisite(s): None.

General Education: Arts & Humanities (AH)

This course introduces digital photography in theory and practice. Students will learn how to work with a photographic camera and utilizing lenses and light to maximize the appeal of their original work. It includes formal classes, lectures, and practical exercises.

CDM 104 Video Production Techniques.

3 credit hours.

Prerequisite(s): None.

General Education: Arts & Humanities (AH)

This course will teach students to understand the essential work of the director of photography and will explore video camera work. Students will use different formats, lights, lenses, and filters to produce video.

CDM 105 Introduction to Sound Design.

3 credit hours.

Prerequisite(s): None.

This introduction to sound design course underlines the principles of sound and how they apply to different linear media. Students will become knowledgeable in the language of sound. They will learn how sounds are omnipresent and immerse us in the world. They will absorb these concepts through three different stages. Listening, recording, and processing. They will also learn about the roles, disciplines, and departments involved in sound design for film.

CDM 106 Audio Storytelling and Podcasting.

3 credit hours.

Prerequisite(s): None.

Students are invited to explore this introduction to audio storytelling and podcasting from basic recording techniques, through story conception to the final creation of an audio file (podcast). Students will become knowledgeable in the language of sound, and learn about the techniques, and concepts involved in podcasting.

Chemical Engineering (CHE) Courses

CHE 210 Transport Phenomena I for CHE (formerly CHE 310).

3 credit hours.

Prerequisite(s): MAT 221, CHE 280.

Presents a practical introduction to the field of transport phenomena and its applications, with a primary focus on the transport of momentum and mechanical energy balances in engineering systems. Students will develop the mathematical tools and skills necessary to design and analyze chemical process systems involving the movement or transfer of fluids (i.e., momentum transport) and the interchange among forms of mechanical energy as fluids flow.

CHE 220 Thermodynamics I: Chemical Equilibria (Formerly CHE 320).

4 credit hours.

Prerequisite(s): MAT 221.

Qualitative and quantitative treatment of homogeneous and heterogeneous phase and chemical equilibria. Use of chemical activities and activity coefficients relating ideal to actual systems. Use of reference states and excess properties of the prediction of equilibrium diagrams and the determination of feasibility of chemical reactions.

CHE 280 Material and Energy Balances.

4 credit hours.

Prerequisite(s): PHY 120, MAT 122.

Material balances, stoichiometry and simultaneous mass energy balances

CHE 310 Transport Phenomena I

3 credit hours.

Prerequisite(s): MAT 221, CHE 280.

Presents a practical introduction to the field of transport phenomena and its applications, with a primary focus on the transport of momentum and mechanical energy balances in engineering systems. Students will develop the mathematical tools and skills necessary to design and analyze chemical process systems involving the movement or transfer of fluids (i.e., momentum transport) and the interchange among forms of mechanical energy as fluids flow

CHE 320 Thermodynamics: Chemical Equilibria.

4 credit hours.

Prerequisite(s): MAT 221, CHE 280.

Qualitative and quantitative treatment of homogeneous and heterogeneous phase and chemical equilibria. Use of chemical activities and activity coefficients relating ideal to actual systems. Use of reference states and excess properties of the prediction of equilibrium diagrams and the determination of feasibility of chemical reactions.

CHE 330 Transport Phenomena II.

3 credit hours.

Prerequisite(s): CHE 210 or CHE 310.

Presents a practical introduction to the field of transport phenomena and its applications, with a primary focus on the transport of heat and mass of chemical species in engineering systems. Students will develop the mathematical tools and skills necessary to design and analyze chemical process systems involving the movement or transfer of thermal energy (i.e., heat transfer) and movement of a chemical species under a concentration gradient (i.e. mass transfer and diffusion).

CHE 340 Kinetics and Reactor Design.

4 credit hours.

Prerequisite(s): MAT 230, CHE 220 or CHE 320.

Quantitative treatment of complex homogeneous and heterogeneous chemical reactions and the design of batch, stirred and flow reactor systems.

CHE 350 Measurements Laboratory.

2 credit hours.

Prerequisite(s): CHE 330.

Laboratory course in the principles and practice of measuring chemical, physical and thermodynamic

properties of importance to chemical engineering problems. Technical reports.

CHE 380 Separation Processes.

3 credit hours.

Prerequisite(s): CHE 210 or CHE 310, CHE 220 or CHE 320.

Quantitative treatment of separation processes in which there is simultaneous heat and mass transfer.

CHE 382 Chemical Engineering Laboratory.

2 credit hours.

Prerequisite(s): CHE 340, CHE 350, CHE 380, ENG 302.

Experimental study of chemical equilibria, reaction kinetics and rate processes. Laboratory case studies.

CHE 395 Chemical Engineering Seminar.

1 credit hour.

Prerequisite(s): Junior standing, CHE major.

Orientation to specialization areas in Chemical Engineering. Required before beginning specialization courses.

CHE 420 Product and Process Design.

3 credit hours.

Prerequisite(s): CHE 330, CHE 340, CHE 380.

The overall design of chemical products, systems, and processes. Economic analysis, computational design calculations, and optimization of design based on factors such as economics, environmental protection and waste minimization, and safety.

CHE 430 Renewable Energy.

3 credit hours.

Prerequisite(s): Senior Standing

Solar and wind energy sources, covering design and operation of photovoltaic cells, solar thermal technologies, and design and operation of wind towers and wind farms. Other topics include: principle operations of geothermal energy, nuclear power plants, hydro-power, tidal and ocean waves and various methods of capturing and transforming these energy resources to electricity.

CHE 431 Oil and Gas Processing.

3 credit hours.

Prerequisite(s): Senior Standing.

Crude oil and natural gas separation platforms. Refining (CDU, VDU, FCCU). Hydro treating, hydro cracking, thermal cracking. CNG technologies and oil / gas pipelines. Natural gas processing technologies. Water treatment plants. Environmental management

CHE 432 Biofuels and Biorefineries.

3 credit hours.

Prerequisite(s): Senior Standing.

Renewable biomass resources. Biofuels manufacture, biorefining. Biocomposites and other materials from renewable resources. Industrial processes based on biological raw materials.

CHE 440 Drug Design, Development, and Delivery.

3 credit hours.

Prerequisite(s): Senior Standing.

This course provides an overview of the pharmaceutical industry, including basic information about drug discovery and development, FDA requirements and approval processes, drug dosage forms, and the role of key operational units in drug manufacturing processes. This course enables the students to: understand the role of the pharmaceutical industry in the global market and its implications; learn the fundamentals of the drug development cycle and the investment required to bring a drug to market; learn the most important drug manufacturing processes and the key elements of dosage formulation.

CHE 441 Pharmaceutical Technology.

3 credit hours.

Prerequisite(s): Senior Standing.

This course examines methodologies to analyze and scale up manufacturing pharmaceutical processes involving liquid and dispersed-phase systems, such as liquid and multiphase mixing, sterilization and sanitation, lyophilization, filtration, centrifugation and others. Solids processing, such as solids characterization, blending, milling, granulation, tableting, coating, and others. The emphasis is primarily on the engineering aspects of the pharmaceutical processes examined in the course.

CHE 442 Quality Assurance and Process Validation.

3 credit hours.

Prerequisite(s): Senior Standing.

This course is focused on the development of a working knowledge of the Federal Code of Regulations and its impact on the pharmaceutical and allied industries. The history of the Federal Government's regulation of the pharmaceutical industry is studied. Also covered is the industry's response and the methodologies it uses to comply with these regulations.

CHE 450 Polymer Science and Engineering.

3 credit hours.

Prerequisite(s): Senior Standing.

Basic structures, states and transitions of polymers. Polymerization reactions and processes. A detailed analysis of polymer processing. Rheology of polymers, flow in tubes, calendering, extrusion, coating and injection molding.

CHE 451 Air, Water, and Waste Management.

3 credit hours.

Prerequisite(s): Senior Standing.

Analysis and design of water supply and wastewater treatment systems; treatment of municipal water supplies, including sedimentation, softening, filtration and disinfection. industrial waste waters and their treatability by physical, chemical and biological processes. Air pollutants that contribute to the formation of acid rain, smog and haze. Engineering methods to control and mitigate air pollution

CHE 452 Environmental Nanotechnology.

3 credit hours.

Prerequisite(s): Senior Standing.

Environmental applications of nanotechnology in Membrane Processes, Adsorbents, Groundwater remediation, Nano-sensors for detecting pollutants in the environment. Environmental effects of nanotechnology (Toxicological and Ecotoxicological impacts). Effects of nanotechnology to human body. Risk Assessment of nanotechnology. Regulations that should be done for nanotechnology.

CHE 460 Process Dynamics and Simulation.

3 credit hours.

Prerequisite(s): CHE 330, CHE 340, CHE 380.

Application of system dynamics and mathematical modeling to design and analysis of chemical processing systems.

CHE 461 Process Dynamics and Simulation Laboratory.

1 credit hour.

Prerequisite(s): None.

Corequisite: CHE 460.

Required lab for CHE 460 Process Dynamics and Simulation.

CHE 473 Water Desalination and Treatment

3 credit hours.

Prerequisite(s): Senior Standing

Introduction to water desalination and reuse processes with emphasis on applications in Kuwait and the GCC region. Coverage of thermal desalination methods and membrane processes. Principles of mass and energy balances as applied to desalination systems. Water quality, scaling, corrosion, and membrane fouling with methods of control. Hybrid desalination systems, brine management, and environmental impacts of marine discharge. Overview of treated sewage effluent (TSE) reuse and emerging technologies for improving desalination performance.

CHE 480 Safety in the Chemical Processing Industry.

3 credit hours.

Prerequisite(s): Senior Standing.

Fundamental and practical experience necessary for safe operation of a chemical process plant. Actual industrial case studies conducted under industry supervision.

CHE 482 Chemical Engineering Laboratory. (Formerly CHE 382)

2 credit hours.

Prerequisite(s): CHE 340, CHE 380.

Experimental study of chemical equilibria, reaction kinetics and rate processes. Laboratory case studies.

CHE 491 Directed Study I.

1 credit hour.

Prerequisite(s): CHE 380.

Independent computer-based projects using AspenONE for Academic program, focused on topics in the field of Chemical Engineering.

CHE 492 Directed Study II.

2 credit hours.

Prerequisite(s): Program approval, senior standing.

Independent projects on advanced subjects in the field of Chemical engineering.

CHE 493 Special Topics in Chemical Engineering.

3 credit hours.

Prerequisite(s): Program approval, senior standing.

Topics as announced in Schedule of Classes.

CHE 495 Senior Design Project I.

1 credit hour.

Prerequisite(s): senior standing.

Prerequisite with concurrency: CHE 395.

Application of engineering and science background to the design of chemical processes. Comprehensive problems deal with sources of data, design principles and optimization techniques.

CHE 496 Senior Design Project II.

3 credit hours.

Prerequisite(s): CHE 495.

Application of engineering and science background to the design of chemical processes. Comprehensive problems deal with sources of data, design principles and optimization techniques.

Chemistry (CHM) Courses

CHM 101 Basic Chemistry.

3 credit hours.

Prerequisite(s): None.

General Education: Natural Science (NS)

Matter and energy in chemistry, chemical symbols and equations, structure and properties of atoms, introduction to chemical bonding; periodicity in chemistry, solids, liquids, gases, solutions, acids and bases, and equilibrium.

CHM 110 General Chemistry I.

3 credit hours.

Prerequisite(s): None.

General Education: Natural Science (NS)

Introduction to the principles of chemistry for students with

high school background in chemistry. Chemical structure, bonding, and reactivity.

CHM 111 General Chemistry I Lab.

1 credit hour.

Prerequisite(s): None.

Corequisite: CHM 110.

General Education: Natural Science (NS)

Laboratory course to introduce the scientific method, properties of materials, the role of energy, structure and spectroscopy.

CHM 112 General Chemistry II.

3 credit hours.

Prerequisite(s): CHM 110.

General Education: Natural Science (NS)

Chemistry of liquids and solutions, chemical kinetics and equilibrium, application of aqueous equilibria, spontaneity, entropy and free energy.

CHM 113 General Chemistry II Lab.

1 credit hour.

Prerequisite(s): None.

Corequisite: CHM 112.

General Education: Natural Science (NS)

Laboratory course to introduce chemical properties, solutions, acid-base equilibria, and thermal analysis.

CHM 230 Organic Chemistry I.

3 credit hours.

Prerequisite(s): CHM 110, CHM 111.

Corequisite: CHM 231.

This course focuses on the relation between structure and properties of organic compounds, chemistry of hydrocarbons, stereochemistry and organic reactions.

CHM 231 Organic Chemistry I Lab.

1 credit hour.

Prerequisite(s): CHM 110, CHM 111.

Corequisite: CHM 230.

Laboratory course to focus on synthesis and extraction of organic compounds and to identify the functional groups in

organic chemistry.

CHM 240 Organic Chemistry II.

3 credit hours.

Prerequisite(s): CHM 230, CHM 231.

Organic reactions of functional groups will be focused in this course.

CHM 241 Organic Chemistry II Lab.

1 credit hour.

Prerequisite(s): CHM 230, CHM 231.

Corequisite: CHM 240.

Laboratory focuses on the synthesis of different functional groups.

CHM 310 Physical Chemistry.

3 credit hours.

Prerequisite(s): PHY 120, MAT 121.

Kinetic theory, empirical and theoretical kinetics, quantum theory, atomic and molecular structure, molecular spectroscopy, statistical mechanics.

Communication (COM) Courses

COM 110 Public Speaking for Tomorrow's Leaders.

3 credit hours.

Prerequisite(s): ENG 101.

General Education: Arts & Humanities (AH)

Public speaking course provides instruction and experience in preparation and delivery of speeches within different public settings. It deals with the concepts and models of communication; practical aspects of a speech preparation and delivery for different occasions and audiences; introduces effective strategies for supporting ideas, material organization and structure of delivery. Emphasis is given to the research, preparation, delivery, and evaluation of informative, persuasive, and special occasion public speaking.

COM 230 Intercultural Communication.

3 credit hours.

Prerequisite(s): ENG 101.

The purpose of this course is to engage students in

an in-depth exploration of culture within and among different social groups, from a communicative perspective. Discussions and readings will include communication as an element of culture, key concepts and terms that ground our understandings of cross-cultural interactions, a history of the discipline and relevant theories and research in this area.

COM 350 Debate.

3 credit hours.

Prerequisite(s): ENG 101.

General Education: Oral Communication (OC)

Debate is an introductory course that covers a variety of styles of public speaking and formal debate. In this course, students will learn the introductory principles of argumentation, logic, and debate. Through research and practice students will become familiar with these styles through instruction, research, and practice. Each unit will culminate in performance assignments that require students to demonstrate their abilities within the classroom setting. Students receive encouragement and gain confidence as they practice argument and debate skills in a spirit of fellowship.

Computer Science (CSC) Courses

CSC 101 Computer Essentials.

3 credit hours.

Prerequisite(s): None.

General Education: Computer Skills (CS)

This is an introductory course in basic computer and Internet use. Topics surveyed include data representation and storage, hardware and software organization, communications technologies, ethical and security issues. Provides hands-on training in using Windows and common application software, such as word processing, spreadsheets, presentation, as well as in electronic telecommunications, such as e-mail and Internet. Students will develop basic computer skills to aid them with college studies and workforce readiness.

CSC 102 Intro to Programming

3 credit hours.

Prerequisite(s): CSC 101.

This course involves problem-solving with algorithms, and their realization as computer programs using a structured, general purpose programming language. It covers data types, operators, expressions, assignment, input and output, selection, and repetition control structures; modularity and procedural abstraction using functions with parameters; structured data types, arrays, pointers, and strings.

CSC 110 Problem Solving & Programming.

3 credit hours.

Prerequisite(s): None.

Corequisite: CSC 111.

Problem solving with algorithms, and their realization as computer programs using a structured, general purpose programming language; data types, operators, expressions, assignment, input and output, selection and repetition control structures; modularity and procedural abstraction using functions with parameters; structured data types, arrays, and strings

CSC 111 Problem Solving & Programming Lab.

1 credit hour.

Prerequisite(s): None.

Corequisite: CSC 110.

Mandatory two-hour closed laboratory; discussion of lecture materials and completion of hands-on exercises. Implementing programs using a general purpose programming language; software resulting from this can be used in more advanced computer science courses.

CSC 210 Object-Oriented Programming.

3 credit hours.

Prerequisite(s): CSC 110, CSC 111.

Rigorous introduction to fundamental object-oriented concepts and techniques of computer programming using an object-oriented language. Introduction to data abstraction; design of abstract data types. Introduction to recursion; programming with generic data types; inheritance; polymorphism; and exception handlers. Concepts applied to console programs and event-driven programming using a simple graphics API.

CSC 211 Object-Oriented Programming Laboratory.

1 credit hour.

Prerequisite(s): CSC 110, CSC 111.

Corequisite: CSC 210.

Mandatory two-hour closed laboratory; discussion of lecture materials and completion of hands-on exercises. Implementing the theoretical foundations of Object-Oriented programming such as encapsulation, inheritance, polymorphism, and abstraction.

CSC 220 Data Structures and Algorithms.

3 credit hours.

Prerequisite(s): CSC 210, CSC 211.

Design and implementation of fundamental abstract data types of computer science (such as stacks, queues, trees, lists, hashing, and graphs), using an object-oriented language. Programming requirements include the implementation of abstract data types using arrays and dynamic links; recursion; sorting and searching; hashing; and string processing. Introduction to algorithm analysis.

CSC 221 Data Structures and Algorithms Laboratory.

1 credit hour.

Prerequisite(s): CSC 210, CSC 211.

Corequisite: CSC 220.

Mandatory two-hour closed laboratory; discussion of lecture materials and hands-on exercises. Design and implementation of fundamental abstract data types (e.g., stacks, queues, lists, trees, hashing, and graphs) using an object-oriented language, including recursion, sorting and searching, and an introduction to algorithm analysis.

CSC 230 Programming with Python.

3 credit hours.

Prerequisite(s): EGR 150.

An introduction to programming using Python. Basic control structures (sequence, selection, repetition) and all core data types using objects. Practice on core data structures (string, list, tuple, dictionary, and set) and libraries. Design, implementation and testing of programs to solve problems with an emphasis on data manipulation using real world, practical examples.

CSC 310 Computer Architecture & Organization.

3 credit hours.

Prerequisite(s): CSC 220.

Organization and architecture of computer systems. Topics include: digital logic and digital systems; machine-level representation of data and programs; assembly level machine organization and programming; register-level description of computer execution and the functional organization of a computer; role and function of programming languages, libraries and operating systems; performance evaluation; systems programming.

CSC 315 Algorithm Design & Analysis.

3 credit hours.

Prerequisite(s): EGR 150, CSC 220.

This course focuses on formal techniques for designing and analyzing efficient algorithms, emphasizing both mathematical foundations and practical performance considerations. Students will learn how to measure and compare algorithm performance and study different strategies such as divide-and-conquer, dynamic programming, greedy methods, and backtracking. The course also covers advanced data structures, basic graph algorithms, and an introduction to computational complexity, including problems in P and NP.

CSC 330 Computing Theory.

3 credit hours.

Prerequisite(s): CSC 220.

This course explores the core principles of computing theory and programming languages. Students will explore deterministic finite automata (DFA), non-deterministic finite automata (NFA), regular expressions (RE), context-free grammar (CFG), push-down automata (PDA), Turing machines, and evaluation criteria and evolution of programming languages, including various language paradigms, formal methods for defining syntax and semantics, such as Extended Backus-Naur Form (EBNF), and the fundamental constructs of different programming languages.

CSC 340 Software Engineering.

3 credit hours.

Prerequisite(s): CSC 210.

Software life cycle; software requirement analysis; software system design; software implementation and testing; software maintenance; team programming; ethics and programmers.

CSC 342 Computer Operating Systems.

3 credit hours.

Prerequisite(s): CSC 310.

Operating system services; file systems; CPU scheduling; memory management; virtual memory; disk scheduling; deadlocks; concurrent processes.

CSC 350 Information Systems.

3 credit hours.

Prerequisite(s): Senior Standing.

Provides a foundational understanding of Information Systems (IS) as they apply to the computer industry. Topics will include Information Systems fundamentals; IS infrastructure; Organizational and business strategies for Information Systems; Information Systems for commerce and collaboration business intelligence and Enterprise Information Systems; security, privacy and ethics for Information Systems; Change Management and ITIL.”

CSC 375 Web Technology.

3 credit hours.

Prerequisite(s): CSC 210.

Basic knowledge of the Internet and web design and development. Students will Learn the basics of website design and implementation, and web programming. Topics include WWW, HTML, the use of server-side and client-side scripting languages, and database connectivity to create dynamic web applications. Lectures are supported by practical assignments that encourage students to develop and maintain their own websites.

CSC 376 Web Technology Laboratory.

1 credit hour.

Prerequisite(s): CSC 210.

Corequisite: CSC 375.

Mandatory two-hour closed laboratory; discussion of lecture materials and hands-on exercises. Students develop and implement web applications using fundamental web technologies, including HTML, client-side and server-side scripting, and database connectivity. Practical assignments emphasize building, testing, and maintaining dynamic websites.

CSC 395 Computer Science Seminar.

1 credit hour.

Prerequisite(s): Junior standing, CSC major.

Orientation to specialization areas in Computer Science. Required before beginning specialization courses.

CSC 410 Introduction to Computer Networking.

3 credit hours.

Prerequisite(s): CSC 310.

Introduction of topics such as network architecture, multiple access control, packet switching, routing and flow control, congestion control and quality-of-service, Internet protocols, and elements of distributed computing.

CSC 411 Software Project Management.

3 credit hours.

Prerequisite(s): CSC 340.

Software process models; advanced software system design; software project management; software analysis; testing and performance analysis; software maintenance; reverse engineering; software reuse; software metrics; object-oriented development.

CSC 426 Computer Systems Security.

3 credit hours.

Prerequisite(s): CSC 410.

Fundamental technologies for enabling an e-society which is more predictable, more accountable, and less vulnerable to attacks. Covers three components: security requirements and protocols, cryptography algorithms, and case studies

CSC 427 Computer Systems Security Laboratory.

1 credit hour.

Prerequisite(s): CSC 410.

Corequisite: CSC 426.

Mandatory two-hour closed laboratory; discussion of lecture materials and hands-on exercises. Covers fundamental technologies for enabling secure and resilient computing systems.

CSC 435 Parallel and Distributed Computing.

3 credit hours.

Prerequisite(s): CSC 342.

Fundamental concepts and skills of developing networked, distributed, and concurrent applications. Topics include: inter-process communication, TCP/IP sockets programming, remote method invocation, multithreading, concurrency

and synchronization

CSC 440 Human-Computer Interaction.

3 credit hours.

Prerequisite(s): CSC 210.

User interface design, usability, evaluation, user-centered design.

CSC 441 e-Business Security.

3 credit hours.

Prerequisite(s): CSC 375.

Prerequisite with concurrency: CSC 426.

Basic concepts in e-commerce and e-business modules.

Topics include the design and analysis of the e-commerce systems, technological infrastructures, software and database technologies, e-payment methods, ethical issues, and security concerns. Students will learn how to consider the threats while ensuring the survival of the e-business in the online environment.

CSC 443 Digital Forensics and Incident Response.

3 credit hours.

Prerequisite(s): CSC 426.

Introduction to the Digital Forensics investigation. Topics include an overview of digital media and storage formats, data acquisition and validation techniques, forensic methodologies, network traffic analysis, legal issues, and ethics. Best practices related to incident response are introduced.

CSC 444 Fundamental of Penetration Testing.

3 credit hours.

Prerequisite (s): CSC 426.

This comprehensive course explores ethical hacking techniques through exclusive hands-on practice, targeting network systems and web servers in a safe, isolated and legal environment through specialized hacking operating systems and tools to identify and exploit vulnerabilities. The course also delves into cloud security, secure cloud architecture and responsibility models. The basics of AI security -detecting AI driven threats and implementing responsible AI practices will also be covered. Legal, ethical, and defensive strategies are integrated throughout the course.

CSC 470 Database Management Systems.

3 credit hours.

Prerequisite(s): CSC 220

Topics include: database concepts, ER modeling, schemas and constraints, SQL and relational algebra, web-based database applications, triggers and views, physical organization and indexing, query processing, query optimization, NoSQL databases.

CSC 471 Database Management Systems Laboratory

1 credit hour.

Prerequisite(s): CSC 220

Corequisite: CSC 470

Mandatory two-hour closed laboratory; discussion of lecture materials and hands-on exercises. Covers fundamental technologies for enabling the design and implementation of database systems.

CSC 475 Artificial Intelligence.

3 credit hours.

Prerequisite(s): CSC 315.

Introduction to computational methods that support development of intelligent systems. This course covers concepts and fundamental algorithms of Artificial Intelligence (AI) in some areas: learning, natural language processing, computer vision, searching, knowledge representation, and reasoning. Focus will be placed on real-world applications with hands-on experiments designated for specific AI techniques.

CSC 479 Principles of Data Science.

3 credit hours

Prerequisites(s): EGR 150, senior standing

This course offers an introduction to the key concepts, tools, and techniques essential for understanding and applying data science in real-world scenarios. Students will explore various aspects of data science such as accessing, cleansing, modeling, visualizing, and interpreting data.

CSC 480 Ethics and Privacy in Data Science.

3 credit hours

Prerequisite(s): CSC 479.

This course introduces the critical concepts and skills of ethics and privacy in data science, as well as hands-on

implementation of important algorithms. Topics include data privacy and security, computational strategies to ensure fairness and privacy in a variety of emerging data science applications, and the legal and societal implications of data collection, usage, and interpretation.

CSC 490 Blockchain Foundations.

3 credit hours

Prerequisite(s): MAT 200, EGR 150, senior standing

This course covers the foundational exploration of blockchain technology, eco-systems & the emerging concepts of web3. Students will learn about the concepts of decentralization, architecture, consensus algorithms, basic cryptographic concepts, smart contracts relevant to the blockchain technology. The course also covers the next evolution of the internet built on blockchain -web3.

CSC 491 Cryptocurrencies and Blockchain Technologies.

3 credit hours

Prerequisite(s): CSC 310

Prerequisite with concurrency: CSC 490

This course covers the technical aspects of cryptocurrencies, blockchain technologies, and distributed consensus. Students will learn how these systems work and how to engineer secure software that interacts with blockchain systems, like Bitcoin and Ethereum.

CSC 492 Blockchain Security.

3 credit hours

Prerequisite(s): CSC 426

Prerequisite with concurrency: CSC 490

This course addresses the security aspects of blockchain technology, including common vulnerabilities, security protocols (DeFi Protocols), and best practices for maintaining secure blockchain networks.

CSC 493 Special Topics in Computer Science.

3 credit hours.

Prerequisite(s): Senior standing.

Topics to be announced in the Schedule of Classes. Maximum of six credits may be applied toward satisfying the computer science elective, in any computer science degree program.

CSC 494 Directed Study I.

1 credit hour.

Prerequisite(s): Program approval, senior standing.

Independent projects on subjects in the field of Computer Science.

CSC 495 Senior Computer Project I.

1 credit hour.

Prerequisite(s): senior standing.

Prerequisite with concurrency: CSC 395.

Part 1 of a two-semester sequence. Development of skills for planning, managing, and documenting complex software projects; legal, social and ethical issues in software development and computer use. Project management techniques; professional conduct, social responsibility, liability, ownership of information, privacy, and security.

CSC 496 Senior Computer Project II.

3 credit hours.

Prerequisite(s): CSC 495, senior standing.

Part 2 of a two-semester sequence. This course is a capstone. Students will develop, implement, and test a software project that demonstrates their ability to solve complex problems through technology.

CSC 497 Directed Study II.

2 credit hours.

Prerequisite(s): Program approval, senior standing.

Independent projects on advanced subjects in the field of Computer Science.

Civil Engineering (CVE) Courses

CVE 207 CAD in Civil Engineering.

2 credit hours.

Prerequisite(s): EGR 100, MAT 122.

Principles of computer graphics and utilization of computers in the design process. Civil engineering applications of AutoCAD.

CVE 300 Applied Fluid Mechanics.

3 credit hours.

Prerequisite(s): EGR 200, MAT 221.

Application of theoretical fluid mechanics to problems of special interest to civil engineers including pipe flow, open channel flow, forces on submerged bodies, and flow measurement. Laboratory component of course provides experimental verification of theories and computer visualization.

CVE 305 Applied Fluid Mechanics Lab.

1 credit hour.

Corequisite with concurrency: CVE 300.

Fluid Properties, Hydrostatic Forces on Submerged Planes, Flow Measurements, Osborne Reynolds Demonstration, Impact of water jet.

CVE 310 Intro to Construction Engineering and Management.

3 credit hours.

Prerequisite(s): Junior standing, school restriction.

An introduction to the organization and management of construction projects. Project lifecycle including engineering, procurement and construction phases. Fundamentals of cost estimating, scheduling, quality, safety and risk management, legal and ethical aspects, construction productivity and lean construction, building codes, and building information modeling.

CVE 320 Structural Analysis.

3 credit hours.

Prerequisite(s): EGR 205.

Basic concepts of structural analysis; reactions, forces, and stresses in trusses and beams; influence lines; elastic deflections; introduction to indeterminate structures; computer applications.

CVE 321 Steel Design.

3 credit hours.

Prerequisite(s): CVE 320.

First course in design of steel structures. Introduction to the concepts, requirements, and fundamental skills for steel building structural design. Satisfies CVE Design requirement.

CVE 322 Reinforced Concrete Design.

3 credit hours.

Prerequisite(s): CVE 320.

First course in design of concrete structures. Design and analysis of reinforced concrete beams, columns, and other structural members; ACI code requirements, cost concerns, safety, industry practices; introduction to pre-stressed concrete. Satisfies CVE Design requirement.

CVE 324 Introduction to Structural Dynamics.

3 credit hours.

Prerequisite(s): CVE 320.

Dynamic properties of structures. Modeling of dynamic loads. Structural response to dynamic loading. Structural design requirements for dynamic loads. Fundamental techniques of dynamic system analysis.

CVE 330 Civil Engineering Materials.

3 credit hours.

Prerequisite(s): EGR 205.

Structure, composition and engineering properties of aggregates, cement concrete, asphalt, asphalt concrete, and other civil engineering materials. Mix design, testing, and quality control.

CVE 335 Civil Engineering Materials Lab.

1 credit hour.

Corequisite with concurrency: CVE 330.

Fineness of Cement, Initial and Final Setting Time, Sieve Analysis for Aggregates, Density and Absorption for Coarse Aggregates, Compressive Strength of Concrete.

CVE 340 Geotechnical Engineering I.

3 credit hours.

Prerequisite(s): EGR 205.

Prerequisite with concurrency: CVE 300.

Introduction to geotechnical engineering science principles. Topics include soil formation, classification, soil physical and mechanical properties, soil compaction, earth pressures, consolidation, and shear strength.

CVE 345 Geotechnical Engineering Lab.

1 credit hour.

Corequisite with concurrency: CVE 340.

Laboratory experiments related to CVE 340 course contents.

CVE 350 Transportation Engineering.

3 credit hours.

Prerequisite(s): EGR 150.

Introduction to transportation engineering science principles and practices from planning and design to operations. Topics include transportation systems; traffic demand-supply interactions; principles of traffic flow theory, basics of highway geometric design, transportation planning principles, and traffic control devices.

CVE 360 Environmental Engineering.

3 credit hours.

Prerequisite(s): CVE 300.

Introduction to environmental laws; reaction kinetics; principles of mass balances; plug-flow and completely stirred tank reactors; Stoke's Law; Streeter-Phelps oxygen sag curves; hydrologic cycle; population growth models; elements of soil waste management and air pollution.

CVE 370 Water Resources Engineering.

3 credit hours.

Prerequisite(s): CVE 300.

Prerequisite with concurrency: CVE 300.

Open channel flow; hydrology; hydraulic modeling; hydraulic machinery and structures.

CVE 395 Civil Engineering Seminar.

1 credit hour.

Prerequisite(s): Junior standing, CVE major.

Prerequisite with concurrency: ENG 301.

Orientation to specialization areas in Civil Engineering. Required before beginning specialization courses.

CVE 411 Legal and Professional Aspects of Civil Engineering.

3 credit hours.

Prerequisite(s): CVE 310.

Construction contracts, the building delivery process, construction specifications and contract documents, roles and responsibilities of project participants, professional liability and risk allocation, construction claims and dispute resolution methods, engineering ethics, regulatory compliance.

CVE 412 Construction Cost Estimating.

3 credit hours.

Prerequisite(s): CVE 310.

Estimating construction costs of engineering projects including materials, man-hours, equipment and overhead. Emphasis on construction equipment, including productivity and planning. Bidding and bid documents. Satisfies CVE Design requirement.

CVE 413 Construction Techniques and Methods.

3 credit hours.

Prerequisite(s): CVE 310.

Construction techniques and methods for excavation, foundations, concrete, wood, steel, masonry, heavy construction, wastewater treatment plants, highways and roads, high rise structures, bridges, and tunneling projects.

CVE 421 Advanced Steel Design.

3 credit hours.

Prerequisite(s): CVE 321.

Advanced topics of structural steel design: thin walled rolled and built-up members, beam columns, lateral torsional buckling, steel fatigue design, connection details. Steel design project. Satisfies CVE Design requirement.

CVE 422 Advanced Reinforced Concrete Design.

3 credit hours.

Prerequisite(s): CVE 322.

Theory and design of two-way slabs, footings, retaining walls, shear walls, and composite beams using ultimate strength design. Precast and pre-stressed concrete fundamentals. Satisfies CVE Design requirement.

CVE 423 Bridge Design and Evaluation.

3 credit hours.

Prerequisite(s): CVE 322.

Concepts, procedures, methods of design and condition evaluation for modern highway bridges, according to current specifications. Entire system is covered, including superstructure, substructure, and their connections. Satisfies CVE Design requirement.

CVE 425 Finite Element Analysis Fundamentals.

3 credit hours.

Prerequisite(s): CVE 320.

Matrix structural analysis, discretization of continuous

structural systems, stress analysis. Commercial finite element software preprocessing for developing finite element models; post-processing for evaluating analysis results.

CVE 429 Advanced Structural Analysis.

3 credit hours.

Prerequisite(s): CVE 320.

Effect of axial loads on stiffness of flexural members. Buckling of trusses and rigid frames. Matrix method of analysis. Complex structures. Computer applications.

CVE 430 Pavement Asset Management.

3 credit hours.

Prerequisite(s): CVE 330.

Principles and practices of pavement management at the network and project level: serviceability, pavement design models, economic analysis, and priority programming.

CVE 440 Geotechnical Engineering II.

3 credit hours.

Prerequisite(s): CVE 340

Site investigation, site improvement, bearing capacity and settlement of shallow foundations, axial capacity and lateral deflection of deep foundations, design of conventional earth retaining walls, and basics of slope stability analyses. Satisfies CVE Design requirement.

CVE 441 Geo-environmental Engineering.

3 credit hours.

Prerequisite(s): CVE 340.

Properties and test methods for natural and synthetic materials used in landfills; analysis of chemical interactions, flow mechanisms, stability and settlement for the design of landfill components.

CVE 445 Geotechnical Engineering III.

3 credit hours.

Prerequisite(s): CVE 440.

Lateral earth pressure theories, design of conventional earth-retaining walls and of reinforced earth walls, anchored sheet-pile walls and cofferdams, fundamentals of soft-ground tunneling, two- and three-dimensional slope stability analyses, and static design of earth dams. Satisfies CVE Design requirement.

CVE 450 Transportation Design.

3 credit hours.

Prerequisite(s): CVE 350.

A description of design elements of various system components, including the driver, vehicle, and roadway; principles of traffic flow theory; capacity analysis of signalized and unsignalized intersections; capacity analysis of two-lane highways, multi-lane highways, and freeways; traffic safety studies; computer applications. Satisfies CVE Design requirement.

CVE 451 Highway Design.

3 credit hours.

Prerequisite(s): CVE 350.

Route location; horizontal alignment design and layout; vertical alignment design and layout; sight distance considerations for stopping and passing; superelevation utilization; cross-section design; and basics of pavement design. Satisfies CVE Design requirement.

CVE 461 Advanced Environmental Engineering.

3 credit hours.

Prerequisite(s): CVE 360.

Design of engineered environmental systems, including drinking water distribution systems, sanitary and storm water sewer systems, and municipal waste disposal sites. Satisfies CVE Design requirement.

CVE 462 Environmental Chemistry.

3 credit hours.

Prerequisite(s): CVE 360.

Fundamentals of aqueous chemistry for environmental engineers and scientists. Basic chemistry, equilibria, kinetics and thermodynamics; includes acid/base reactions, precipitation/dissolution, oxidation/reduction reactions and partitioning.

CVE 470 Hydrologic Analysis and Design.

3 credit hours.

Prerequisite(s): CVE 370.

Principles of surface water hydrology and their application for evaluation of floods and the design of surface runoff control system; watershed characteristics; design storms and SCS methods; unit hydrographs; hydrologic models;

application of computer methods. Satisfies CVE Design requirement.

CVE 471 Open Channel Hydraulics.

3 credit hours.

Prerequisite(s): CVE 370.

Theoretical development of equations governing flow in open channels. Application to real-world engineering problems involving water surface profiles, flood studies, and river.

CVE 472 Groundwater.

3 credit hours.

Prerequisite(s): CVE 370.

Historical background, aquifers and aquitards, saturated and unsaturated flow, sources of ground water contamination, artificial recharge of ground water, development of ground water basins and efficient use of ground water resources.

CVE 481 Introduction to Building Information Modeling.

3 credit hours.

Prerequisite(s): CVE 395.

Overview of the Building Information Modeling (BIM) process; integration of designs from different disciplines (architectural, structural and MEP) in a BIM model; and use of BIM tools to create 2D, 3D, 4D (schedule) and 5D (cost) models for project control purposes.

CVE 482 Smart Cities and Communities.

3 credit hours.

Prerequisite(s): CVE 450.

Understanding and analyzing smart community/city concepts. Hands on experience for students in public policy, planning, administration, and others.

CVE 483 Infrastructure Rehabilitation.

3 credit hours.

Prerequisite(s): CVE 322.

Understand the various concepts of repairs, rehabilitation and retrofitting of infrastructure.

CVE 485 BIM for Collaboration and Coordination.

3 credit hours.

Prerequisite with concurrency: CVE 481

Advanced techniques in BIM, focusing on collaborative workflows and coordination strategies among architectural, structural, and MEP disciplines for clash detection and resolution.

CVE 486 BIM in Project Management Strategy.

3 credit hours.

Prerequisite with concurrency: CVE 481

Application of BIM in project management, covering topics such as BIM implementation plans, project lifecycle integration, and utilizing BIM data for improved decision-making and project control throughout different stages of construction projects.

CVE 487 Energy, Emissions, Environment (E3) Design.

3 credit hours.

Prerequisite(s): CVE 360.

Provides students the tools to uncover the relation between energy consumption and energy generation and optimize processes to take most advantage of low emitting energy options. Exposes students to design tools and methodologies from a diverse group of sources and the latest in emerging research.

CVE 488 Energy-Efficient and Green Buildings.

3 credit hours.

Prerequisite(s): CVE 360.

Identification of sources of environmental pollution. Implementing steps of environmental impact assessment. Selecting relevant rating systems for assessment of green buildings.

CVE 489 Sustainability Assessment and Management.

3 credit hours.

Prerequisite(s): CVE 360.

Sustainability assessment and management for engineering design and development; theoretical, regulatory, and practical implications.

CVE 491 Directed Study I.

1 credit hour.

Prerequisite(s): Program approval, senior standing.

Independent projects on subjects in the field of civil

engineering.

CVE 492 Directed Study II.

2 credit hours.

Prerequisite(s): Program approval, senior standing.

Advanced Independent projects on subjects in the field of civil engineering.

CVE 493 Special Topics in Civil Engineering.

3 credit hours.

Prerequisite(s): Senior standing.

Special subject matter in civil engineering. Topics to be announced in Schedule of Classes.

CVE 495 Senior Design Project I.

1 credit hour.

Prerequisite(s): senior standing.

Prerequisite with concurrency: CVE 395.

Part 1 of a two-semester sequence. Students work in teams to develop a preliminary plan to design a CVE system/component/process in at least two CVE technical areas; includes discussions of sustainable design, analysis of alternatives, and conceptual design.

CVE 496 Senior Design Project.

3 credit hours.

Prerequisite(s): CVE 495.

Part 2 of a two-semester sequence. Students work in teams to design a CVE system/component/process in at least two CVE technical areas; taking into account the principles of sustainability in design and design alternatives.

Electrical Engineering (ECE) Courses

ECE 200 Electrical Circuits I.

3 credit hours.

Prerequisite(s): PHY 122, PHY 123.

Prerequisite with concurrency: MAT 221.

Electrical quantities and waveforms; resistance and Ohm's law; networks and Kirchhoff's laws; network equivalents; nodal and mesh analysis; Thevenin's theorem and other network theorems. First- and second-order systems

ECE 201 Electrical Circuits I Laboratory.

1 credit hour.

Prerequisite(s): PHY 122, PHY 123.

Corequisite: ECE 200.

Laboratory experiments related to ECE-200 course contents.

ECE 220 Introduction to Data Structures and Algorithms

3 credit hour.

Prerequisite(s): CSC 102

This course introduces fundamental data structures and algorithmic concepts essential for ECE students. Topics include arrays, linked lists, stacks, queues, trees, and basic graph structures, as well as algorithmic techniques such as searching, sorting, recursion, and introductory complexity analysis using Big-O notation to evaluate time-space tradeoffs critical in resource-constrained environments, such as real-time processing, memory-limited microcontrollers, and high-performance computing applications.

ECE 260 Digital Logic Design.

3 credit hours.

Prerequisite(s): ECE 200.

Introduction to Boolean algebra; Logic Gates; Minimization of Boolean Functions; K-Map of up to 4 variables; Basic digital circuits like adder, subtractor, multiplexers, decoders etc.; Sequential circuits; Memories; PLAs; Counters using different flip-flops such as D, T, R-S and JK; Design of simple computer; Introduction to Verilog and FPGAs.

ECE 261 Digital Logic Design Laboratory.

1 credit hour.

Prerequisite(s): ECE 200.

Corequisite: ECE 260.

Laboratory experiments related to ECE-260 course contents.

ECE 263 Microcomputers.

3 credit hours.

Prerequisite(s): ECE 260 and ECE 220.

Basics of digital systems, number systems, functional blocks of microcomputers, assembly language and machine code, applications of microcomputers and experimental demonstrations. Introduction to digital logic.

ECE 264 Microcomputers Laboratory.

1 credit hours.

Prerequisite(s): None.

Corequisite: ECE 263.

Laboratory experiments on basics digital systems, number systems, functional blocks of microcomputers, assembly language and machine code, applications of microcomputers with experimental demonstrations. Introduction to digital logic.

ECE 300 Electrical Circuits II.

3 credit hours.

Prerequisite(s): ECE 200.

Prerequisite with concurrency: MAT 230.

Sinusoidal steady-state response; three-phase systems; complex frequency concepts; frequency responses; resonant and coupled circuits; application of Fourier transforms, and Laplace transform to electrical circuits.

ECE 301 Electrical Circuits II Laboratory.

1 credit hour.

Prerequisite(s): None.

Corequisite: ECE 300.

Laboratory experiments related to ECE-300 course contents.

ECE 320 Electronics I.

3 credit hours.

Prerequisite(s): ECE 200.

Introduction to the behavior of semiconductor and electronics devices, the physical electronics of P-N junction, bipolar, field-effect transistors. operational amplifiers, single-stage amplifiers, differential pair, gain, input resistance, output resistance, and bandwidth of amplifiers. Introduction to electronic circuits.

ECE 330 Linear Systems and Signals.

3 credit hours.

Prerequisite(s): ECE 300.

Prerequisite with concurrency: EGR 250.

Content includes: continuous-time and discrete-time linear systems and signals; properties of linear systems; classical analysis methods and convolution; system analysis method for zero-state and zero-input response; Laplace transform

and its application to linear system analysis; Fourier series expansion of periodic signals; Fourier transform and the steady-state response; application to analog filters, control and communication systems; solution of linear difference equations; z-transform analysis method; sampling theory; discrete-time Fourier transform and its application in digital filter design.

ECE 350 Electronics II.

3 credit hours.

Prerequisite(s): ECE 320.

DC and small-signal analysis of diodes, MOSFETs, and BJTs circuits; Integrated circuit biasing and amplifiers, frequency response, differential and multistage amplifiers, output stages, negative feedback properties, and topologies, data converter and oscillator circuits, filters.

ECE 351 Electronics II Laboratory.

1 credit hour.

Prerequisite(s): None.

Corequisite: ECE 350.

Laboratory experiments related to ECE-350 course contents.

ECE 361 Electromagnetics.

3 credit hours.

Prerequisite(s): MAT 230, ECE 300.

Fundamentals of electromagnetic engineering, static electric and magnetic fields using vector analysis and fields of steady currents, Maxwell's equations and boundary value problems. Basic principles of plane waves, transmission lines and radiation.

ECE 395 Electrical Engineering Seminar.

2 credit hours.

Prerequisite(s): ECE major.

Prerequisite with concurrency: ENG 301

Orientation to specialization areas in Electrical Engineering. Required before beginning specialization courses.

ECE 400 Communication Theory.

3 credit hours.

Prerequisite(s): EGR 150, ECE 330, ECE 361.

Basic information transmission concepts. Spectral analysis. Transmission through linear networks. Sampling principles.

Digital and analog communication signals and systems. The effect of noise in communication systems. Elementary decision theory.

ECE 410 Power Systems.

3 credit hours.

Prerequisite(s): ECE 300.

Review of single and three-phase circuits, AC power and the per-unit system, determination of transmission line parameters, transmission line models in the transient and the steady-state, power system modeling, power system admittance matrix and network calculations, load flow solutions and control.

ECE 420 Digital Signal Processing.

3 credit hours.

Prerequisite(s): ECE 330.

Analysis of discrete signals and systems. Applications to digital filtering, active filters, digital communication and encoding.

ECE 436 Energy Conversion.

3 credit hours.

Prerequisite(s): ECE 410.

Special types of electrical machines, reluctance motors, hysteresis motors, variable-reluctance stepper motors, permanent-magnet stepper motors, linear induction motors, universal motors, transients and dynamics of AC machines, direct current machine dynamics, power electronics-controlled drives.

ECE 439 Power System Economics.

3 credit hours.

Prerequisite(s): ECO 201 or EGR 202.

Prerequisite with concurrency: ECE 410.

Fundamental Economic Concepts/Introduction to Electricity Markets, Risk Management in Electricity Markets

Renewable Support Policies, Natural Monopoly Regulation

ECE 447 Control Systems.

3 credit hours.

Prerequisite(s): ECE 330.

Features of feedback control systems, modeling of specific control systems examples, transfer functions, block diagram

and signal flow graph, time domain analysis of control systems, stability of linear systems, basic control actions and response of control systems, root locus analysis and design, frequency domain analysis and design of control systems.

ECE 450 Internet Of Things.

3 credit hours.

Prerequisite(s): MCE 210 or ECE 200 and Senior Standing.

This course gives a foundation in the Internet of Things, including the components, tools, and analysis by teaching the concepts behind the IoT and a look at real-world solutions.

ECE 452 Cyber-Physical Systems.

3 credit hours.

Prerequisite(s): CSC 102, ECE 350.

Topics include: modeling, design, analysis, and implementation of cyber-physical systems; dynamic behavior modeling, state machine composition, and concurrent computation; sensors and actuators; embedded systems and networks; feedback control systems; temporal logic and model checking.

ECE 455 Advanced Digital Design.

3 credit hours.

Prerequisite(s): ECE 260.

Overview of digital logic design. Implementation technologies, timing in combinational and sequential circuits, EDA tools, basic arithmetic units, introduction to simulation and synthesis using Verilog/VHDL.

ECE 461 Introduction to Robotic Systems.

3 credit hours.

Prerequisite(s): ECE 447.

This course is designed for senior students in Electrical Engineering major to introduce them to the concept of robot kinematics and control. This course covers computational algorithms for robot movement, sensor fusion and intelligent behavior which are needed to build a system that performs actions and interacts with its environment.

ECE 463 Programmable Controllers.

3 credit hours.

Prerequisite(s): ECE 262.

An introduction to programmable logic controllers (PLCs), process control algorithms, interfacing of sensors and other I/O devices, simulation and networking.

ECE 467 Image Processing and Robot Vision

3 credit hours.

Prerequisite(s): ECE 420.

This course is designed for senior students in Electrical Engineering major to introduce them to the fundamentals of image processing and robot vision. The course covers topics related to images representations and images properties; image processing; segmentation; object recognition; objection detection and machine learning techniques utilized in computer vision application, such as supervised learning, unsupervised learning and reinforcement learning.

ECE 491 Directed Study I.

1 credit hour.

Prerequisite(s): Program approval, senior standing.

Independent projects on subjects in the field of Electrical and Computer engineering.

ECE 492 Directed Study II.

2 credit hours.

Prerequisite(s): Program approval, senior standing.

Independent projects on advanced subjects in the field of Electrical and Computer engineering.

ECE 493 Special Topics in Electrical and Computer Engineering.

3 credit hours.

Prerequisite(s): Program approval, senior standing.

Topics as announced in Schedule of Classes.

ECE 495 Senior Design Project I.

3 credit hours.

Prerequisite(s): senior standing.

Prerequisite with concurrency: ECE 395.

Writing Intensive Competency Design principles, subsystems of microcontrollers; designing products using microcontrollers, sensors and actuators.

ECE 496 Senior Design Project II.

3 credit hours.

Prerequisite(s): ECE 495.

Second of a two-semester sequence.

Economics (ECO) Courses

ECO 150 Behavioral Economics.

3 credit hours.

Prerequisite(s): None.

General Education: Social Science (SS)

The psychological factors influencing economic decisions. This course covers cognitive biases, heuristics, and how emotions and social influences drive financial behaviors in individuals and groups.

ECO 201 Principles of Microeconomics.

3 credit hours.

Prerequisite(s): None.

General Education: Social Science (SS)

This course covers fundamental microeconomic principles and teaches students to think like an economist. Topics include market forces of supply and demand, consumer and producer surplus, and market efficiency. The course also explores elasticities, government policies and production costs, as well as firms in competitive and monopolistic markets.

ECO 202 Principles of Macroeconomics.

3 credit hours.

Prerequisite(s): None.

General Education: Social Science (SS)

Determination of national income, consumption and saving, and investment; money, banking and the central banks; inflation and unemployment; monetary and fiscal policy; economic growth and productivity; the international sector.

Education (EDU) Courses

EDU 101 Foundation of Education in Kuwait.

3 credit hours.

Prerequisite(s): None.

This course has been designed to acquaint the learners with the progress of education in Kuwait, including schools and the various elements that affect education and learning, such as the family and society. Learners will also become acquainted with the roles expected they may play within the Kuwaiti initiatives of education progress and the responsibilities of teachers.

EDU 102 Curriculum and Assessment.

3 credit hours.

Prerequisite(s): EDU 101

The course introduces students to the study of the curriculum and identifies its main components and the bases on which teaching is established in all educational stages. In addition, learners will identify the basic skills for lesson planning which will help them to form a comprehensive overview of the teaching process—its concepts, planning processes, and evaluation considering the National Curriculum Standards, students' needs, and learning styles. This course includes 6 hours of field experience at Kuwaiti independent schools.

EDU 205 Educational Psychology.

3 credit hours.

Prerequisite(s): PSY 101.

An introductory course in educational psychology. Topics include but are not limited to, child and adolescent development, cognitive and behavioral learning theories, information processing, motivation, and evaluation. Includes study of exceptional children and those with cultural differences.

EDU 210 Analysis of Elementary Teaching.

3 credit hours.

Prerequisite(s): EDU 101.

This course provides an in-depth analysis of elementary teaching practices with a focus on the organization and management of diverse and inclusive classrooms. Students will explore effective lesson planning, various teaching strategies, and comprehensive assessment and testing procedures. Emphasis will be placed on creating equitable learning environments that cater to the needs of all students.

EDU 211 Differentiated Instruction for Diverse Learners.

3 credit hours.

Prerequisite(s): EDU 205.

Explores instructional strategies designed to support diverse learners in inclusive classrooms. Emphasizes differentiated instruction, Universal Design for Learning (UDL), intervention planning, culturally responsive pedagogy, accommodations, modifications, and instructional approaches supporting learners with varying academic, linguistic, and developmental needs.

EDU 212 Differentiated Instruction and Digital Learning for Diverse Learners

3 credit hours.

Prerequisite(s): EDU 101, EDU 205.

This course prepares teacher candidates to design and implement differentiated instructional strategies that address the diverse academic, linguistic, cultural, and developmental needs of learners. Students examine principles of inclusive education, Universal Design for Learning (UDL), learner variability, and evidence-based intervention practices. The course emphasizes the effective use of digital technologies, adaptive learning tools, and data-informed instructional decision-making to support equitable learning outcomes.

Special attention is given to teaching in multilingual educational contexts, including strategies for supporting learners whose primary language differs from the language of instruction, engaging families and communities from diverse linguistic backgrounds, and adapting instructional resources to enhance accessibility and understanding. Through case studies, classroom simulations, and technology-enhanced projects, students develop practical skills for creating inclusive, responsive, and culturally relevant learning environments aligned with contemporary educational standards and the needs of schools in Kuwait.

EDU 225 Diverse Children's Literature for Elementary Teachers.

3 credit hours.

Prerequisite(s): EDU 101.

This course is a survey of children's literature where we will explore, through reading and discussion, a wide range of genres and issues related to children's books with a focus on culturally responsive literature in the elementary school curriculum.

EDU 226 Classroom Culture and Student Engagement.

3 credit hours.

Prerequisite(s): EDU 101.

Develops strategies for building supportive classroom environments that promote collaboration, motivation, participation, and social-emotional learning. Emphasizes student engagement, positive classroom culture, communication skills, relationship-building, restorative practices, and culturally responsive approaches that support active and inclusive learning experiences.

EDU 240 Introduction to the Philosophy of Education.

3 credit hours.

Prerequisite(s): None.

Leading philosophies of education as they bear upon education as a profession and as a discipline.

EDU 250 Professional Engagement, Advocacy, and Instructional Planning.

3 credit hours.

Prerequisite(s): EDU 101.

Identify sources and impact of teaching beliefs, knowledge, and practices. Design curriculum to organize and enact knowledge, experience, and standards. Develop approaches for student engagement for learning and assessment. Analyze strategies of teacher agency and advocacy.

EDU 302 Assessment Literacy for Teachers.

3 credit hours.

Prerequisite(s): EDU 102.

Introduces assessment design, grading systems, formative and summative evaluation, and data-informed instruction. Students develop skills in creating reliable assessments aligned with learning outcomes, interpreting assessment results, providing meaningful feedback, and using assessment data to improve teaching effectiveness and student achievement.

EDU 305 Reading and Writing in All Disciplines.

3 credit hours.

Prerequisite(s): EDU 102.

This course will focus on the theories and research that underpin the incorporation of reading and writing in every discipline and on methods for incorporating rich reading and writing experiences in each subject. Participants in the class will explore the theories and best practices of

literacy development in content area courses and how those theories may be applied.

EDU 310 Classroom Management.

3 credit hours.

Prerequisite(s): EDU 101, EDU 205.

This course will explore methods to create a positive primary classroom environment and establish routines that lead to effective learning and safety for all students. It will examine theories and research-proven strategies to manage student behaviors to promote learning and ways to engage parents as partners in promoting learning.

EDU 320 Computer Applications in Teaching.

3 credit hours.

Prerequisite(s): EDU 102.

Introduces educational technology tools and digital pedagogy for classroom instruction. Emphasizes instructional technology integration, AI-supported learning tools, learning management systems, digital collaboration, online instructional design, educational applications, and ethical technology use in modern teaching and learning environments.

EDU 335 Family, Community, and School Partnerships.

3 credit hours.

Prerequisite(s): EDU 101.

Theory and practice in joining families, communities, and schools in promoting children's learning, development and success in school. Strengths and needs of families in a diverse, multicultural society, teachers' roles in concert with other disciplines in supporting families and building partnerships, and connection with community resources.

EDU 336 Foundations of Child Development in Elementary.

3 credit hours.

Prerequisite(s): EDU 205.

Examines physical, cognitive, emotional, social, and language development in elementary-aged children. Focuses on developmental theories, learner characteristics, developmental milestones, and instructional implications that support effective elementary classroom teaching, differentiation, and age-appropriate learning experiences.

EDU 355 Integrating the Arts in to Elementary Classrooms.

3 credit hours.

Prerequisite(s): EDU 101.

Introductory course: integration of visual arts, music, dance, and theatre into the teaching, learning and curriculum of the elementary classroom.

EDU 356 Instructional Design for Elementary Teaching.

3 credit hours.

Prerequisite(s): EDU 102, EDU 336.

Focuses on lesson planning, instructional sequencing, inquiry-based learning, and standards-aligned teaching practices for elementary education classrooms. Students develop instructional units, active learning strategies, integrated lesson plans, and assessment approaches that support engagement and conceptual understanding among elementary learners.

EDU 366 Instructional Design for Secondary Classrooms.

3 credit hours.

Prerequisite(s): EDU 102, EDU 251.

Examines instructional planning, standards-based lesson design, assessment integration, and teaching methodologies appropriate for adolescent learners in secondary education. Emphasizes inquiry-based instruction, differentiated planning, collaborative learning, and instructional strategies supporting critical thinking and academic achievement in secondary classrooms.

EDU 380 Teaching Mathematics in the Middle Grades.

3 credit hours.

Prerequisite(s): EDU 101.

Creative use of resources and materials for improving the mathematics competencies of middle school and junior high school students; organizing the mathematics classroom for effective instruction; promising trends; related research.

EDU 385 Methods of Teaching English: Grades 7-12. 3 credit hours.

Prerequisite(s): EDU 210.

Introduction to the purposes and methods of teaching English composition and literature in grades seven through twelve.

EDU 386 Secondary Methods.

3 credit hours.

Prerequisite(s): EDU 366.

Explores instructional methodologies, classroom strategies, assessment practices, and learner engagement approaches for secondary education settings. Emphasizes subject-specific pedagogy, classroom interaction, instructional adaptation, technology integration, and evidence-based teaching practices supporting adolescent learning and achievement.

EDU 401 Mathematics Instruction: P-8.

3 credit hours.

Prerequisite(s): EDU 101.

Developing mathematics skills in elementary and middle schools. Students plan, implement and evaluate learning experience with children under professional guidance.

EDU 405 Methods and Materials of Instruction: Secondary School Math.

3 credit hours.

Prerequisite(s): EDU 101.

Mathematics in secondary school; major concepts of secondary school mathematics; methods and instructional materials; classroom administration; modern trends.

EDU 415 Teaching Literature in Secondary Schools. 3 credit hours.

Prerequisite(s): EDU 385.

Structure of poetry, fiction and drama in relation to aesthetic, social, and psychological needs of secondary school students. Relationship of teaching methods to curriculum patterns.

EDU 430 Supportive Environments, Engaged Learning.

3 credit hours.

Prerequisite(s): EDU 310.

Examines inclusive learning environments, trauma-informed practices, social-emotional learning, and strategies that support equitable and engaged learning experiences. Emphasizes student well-being, belonging, motivation, collaboration, classroom relationships, and educational approaches promoting supportive and culturally responsive school environments.

EDU 460 Education Research Methods.

3 credit hours.

Prerequisite(s): EDU 205, ENG 301.

Introduces qualitative, quantitative, and action research methods in education. Students develop skills in research design, literature review, data collection, analysis, interpretation, ethical research practices, and evidence-based educational inquiry supporting reflective teaching and continuous professional improvement.

EDU 475 Assessment and Data Literacy for Elementary Teachers.

3 credit hours.

Prerequisite(s): None.

Develops elementary educators' abilities to analyze assessment data, monitor student progress, and design instructional interventions supporting student achievement. Emphasizes evidence-based instruction, formative assessment, data interpretation, and reflective teaching practices that improve elementary learning outcomes.

EDU 477 Assessment and Data Literacy for Secondary Teachers.

3 credit hours.

Prerequisite(s): None.

Focuses on assessment interpretation, data analysis, and evidence-based instructional planning for secondary education settings. Students examine performance data, intervention strategies, assessment systems, and instructional adjustments designed to improve adolescent learning and academic success.

EDU 485 Culture as Basis For Language Learning.

3 credit hours.

Prerequisite(s): EDU 310.

Examines strategies for building positive classroom environments and fostering engagement, participation, collaboration, and student motivation among adolescent learners. Emphasizes communication, relationship-building, restorative practices, culturally responsive teaching, and learner-centered approaches supporting successful secondary classrooms.

EDU 490 Internship.

4 credit hours

Prerequisite(s): Senior standing and approval of the School of Education.

Provides supervised community-based professional experiences integrating service learning, educational research, and SDG-focused engagement. Students collaborate with schools and community organizations while developing leadership, communication, problem-solving, advocacy, and reflective professional skills supporting educational improvement and social responsibility

EDU 498 Practicum.

3 credit hours.

Prerequisite(s): Completion of major methods courses and approval of the School of Education.

Provides supervised field-based teaching experiences emphasizing guided instructional practice, classroom observation, lesson implementation, professional reflection, and mentor feedback. Students gradually apply instructional strategies, classroom management techniques, and assessment practices in authentic educational settings under faculty supervision.

EDU 499 Student Teaching.

6 credit hours.

Prerequisite(s): EDU 498, and approval of the School of Education.

Serves as the culminating clinical experience in teacher preparation. Students complete full-time supervised teaching responsibilities demonstrating instructional competence, professional ethics, classroom leadership, assessment literacy, and readiness for independent teaching in elementary or secondary educational settings.

General Engineering (EGR) Courses

EGR 100 Design in Engineering.

3 credit hours.

Prerequisite(s): None.

Core principles of engineering practice: design, teamwork, professional ethics.

EGR 101 Materials Science for Engineering Applications.

3 credit hours.

Prerequisite(s): CHM 110.

Corequisite: EGR 102.

An introduction to the principles of materials science, with a focus on understanding the structure–property relationships that influence material behavior in engineering applications. Topics include atomic structure and interatomic bonding, the crystalline structures of metals and ceramics, polymer structures, and imperfections in solids. The course also explores diffusion processes, mechanical properties of materials, deformation and strengthening mechanisms, and common modes of material failure. Students will gain foundational knowledge of phase diagrams and their importance in predicting material behavior. Emphasis is placed on the selection and application of materials in engineering design.

EGR 102 Materials Science for Engineering Applications Lab.

1 credit hour.

Prerequisite(s): CHM 110.

Corequisite: EGR 101.

Laboratory component of EGR 101.

EGR 150 Probability & Statistics in EGR.

3 credit hours.

Prerequisite(s): MAT 121.

Prerequisite with concurrency: MAT 121.

An introduction to application of probability theory and statistical methods in engineering, including design and manufacturing.

EGR 200 Statics.

3 credit hours.

Prerequisite(s): PHY 120, MAT 122.

Basic concepts and principles of statics with applications to Newton's Laws of Motion to engineering problems. Forces, moments, equilibrium, couples, free body diagrams, trusses, frames, fluid statics, friction, area and mass moment of inertia.

EGR 202 Engineering Economics.

3 credit hours.

Prerequisite(s): EGR 150.

Economic analysis of engineering projects. Selection of appropriate interest rates and methods of analysis,

depreciation, tax considerations, and use of accounting data in comparison of investment alternatives.

EGR 205 Elem. Mechanics of Materials.

3 credit hours.

Prerequisite(s): EGR 200.

Elastic relationships between external forces acting on deformable bodies and the associated stresses and deformations; structural members subjected to axial load, torsion, and bending; column buckling; combined stresses; repeated loads; unsymmetrical bending.

EGR 210 Dynamics.

3 credit hours.

Prerequisite(s): EGR 200.

Basic concepts and principles of dynamics with application of Newton's Laws of Motion to engineering problems. Kinematics and kinetics of particles and rigid and variable-mass bodies. Equations of motion, impulse-momentum, impact and work-energy principles.

EGR 250 Numerical Methods Using MATLAB.

3 credit hours.

Prerequisite(s): MAT 230.

Developing numerical solutions for engineering problems using MATLAB. Evaluation of alternative approaches to the numerical solutions in terms of accuracy and efficiency.

EGR 301 Applied Artificial Intelligence.

3 credit hours.

Prerequisite(s): Senior standing.

This advanced undergraduate course enables students to apply artificial intelligence methods within engineering and computing contexts, bridging foundational AI knowledge with real-world problem-solving scenarios. Building on prior exposure to AI literacy and conceptual foundations, the course emphasizes the use of authentic datasets, domain-relevant tools, and professional workflows to design, implement, and evaluate AI-driven solutions. Students engage in hands-on projects that align technical methodologies with engineering constraints and objectives, fostering critical decision-making and practical competence.

EGR 490 Internship.

1 credit hours.

Prerequisite(s): Senior standing.
Internship for Engineering students.

English (ENG) Courses

ENG 101 College Writing.

3 credit hours.

Prerequisite(s): None.

General Education: English Communication (EC)

A course in reading, research, and writing skills that prepares students to write successfully in college classes.

ENG 105 Introduction to Poetry.

3 credit hours.

Prerequisite(s): ENG 101.

This course is an introduction to the reading and critical examination of poetry. The primary purpose of the course is to familiarize you with various ways to read, evaluate, analyze, and take pleasure in poetry.

ENG 106 Introduction to Fiction.

3 credit hours.

Prerequisite(s): ENG 101.

This course includes a critical study of, and writing about, a variety of short stories and novels. English 2341 introduces students to selected works of fiction. Works studied may be those considered “great works,” or a representative selection from a geographic region or time period, or centered on a thematic focus.

ENG 107 Introduction to Drama.

3 credit hours.

Prerequisite(s): ENG 101.

This course will help the students recognize and analyze the traditional qualities of drama, such as plot, character, setting, themes, and genres, and they will explore drama from different critical perspectives. Finally, they will discuss how theatre comes alive as directors, designers, actors, and other theatre professionals lift the work of the playwright off the page and onto the stage. They will also consider the modes of reading and interpretation used by actors, who of necessity are trained to be very careful and attentive close readers.

They will explore these plays using many different methods: reading and performing aloud in class, working

in small groups, learning the historical and social contexts for the plays, watching performances/productions,

comparing different performances and different interpretations.

ENG 108 Introduction to Grammar.

3 credit hours.

Prerequisite(s): ENG 101.

This course provides a survey of modern English grammar. It covers the analysis and description of word classes, phrases, clauses, and sentences in English. Challenging areas of English grammar such as passive, tense, aspect, and embedded clauses will be studied in detail. A portion of the course will consist of applying rules of grammar in students' own writing and editing, tasks applicable to those wishing to teach English to a variety of learners.

ENG 109 Poetry.

3 credit hours.

Prerequisite(s): ENG 101.

General Education: Arts & Humanities (AH)

This course introduces students from all fields to the expressive potential of poetry. By exploring themes like identity, society, and creativity, students will learn how poetic techniques can enhance communication, foster empathy, and inspire innovative thinking.

ENG 115 Literacy I.

3 credit hours.

Prerequisite(s): ENG 101.

This course surveys the history of literacy and theoretical foundations of literacy education. Students will examine the varied approaches to teaching literacy including the teaching of reading, language arts, writing and media. Landmark research of literacy education will be studied in historical contexts and in conjunction with major theories of language development, cognition, and literacy acquisition.

ENG 120 Young Adult Literature.

3 credit hours.

Prerequisite(s): None.

This course will focus on literary narratives written for and/

or marketed to young adults, as well as adapted from young adult (YA) literature. In addition to reading and analyzing YA novels written by a diverse group of authors, we will also read and watch other young adult texts, including films, television shows, and fanworks. Alongside class discussions in which we analyze the social, cultural, generic, and media influences of these (and on these) texts, we will also critique these texts using formal and creative genres. Supplementary readings about literary narratives, YA literature, adaptations, and analysis will also be assigned throughout the semester, in order to help us achieve the course goals.

ENG 150 Art of Story Writing.

3 credit hours.

Prerequisite(s): ENG 101.

General Education: Arts & Humanities (AH)

This course explores narrative structures, adaptation techniques, and the evolving role of the story writing in the from past to present.

ENG 200 History of the English Language.

3 credit hours.

Prerequisite(s): ENG 101.

This course will examine the origin and development of the English language, from its earliest beginnings in the misty past, through Old English (or Anglo-Saxon), Middle English, Early Modern English, and Present Day English, and across the post-modern globe. Language is a fundamental cornerstone (perhaps the very foundation) of all human culture. It is, therefore, a vital part of who we are, and a knowledge of how language operates serves to explain, in part, how we came to be what we are. The study of what language is and how it changes, and how these changes are grounded in parallel cultural changes, is therefore a subject of intrinsic value, especially to those interested in literature, linguistics, history, and cultural studies.

ENG 205 Linguistics.

3 credit hours.

Prerequisite(s): ENG 101.

This course provides an introduction to the nature and complexity of human language. We will study the structure of language at the level of words (morphology), the level of sounds (phonetics and phonology), and the level of phrases and sentences (syntax). We will also consider common

attitudes that people hold about language, and how the discipline of linguistics can lead to a deeper understanding of these issues. Much of the data we analyze will come from English; however, since the principles we discuss have universal validity, we will work with data from other languages as well.

ENG 208 English Grammar and Usage.

3 credit hours.

Prerequisite(s): ENG 108.

This course examines Modern English structure using the methods of traditional grammar. Topics studied: parts of speech, grammatical functions, phrase, clause, and sentence types, and nominal and verbal categories. Nature and usefulness of prescriptive rules of grammar. How to teach traditional grammar as presented in the secondary English curriculum. Instruction will encourage students to demonstrate critical understanding of traditional grammar, of contemporary syntactic analysis, and of the strengths and weaknesses of those systems in secondary education.

ENG 211 Short Story Writing.

3 credit hours.

Prerequisite(s): ENG 111.

This course concentrates solely on the process of writing short fiction. It includes instruction in the methods of beginning, sustaining, closing, revising and evaluating a short story. The student is introduced to a wide range of narrative approaches and techniques through the study of both traditional and contemporary texts.

ENG 215 Linguistics in Education.

3 credit hours.

Prerequisite(s): ENG 101.

This course takes a practical approach to the study of linguistics and English as a new language with implications for teaching ESL, reading, writing, spelling, phonics, and grammar in monolingual or multilingual contexts. The basic nature of language, first language acquisition, language variation, language change, and the relations of language to society and culture are explored. The course focuses on the development of linguistic foundational knowledge elements such as phonology, morphology, syntax, and pragmatics that informs planning for teaching first or second language. Structural and semantic differences between the student's first and English as a new language are examined and used

in planning for learning.

ENG 220 English Literature.

3 credit hours.

Prerequisite(s): ENG 101.

General Education: Arts & Humanities (AH)

This course introduces the student to the basic knowledge of English literature. Basically, the course sheds some light on the different periods of English literature from the Anglo-Saxon period until the contemporary period. In addition to scrutinizing the history of the English literature, students will be exposed to selected literary texts from various authors from different periods of the English literature. These texts include but not limited to poetry, fiction, drama and non-fiction pertinent to their linguistic, cultural, and historical context.

ENG 230 American Literature.

3 credit hours.

Prerequisite(s): ENG 101.

General Education: Arts & Humanities (AH)

This course studies the national literature of the United States since the early 19th century. It considers a range of texts - including, novels, essays, and poetry - and their efforts to define the notion of American identity. Readings usually include works by such authors as Nathaniel Hawthorne, Henry David Thoreau, Frederick Douglass, Emily Dickinson, and Toni Morrison.

ENG 254 Literatures of the World.

3 credit hours.

Prerequisite(s): ENG 101.

This course is an introduction to the diverse field of World Literature. There will be some coverage of the literature and literary traditions of at least three of the following seven areas: Latin and Native America; the Caribbean and Sub-Saharan Africa; Arab, Turkic, and Persian lands; Europe and Russia; South Asia; East Asia; South-East Asia and Oceania.

ENG 301 Technical Writing.

3 credit hours.

Prerequisite(s): ENG 101

General Education: English Communication (EC)

The course is an introductory level course which aims at

familiarizing students with the basic technical writing skills. The students learn about a variety of technical compositions such as emails, letters, memos, proposals, and technical reports. Other topics include audience and purpose analysis, textual and visual aspects of document design, and formatting and referencing, to provide students with a sound analytical background in writing.

ENG 302 Technical Presentations.

3 credit hours.

Prerequisite(s): ENG 101.

General Education: Oral Communication (OC)

Students will develop the oral presentation skills needed to present technical research findings in their specialist field. Students will develop the basic strategies they need for preparing and giving an effective presentation. They will learn how to design a presentation by considering issues of audience, purpose, organization, flow, and style. Additionally, they will learn about popular delivery strategies and slide design techniques. Students will learn many of the common features of presentation language and develop confidence to deliver their own presentations in English. During the course, students will spend most of their time preparing, delivering and evaluating presentations.

ENG 303 Creative Writing.

3 credit hours.

Prerequisite(s): ENG 101.

General Education: English Communication (EC)

An intermediate level course that takes students from writing short descriptive essays to creating original imaginative & polished work, such as short fiction, creative essays, & poetry. The course will have two modes of learning- first, close readings/ literary-critical analyses of well-known works by popular authors and second, writing workshops where students are expected to create original work as a final project. Students will also learn to analyze and constructively criticize each other's work in these workshops.

ENG 310 Tutoring Practicum.

3 credit hours.

Prerequisite(s): ENG 101.

This course introduces methods and strategies of peer tutoring and writing pedagogy in a writing center. Taught

by the English department, the Tutoring Writing course introduces the ideology of the AIU Writing Center to students, who should exit the course able to employ tutoring methods across education settings. The participants in this course will study writing processes and tutoring for multiple writing assignments. The participants then will receive additional training as peer tutors by observing, analyzing, and reflecting on tutoring sessions and on the tutoring process. Last, they will enhance their writing, listening, speaking, assessment, and collaboration skills by assisting one another in “mock” tutoring sessions, as well as by writing about and reflecting on their experiences.

ENG 320 The 18th Century English Novel.

3 credit hours.

Prerequisite(s): ENG 101.

This course surveys a selection of eighteenth-century British literary texts, chosen to highlight an organizing theoretical, historical, or thematic focus. Secondary readings will cover a variety of critical perspectives on nineteenth-century British literature and culture. The course will develop students' skills in reading, analysis, and writing.

ENG 325 The 19th Century English Novel.

3 credit hours.

Prerequisite(s): ENG 101.

This course surveys a selection of nineteenth-century British literary texts, chosen to highlight an organizing theoretical, historical, or thematic focus. Secondary readings will cover a variety of critical perspectives on nineteenth-century British literature and culture. The course will develop students' skills in reading, analysis, and writing.

ENG 330 Modern American Literature.

3 credit hours.

Prerequisite(s): ENG 101.

This course introduces students to representative American authors from the mid-19th century to the present day. Selections vary and may include Whitman, Dickinson, Hughes, Hemingway, O'Brien, Morrison, Viet Thanh Nguyen, and others. It also supports student development of Written and Oral Communications, Critical Thinking, Multicultural and Global Perspectives, and Social Responsibility.

ENG 350 Literary Criticism.

3 credit hours.

Prerequisite(s): ENG 101.

This course examines a variety of approaches to reading literature and considers critical theory as a socially engaged mode of inquiry. Readings will include one primary text and representative samplings from key thinkers in at least three theoretical approaches to literature. These critical approaches may include but are not limited to cultural critique. The course will develop students' skills in reading, analysis, and writing.

ENG 405 Poetry.

3 credit hours.

Prerequisite(s): ENG 101.

Students will become familiar with various forms of poetry of many different periods including the Middle Ages, the Renaissance, the 18th Century, the Victorian Era, and Modern and Contemporary periods. Students will learn various methods of reading poetry and of analysis of poets and poems.

3 credit hours.

Prerequisite(s): ENG 101.

This course introduces students to a selection of major works in world drama, from antiquity through to the late nineteenth century.

ENG 420 Modern English Fiction.

3 credit hours.

Prerequisite(s): ENG 101.

This course is devoted to the study of English literature from the end of the 19th century to the late 1930s, as well as to the critical analysis of specific texts and literary discourses belonging to that period.

ENG 425 Shakespeare.

3 credit hours.

Prerequisite(s): ENG 101.

We will study Shakespeare's drama through primary and secondary texts, films and perhaps some in-class performance, and exchange points of view as we work together to develop our understanding of selected plays in the genres of romantic comedy, history, mixed-genre, tragedy, and romance. Through class and group discussion, a summary of criticism, succinct critical responses and

journal entries, and longer essays, the class shall explore the social, political, performative, and formal issues that these texts represent, and consider Shakespeare's development as a playwright.

ENG 440 20th Century Literature.

3 credit hours.

Prerequisite(s): ENG 101.

The literature of the 20th century paints a picture of a world of shifting perspectives, devastating wars and uncertain values. This course is devoted to the study of twentieth century American and British literature. It incorporates works of prose, poetry, and drama, and takes into consideration the issues, movements, intellectual trends, and events that run parallel to developments in 20th century literature. It focuses on two themes that are central to the era: conflict and uncertainty. Throughout the course students will be expected to participate in discussions and engage in critical and thoughtful reading and writing.

ENG 450 The One Act Play.

3 credit hours.

Prerequisite(s): ENG 101.

This course will introduce a variety of one-act plays that will be used as tools for improving the language skills of listening, reading, writing and speaking where the experience of learning language is direct and immediate due to the very nature of drama. Students will participate in group performance and individual readings of selected plays. Simultaneously, the course will also improve students' creative imagination and appreciation for drama as an art form.

ENG 460 Literature and Film.

3 credit hours.

Prerequisite(s): ENG 101.

This course explores the relationship between literature and movies by investigating how filmmakers present literary forms such as short stories, plays, novels, and comics on cinema/TV screens. Both literature and film speak their languages, but the terminology they each use can sometimes overlap. The course will analyze these similarities and differences by comparing literature passages with scenes that present them in their respective film adaptations.

ENG 470 Comparative Literature.

3 credit hours.

Prerequisite(s): Senior standing.

The course studies literatures across national, historical, and linguistic boundaries. Students of Comparative Literature trace the transformations and travels of literary genres and texts across time and space. They explore the connections of literature with history, philosophy, politics, and literary theory. The course will develop students' skills in reading, analysis, and writing.

ENG 480 Practical Criticism.

3 credit hours.

Prerequisite(s): ENG 350.

This course will introduce students to a range of conceptions of the task of the critic and debates about the functions and methods of literary criticism. It aims to provide students with both an appropriate vocabulary and broad conceptual and historical schemata to help them situate, develop and challenge their own beliefs and practice as critics.

Entrepreneurship (ENT) Courses

ENT 305 The Entrepreneur and New Venture Creation.

3 credit hours.

Prerequisite(s): MGT 201, MKT 201.

Nature of entrepreneurship and the role of the entrepreneur in society. Focus on the critical factors and special problems associated with the process of creating new business ventures.

ENT 306 Entrepreneurial Fundraising and Marketing.

3 credit hours.

Prerequisite(s): ENT 305.

The course focuses on entrepreneurial fund raising, marketing and sales. It covers concept validation, developing value proposition and a business model, and developing a sales strategy. The course focuses on the process of entrepreneurial marketing of products or services by examining concepts such as the marketing mix, consumerism, and market segmentation. The course also deals with the various methods that may be used by companies, to raise the funds needed to transform their business ideas into functioning businesses, or for scaling up companies that already exist. The course looks at the role

of Venture Capitalists (VCs), Angel Investors, Accelerators and Incubators, in fund raising schemes. Strategies for effective fund-raising, as well as the structured business planning that underpins fund-raising are investigated. New approaches such as Crowdfunding and the use of social media to raise funds are discussed.

ENT 365 Managing and Commercializing Innovation.

3 credit hours.

Prerequisite(s): ACC 201 and ENT 305.

To achieve and sustain competitive advantage in today's global business environment, companies must be faster, more creative, nimble, flexible and innovative. The course looks at how competent management of innovation may be used as a source of competitive advantage by organizations. Provides structured frameworks for assessing and enhancing levels of corporate innovation, and examines ideas generation, conversion and diffusion phases of innovative processes. Organizational learning and culture, and their role in sustaining innovation, is discussed. The course also offers practical information about ways the end-products of innovative processes and activities may be commercialized for societal gain and financial profit. Discusses sustainable and competitively advantageous strategies that may be adopted to grow revenues from innovative activities. The course looks at methods for improving market share and enhancing brand image for products and services emanating from innovation.

ENT 415 Social Entrepreneurship.

3 credit hours.

Prerequisite(s): ENT 306, ENT 365.

The focus of this course is on developing self-sustaining, profitable new social ventures. Topics covered include: facets of social entrepreneurship, social entrepreneurship process, organizing and managing the social entrepreneurial process, discovering opportunity, taking action for impact, and funding, as well as basic aspects of the intrapreneurship process.

ENT 445 Collaborative Innovative Design for Entrepreneurs.

3 credit hours.

Prerequisite(s): ENT 306, ENT 365.

The course looks at the use of focused innovative design for the provision of affordable products and services. Considers cultural aspects in design, as well as ethnographic

issues as determinants of design appropriateness and affordability. The course also deals with cross-functional and collaborative entrepreneurship, and looks at how these may be used to help ensure stakeholder engagement, and the viability of entrepreneurial ventures.

ENT 465 Managing Entrepreneurship and Organizational Change.

3 credit hours.

Prerequisite(s): ENT 306, ENT 365.

Deals with the strategic aspects of growing and managing fledgling ventures, as well as the prime change management issues encountered by new business start-ups. The course looks at contemporary strategic frameworks and techniques for managing venture growth in a controlled and sustainable manner, in competitive business environments.

Finance (FIN) Courses

FIN 211 Business Finance.

3 credit hours.

Prerequisite(s): MAT 116, ECO 201.

Principles of financial administration, with applications to problems of financial analysis, control, and planning by firms under changing economic conditions.

FIN 301 Financial Statements Analysis and Models.

3 credit hours.

Prerequisite(s): FIN 211.

Tools and techniques necessary to build dynamic cash flow models. Advanced discussion on the relationship between the financial statements, modelling techniques to professionally present forecasts, valuations and transactional analyses.

FIN 302 Security Analysis & Portfolio Management. 3 credit hours.

Prerequisite(s): CSC 101 and FIN 211.

Focus on modern portfolio analysis; how characteristics of a portfolio differ significantly from those of the securities from which they are formed; investigation of the Capital Asset Pricing Model (CAPM) and Arbitrage Pricing Theory (APT). Tools to manage investment risks, detect mispriced securities, and measure performance of investment

managers.

FIN 311 Advanced Business Finance.

3 credit hours.

Prerequisite(s): FIN 211.

This course provides instruction on advanced financial management techniques for business students. Upon completion of this course, students should be able to think critically about complex financial activities and advanced investment opportunities available to the firm.

FIN 401 Bank Management.

3 credit hours.

Prerequisite(s): FIN 301, FIN 302.

Analysis of the functional areas of management of banks and related financial institutions, including deposits, cash, loans and asset accounts. Discussion of current topics including liquidity, capital adequacy, electronic fund transfers and mortgages.

FIN 410 International Business Finance.

3 credit hours.

Prerequisite(s): FIN 301, FIN 302.

Financial management in an international context. Determination of exchange rates; their effect on the economy and financial securities; operation of multinational firms (MNCs) in this environment. Measurement and management of MNC exchange-rate exposures; tax regulatory arbitrage; international portfolio investment; determination of cost of capital for a foreign direct investment project and construction of its capital budget.

FIN 411 Corporate Financial Strategies.

3 credit hours.

Prerequisite(s): FIN 301, FIN 302.

Develops advanced strategies for corporate financial management. The course looks at issues specific to complex corporations, particularly large listed companies. These cover capital structures, capital markets, gearing, equity financing, project evaluation, dividend policy-making, and as well as mergers and acquisitions (M&A).

Foundation Courses

Level I

EFP 101 Academic Communication I.

0 credit hours.

Prerequisite(s): None.

Develops academic fluency through discussion, presentation, and structured paragraph writing, with a focus on oral communication, classroom interaction, and clear written expression to build confidence.

EFP 102 Academic Literacy.

0 credit hours.

Prerequisite(s): None.

Strengthens core academic English through focused work in reading and grammar, improving comprehension, vocabulary, and written accuracy.

MFP 151 Mathematics for Science & Engineering I.

0 credit hours.

Prerequisite(s): None.

Builds algebra skills for STEM majors. Covers polynomials, factoring, inequalities, radicals, and quadratic equations with emphasis on modeling, analysis, and problem-solving.

LEVEL II

EFP 201 Academic Communication II.

0 credit hours.

Prerequisite(s): Qualifying university placement exam score
Or EFP 101 Or EFP 110 & EFP 120

Deepens writing and speaking skills via extended discussions and presentations, concentrating on fluent delivery, logical structure, and confidence in academic communication.

EFP 202 Research Literacy.

0 credit hours.

Prerequisite(s): Qualifying university placement exam score
Or EFP 102 Or EFP 130 & EFP 140

Fosters advanced reading and research abilities by guiding students in critical source evaluation, evidence integration, citation, and academic essay writing.

MFP 251 Mathematics for Science & Engineering II.

0 credit hours.

Prerequisite(s): Qualifying university placement exam score or MFP 151 or MFP 094.

Extends algebra and trigonometry for advanced STEM study. Topics include exponential and logarithmic functions, trigonometry, analytic geometry, and vectors, preparing students for higher-level university mathematics.

MFP 252 Mathematics for Social Sciences.

0 credit hours.

Prerequisite(s): Qualifying university placement exam score

Introduces core mathematical concepts for non-STEM majors. Focus on integers, equations, percentages, geometry, and problem-solving strategies applied to real-world contexts.

Geology (GEO) Courses

GEO 100 Geology.

3 credit hours.

Prerequisite(s): None.

General Education: Natural Science (NS)

Introduction to continental drift and plate tectonic theory, geophysics and structure of earth's crust and interior; rocks

and minerals; igneous and volcanic geology; weathering and sedimentation; metamorphism; work of running

water, glaciers and ground water; geologic time.

GEO 101 Geology Lab.

1 credit hour.

Prerequisite(s): None.

Corequisite: GEO 100.

General Education: Natural Science (NS)

Lab which complements lecture material in GEO 100.

Graphic Design (GRD) Courses

GRD 100 Introduction to Visual Communication.

3 credit hours.

Prerequisite(s): None.

This course provides an introduction to visual literacy by considering the fundamentals of visual communication. Class readings, assignments, and discussions will demonstrate how these basic elements are applied to communicate to viewers. The contributions, ethics, and methods of visual communicators will be explored by analyzing examples in a variety of visual forms, including print, graphics, illustrations, photographs, and computer imagery.

GRD 110 Typography I.

3 credit hours.

Prerequisite(s): GRD 100.

Introduction to typography through the use of digital and hand craft skills and conceptual framing for working with letter forms and the layout of text. Assignments and demonstrations to develop thinking and making abilities.

GRD 201 Introduction to Graphic Design.

3 credit hours.

Prerequisite(s): GRD 110.

Introduction to graphic design skills (digital and analog) and concepts necessary for working with images and type. Assignments and demonstrations will develop design thinking and creative abilities.

GRD 202 Graphic Design I.

3 credit hours.

Prerequisite(s): GRD 100, GRD 110.

Visual communication issues and applications: design methodology, problem-solving, relation of form to meaning, type/image relationships.

In this course, students create a realistic visual project such as the visual components of a marketing campaign with emphasis upon a consistent theme of concept, design, and imagery. Process and development of imagery is essential as well as allowing students to modify their designs and improve their campaigns.

GRD 204 Printmaking Techniques.

3 credit hours.

Prerequisite(s): ARD 102.

This course provides an introduction to a variety of print techniques including chine collé, digital, intaglio, lithography, monoprint, relief, or silkscreen. A variety of

printmaking techniques will be learned and utilized. Basic Elements of Art and Principles of Graphic Design will be stressed within printed compositions. The unit also aims to develop the student awareness of art movements that has set foot to the emergence of graphic design. They establish familiarity with their manifestos and aims and understand the critical role of these art movements throughout its infamous figures in shaping the path of diverse attempts in graphic design.

GRD 205 Introduction to Animation.

3 credit hours.

Prerequisite(s): GRD 202.

This course is designed to introduce students to basic methods and practices in animation, while exposing them to artists working independently in this field. The course will provide an overview of techniques ranging from hand-drawn frame-by-frame animation, to object animation and pixilation. This course establishes the integral components of the animation process. Animation software tools will be introduced as aids to help to stimulate conceptual thinking and develop creative solutions.

GRD 206 Advertising Design.

3 credit hours.

Prerequisite(s): GRD 100, GRD 110.

This course introduces students to the disciplines, work environment, and creative workflow of advertising and digital design. Students are presented with brand communication challenges and learn to work in the new creative team of art directors, writers, and experience designers to apply both narrative and systematic creative thinking to deliver creative solutions for brand messaging as well as digital products such as mobile apps.

GRD 210 Typography II.

3 credit hours.

Prerequisite(s): GRD 110.

Fundamental understanding of structure, history, technology and application of typography, the visualization of language. Functional and experimental aspects of typography; typographic syntax and hierarchies.

GRD 221 Illustration I.

3 credit hours.

Prerequisite(s): ARD 101, GRD 110.

Introduction to the role that illustration plays within graphic design; students will use both traditional and digital media to create illustrations and hand lettering to communicate messages intended for reproduction.

GRD 301 Intro to Interactivity in Graphic Arts.

3 credit hours.

Prerequisite(s): GRD 205.

Exploration of a variety of art-making strategies that utilize digital technologies and interactive media; emphasis on computer-based and online art practices and web-oriented programming languages.

GRD 302 Graphic Design II.

3 credit hours.

Prerequisite(s): GRD 202.

Students apply knowledge of typography and visual design principles to specific design situations; emphasis on use of grid systems. Complex design situations. Research and methodology. Project may include package design, instruction manuals, book and brochure design, publication design.

GRD 304 Web-Based Design.

3 credit hours.

Prerequisite(s): GRD 202.

This course will introduce students to a variety of methods for creating websites, it provides students with the skills and knowledge required to design and develop a website to specification using standard commercial website development software.

Students will be instructed in the most current applications used for production of web pages. Proper coding of the pages using current web tools, with consideration of various platforms, will be provided. A special emphasis will be placed on interactivity design and page layout, and proper use of typography and images for delivery on the Internet. The class is portfolio driven, training students to follow a business process for analyzing client needs, conducting research and developing a concept for production within a budget.

GRD 305 Branding.

3 credit hours.

Prerequisite(s): GRD 302.

The course develops theoretical & concept-based competences, identifies and describes the construction of brand value. Includes brand concepts in a global context, basic brand concepts, the core elements of the brand, the construction of brand value, the importance of brand identity, brand evaluation and brand audit, and their application to relevant industries. This course explores the process of establishing a successful brand position. Through reading, research, lectures, case studies and workshops students learn the principles of modern branding. Students then apply those principles as they develop a brand strategy, brand position and brand personality for a specific product or service just as they would in the professional world.

GRD 306 Publication Design.

3 credit hours.

Prerequisite(s): GRD 210, GRD 302

This course includes creating continuity and variety across a range of pages, presenting different kinds of information in context-appropriate formats, and developing brand identity and continuity, as applicable to common design tasks, business documents, newspapers, brochures, books and other multipage documents. The course provides an in-depth look at the techniques and tools used for producing well-designed newspaper and magazine pages such as digital layout preparation, image assembly, advanced editing, proofing systems, conventional film processes, digital capture and image conversion, direct-to-plate technology, offset printing, flexography, digital printing processes, and finishing processes.

GRD 321 Illustration II.

3 credit hours.

Prerequisite(s): GRD 221.

Development of illustration skills; students will learn to effectively use both traditional and digital media to create illustrations and hand lettering to communicate messages intended for reproduction. Students engage in problems that demand research, creation and management of numerous visual and informational elements within a given visual product.

GRD 331 History of Graphic Design.

3 credit hours.

Prerequisite(s): ARH 102.

History of the discipline of graphic design from its early practices to the present, with an emphasis on technological and theoretical advances that took place during the twentieth century.

GRD 402 Graphic Design III.

3 credit hours.

Prerequisite(s): GRD 302.

This course addresses contemporary interdisciplinary issues and practices in relation to graphic design.

This course takes students through a comprehensive look at the entire graphic design process in relation to contemporary practices. This course gives the student skills and knowledge about sustainability, environmental graphic design, window display and ambient design in addition to a self-led experimental assignment. Students will use design methodologies to arrive to their own individual perspective. The learning methods include brainstorming sessions, group critiques, and class activities.

GRD 404 Packaging Design.

3 credit hours.

Prerequisite(s): GRD 402.

Corequisite: GRD 497.

This course is a comprehensive packaging design and production course. Students develop packaging from initial concept to production and presentation of 3D designs. Typography, photography and illustration are integrated into complete packaging designs. Various substrates, materials, methods, practical and production considerations are explored in this course. It will provide an introduction to the major groups of packaging materials: paper-based materials; metals; glass and plastics in addition to closures, adhesives and labelling. This course considers the combination of various materials and structural choices available in constructing a package, and also introduces the concept of sustainability and environmental impact.

GRD 405 Graphic Design Portfolio.

3 credit hours.

Prerequisite(s): GRD 302.

This course provides the student with an opportunity to prepare themselves for the workplace. During the course, students will refine a body of design work and publish their portfolio in both print (optional) and web formats.

Students will design and develop their own personal brand including—visual identity, resume, cover letter, and business cards in preparation for job inter-views and/or graduate school. They will also spend the quarter researching potential employers and learn about each company, agency, and/or studio so that they can strategically tailor their application process.

GRD 407 Information Design.

3 credit hours.

Prerequisite(s): GRD 402.

Theory and practice of user-centered design to help people find, understand, and use information. Includes the visualization of information for such things as instructions, maps, forms, diagrams, and digital media. Offered Yearly.

GRD 410 Advanced Typography.

3 credit hours.

Prerequisite(s): GRD 210.

Advanced and experimental typography; typography as an expressive language in 2-D and 3-D; projects in information design. Offered Intermittently.

GRD 440 Interactivity.

3 credit hours.

Prerequisite(s): GRD 301.

Theory and practice of digital user experience design. Includes prototyping and some programming for the design of websites, apps, and digital media. Builds on foundational interactive, typography and graphic design skills.

GRD 490 Internship.

3 credit hours.

Prerequisite(s): Senior standing, GRD 402, ARD 390

Supervised field experience designated to correlate classroom theory with practical work.

GRD 491 Seminar.

3 credit hours.

Prerequisite(s): Senior standing.

Issues affecting the theory, history, and practice of design; impact of design on society and impact of society on design. Required readings, student presentations, class discussion, slide lectures, guest speakers.

GRD 493 Special Topics.

3 credit hours.

Prerequisite(s): GRD 302.

Examination of specific issue in design theory, history or practice. Topics may include: corporate identity, globalization of design, exhibition design, design history.

GRD 494 Directed Project in Graphic Design.

3 credit hours.

Prerequisite(s): GRD 302.

Individual problems in graphic design.

GRD 495 Senior Design Project I.

3 credit hours.

Prerequisite(s): GRD 402, senior standing.

This course reinforces knowledge and skills in providing students with the practical expertise needed in data gathering, analysis, design program formulation and concept design.

The main theme is to qualify students to identify and apply their knowledge in writing effectively the literature review, the research methodology, and the results of their study of the selected theme for their graduation project.

It teaches them how to use effective communication aids in presenting their outcomes. These should finally lead them to a design program and a design concept to be further developed throughout the design process of their graduation project.

GRD 497 Senior Design Project II.

3 credit hours.

Prerequisite(s): GRD 495.

Corequisite: GRD 404.

In this course after finalizing GDR 495 Senior Design Project I, students will finally exploit all their expertise and previous experiences acquired throughout their course of study and research to accomplish their final Graphic Design project (The Graduation Project). Students will execute one final Design Project representing their knowledge, skills and cultural awareness gained throughout the previous years of study while focusing on the theme researched in GRD 495.

Global Supply Chain Management (GSC) Courses

GSC 301 Operations & Supply Chain Management.

3 credit hours.

Prerequisite(s): MKT 20.

Analysis of production and supply chain systems. Topics include forecasting, production planning and scheduling, quality control, cost control, inventory control, capacity planning, purchasing, logistics, risk management, and other related subjects. Extensive coverage of SCM strategy, manufacturing, and general SCM strategy related to purchasing and logistics.

GSC 302 Global Supply Chain Management I.

3 credit hours.

Prerequisite(s): GSC 301.

An overview of logistics strategy with an emphasis on transportation. Study of the management of the movement of raw materials and finished products including the development of transportation strategies and objectives, and the selection of modes and carriers.

GSC 303 Logistics and Transportation.

3 credit hours.

Prerequisite(s): GSC 301.

Concepts of managing operations and supply chains that span multiple countries. Topics covered include, Sourcing in International Settings, Global Logistics and Trade Management, Global Plant Location and Manufacturing Network Design, and Managing International Production Operations. Emerging concepts in the discipline will also be discussed.

GSC 350 Strategic Procurement.

3 credit hours.

Prerequisite(s): GSC 301.

Principles of the purchasing function with topics including sourcing decisions, negotiations, buyer/seller relationships in the supply chain, supplier quality issues, supplier selection, price determination, ethical issues, legal issues, and international issues.

GSC 402 Global Supply Chain Management II.

3 credit hours.

Prerequisite(s): GSC 302.

An emphasis on analysis, planning and strategy. Provides students with a comprehensive view of supply chain issues, and critical problems.

GSC 403 Quality Management.

3 credit hours.

Prerequisite(s): GSC 302.

Quality control overview of processes including Advanced Product Quality Planning (APQP) processes for new product development, Six Sigma processes, statistical quality control including process capability, control charts, and acceptance sampling procedures.

GSC 420 Production Management.

3 credit hours.

Prerequisite(s): GSC 302.

Concepts for planning and management of production resources in manufacturing organizations. Topics covered include: Demand Management, Sales and Operations Planning, Master Production Scheduling, Materials Requirement Planning, and Capacity Planning. Emerging concepts in the discipline will also be covered.

History (HIS) Courses

HIS 101 World History I.

3 credit hours.

Prerequisite(s): None.

General Education: Arts & Humanities (AH)

This course provides the student with an introduction to the history of the world from 3000 B.C to C.E. 1500. Over the course of this class students will become familiar with the major civilizations that played key roles in the evolution of modern civilization. Students will examine the great civilizations of Africa, Asia, the Middle East, the Americas, and Europe. Also, students will examine their cultural and societal contributions to the evolution of modern civilization.

HIS 102 World History II.

3 credit hours.

Prerequisite(s): None.

General Education: Arts & Humanities (AH)

This course is designed as an introduction to the history of the world from the sixteenth century to the present. This course explores the major historical processes that produced the modern world that we live in today. A comparative approach will be used to examine important topics across different cultures, societies, and lands.

HIS 180 The Age of Islamic Empires: 600-1600.

3 credit hours.

Prerequisite(s): None.

General Education: Arts & Humanities (AH)

This is a course on Islamic Empires from the time of the Prophet Muhammad until the end of the Ottoman classical age. The course focuses on conquests, state building, and political thought, and it also explores intellectual history, Islamic institutions, gender relations, and the position of non-Muslims in Islamic societies.

HIS 181 The Modern Middle East.

3 credit hours.

Prerequisite(s): None.

General Education: Arts & Humanities (AH)

The Modern Middle East is a survey of the political, social, cultural, economic, and intellectual developments of the Middle East from the early nineteenth century to the present day. Beginning with a survey of the Ottoman Empire in 1800, the course charts the development of national movements and the emergence of nation-states after World War I.

Interior Design (IDE) Courses

IDE 100 Technical Drawing.

3 credit hours.

Prerequisite(s): None.

This course teaches students how to read / understand the interior spaces through technical drawing. Gain skills in using manual drawing tools. Differentiation between plan, elevation and section. Understand isometric and perspective drawing. Student will be able to imagine and draw any object using orthographic projection.

IDE 101 Architectural Drawing.

3 credit hours.

Prerequisite(s): IDE 100.

Basic architectural drawings: plans, elevations, obliques, sections, details, dimensioning and lettering; hand-drawn and basic CAD techniques; development of perspective presentation drawings.

IDE 204 Design Concept & Representation.

3 credit hours.

Prerequisite(s): IDE 101.

This course identifies the methods used in the visual presentation of interior spaces and articulates them in written and visual language. The course aims to develop the abilities for visualization & representation based on scientific methods. Student should acquire an ability to communicate simple forms graphically by transforming visual information into a 2D & 3D images with shade and shadow. This course presents a range of styles and techniques. The goal is to provide students and practitioners with information on visual presentation techniques and a variety of methods and materials.

IDE 211 CAD I.

3 credit hours.

Prerequisite(s): IDE 101.

Continuation of computer-aided design. Plans, elevations, sections, details, dimensioning and description. System furniture space planning; Windows-based auto CAD.

IDE 212 CAD II.

3 credit hours.

Prerequisite(s): IDE 211.

Intermediate-level CAD. Development and creation of construction documents, space planning of interior spaces, and systems layout, using AutoCAD drafting techniques in two- and three-dimensional modes.

IDE 221 Interior Design Studio I.

3 credit hours.

Prerequisite(s): IDE 101.

Corequisite: IDE 211.

Single family residential/small-scale office. Presentation techniques; introduction to media and methods used in the preparation of presentation boards: layout, selection, rendering, plan, elevation, lettering and verbal presentation.

IDE 222 Interior Design Studio II.

3 credit hours.

Prerequisite(s): IDE 221.

Corequisite: IDE 212.

Hospitality/restaurant/health care. Continuation of graphic and presentation skill development incorporating plan, elevation, section, detailing, perspective, hand and CAD drawings. Experimentation with lighting, media, board, and verbal presentation.

IDE 225 3D Model Construction.

3 credit hours.

Prerequisite(s): IDE 221.

This course provides students with both understanding and skills of the essential architectural and interior design modelling materials and equipment, guiding them through the basics of the process, such as determining scale, transforming architectural plans into three-dimensional model forms, using the appropriate tools and materials (wood, metal sheets, screens, clay, Plexiglas and other materials). The course reflects the need for today's model makers to take responsibility for project management in media production, architectural interpretation and exhibition design. It improves students' ability to think creatively, analytically and interpretively, thus developing an independent approach to learning, designing and problem solving.

IDE 301 Interior Perspective & Illustration.

3 credit hours.

Prerequisite(s): ARD101.

Visual perspective presentation techniques, including selection, construction, illustration of interior designs. Basic mechanical perspective layout and delineation techniques: pencil, pen, color marker and color pencil to relate effects of texture, volume, and light of interior space.

IDE 305 Interior Design Trends.

3 credit hours.

Prerequisite(s): IDE 222.

This course enables students to explore their creativity in the field of interior design, it explores the human, environmental, and technical issues that have affected recent developments in interior design. This course will

encompass new trends in interior design such as futuristic interactive interiors, virtual environment as a design tool for interior design, the cognitive dimensions in design and the use of Nanotechnology in interior design. This course aims to develop, advance the working methodology of interior design and prepare them for profession business.

IDE 321 Interior Design Studio III.

3 credit hours.

Prerequisite(s): IDE 222.

Retail/contract open-office system, medium to large scale, new or adaptive reuse projects. Advanced hand and CAD graphic, presentation skill development, incorporating building and barrier-free codes, HVAC and lighting principles, furniture, and equipment specification.

IDE 341 Furniture & Product Design.

3 credit hours.

Prerequisite(s): IDE 222.

History, ergonomic and design development of furniture and product design. Projects evolve from hand and CAD drawings to scaled models of furniture and product designs.

IDE 401 Environmental Design.

3 credit hours.

Prerequisite(s): IDE 222.

History of interiors: ergonomic, environmental elements. Introduction to building and barrier-free design codes. Acoustical, HVAC and electrical systems.

IDE 404 Interior Architecture.

3 credit hours.

Prerequisite(s): IDE 421.

The course is concerned with the design and construction of interior space in clear relation to an architectural and urban framework. This course aims at providing an advanced approach to transform existing places and spaces. Interior architecture focuses on elements of decoration and interior design, but it also deals with construction and architecture. Through the course, the design-related issues are addressed that include the transformation of existing structures through the progressive and interesting approach.

IDE 405 Ergonomics in Interior Design.

3 credit hours.

Prerequisite(s): IDE 222.

This course provides the understanding and awareness of the contributions of interior design to contemporary society. It demonstrates the human factors relative to the designed environment address health, safety, and welfare issues, integral to best design practices. This course provides students with the design needs and how they may vary for different socioeconomic populations, social and cultural norms and how they may vary from the user to the designer and are relevant to design decisions. This course explores the built environment and design problems from various points of view and develop knowledge of other cultures.

IDE 421 Interior Design Studio IV.

3 credit hours.

Prerequisite(s): IDE 321.

Large-scale new or adaptive re-use: office, hospitality, health-care or retail interior spaces. Professional hand and CAD graphic and skill development. Integration of codes, ADA, human factors, HVAC and lighting principles, furniture and equipment specification related to specific environment.

IDE 431 Building Construction Systems I.

3 credit hours.

Prerequisite(s): IDE 421.

Residential and commercial construction systems incorporating governmental and building codes; site and foundation to roof systems; small-scale hand and CAD documentation of architectural details

IDE 432 Building Construction Systems II.

3 credit hours.

Prerequisite(s): IDE 431.

Development of architectural construction documents: working drawings and written specifications of commercial interior space; plan, elevation, section, details and perspective through hand and CAD documentation

IDE 433 Interior Materials.

3 credit hours.

Prerequisite(s): IDE 321.

Estimating, specifying, and the techniques used in the application of materials and systems used in interior design.

Lectures, guest speakers, and field trips.

IDE 441 Lighting Systems.

3 credit hours.

Prerequisite(s): IDE 321.

Lighting sources, fixtures, manufacturer's lighting system and application to interior spaces. Basic lighting foot-candle calculations; layouts and psychology of lighting description to be applied in a final project.

IDE 490 Internship.

3 credit hours.

Prerequisite(s): Senior standing, IDE 421, ARD 390.

Supervised field experience designated to correlate classroom theory with practical work.

IDE 492 Directed Study in Interior Design.

3 credit hours.

Prerequisite(s): IDE 321.

History, ergonomic and design development of furniture and product design. Projects evolve from hand and CAD drawings to scaled models of furniture and product designs.

IDE 493 Special Topics.

3 credit hours.

Prerequisite(s): IDE 321.

Exploration of concepts and techniques related to the field of Interior Design.

IDE 494 Directed Project in Interior Design.

3 credit hours.

Prerequisite(s): IDE 321.

Individual problems in interior design.

IDE 495 Senior Design Project I.

3 credit hours.

Prerequisite(s): IDE 421, senior standing.

This course reinforces knowledge and skills in providing students with the practical expertise needed in data gathering, analysis, design program formulation and concept design.

The main theme is to qualify students to identify and apply their knowledge in writing effectively the literature review,

the research methodology, and the results of their study of the selected theme for their graduation project.

It teaches them how to use effective communication aids in presenting their outcomes. These should finally lead them to a design program and a design concept to be further developed throughout the design process of their graduation project.

IDE 497 Senior Design Project II.

3 credit hours.

Prerequisite(s): IDE 495.

In this course after finalizing senior project I “IDE495”, students will finally exploit all their expertise and previous experiences acquired throughout their course of study and research to accomplish their final Interior Design project (The Graduation Project). Students will execute one final Design Project representing their knowledge, skills and cultural awareness gained throughout the previous years of study while focusing on the theme researched in “IDE495”.

Industrial Engineering (INE) Courses

INE 212 Work Design.

3 credit hours.

Corequisite(s): EGR 150.

Role of the human as an element of the work environment. Traditional issues of work standards, productivity analysis and occupational safety are introduced. Examination of functional and organizational role of the worker; impact of emerging computer-based technologies on work design and implementation strategies is discussed.

INE 300 Operations Research.

3 credit hours.

Prerequisite(s): EGR 150, MAT 230.

An introduction to the philosophy of operations research. Formulation of linear programming models and their solution. Duality and sensitivity analysis. The transportation model. Introduction to probabilistic modeling and applications of queueing models.

INE 310 Design & Analysis of Production Systems.

3 credit hours.

Prerequisite(s): INE 300.

Corequisite: INE 311.

The design of production planning and control systems. Materials management, forecasting, planning, scheduling of production systems, the planning and scheduling for large scale projects and introduction to the design of computerized materials management systems. Applications of operations research models to production control problems.

INE 311 Production Systems Laboratory.

1 credit hour.

Prerequisite(s): None.

Corequisite: INE 310.

Laboratory to accompany INE 310.

INE 320 Human Factors in Engineering.

3 credit hours.

Prerequisite(s): INE 212.

Current practice perspective on human capabilities and limitations as a component in engineering systems. Analysis and design of human-centered systems, with emphasis on applications.

INE 321 Human Factors Laboratory.

1 credit hour.

Prerequisite(s): None.

Corequisite: INE 320.

Human factors Lab provides understanding of the capabilities and limitations of human beings in the design of the workplace and living environments with explicit consideration of the physical and mental characteristics of users. The human factors lab used for evaluation of consumer items and human performance in applied environments.

INE 326 Quality Control.

4 credit hours.

Prerequisite(s): EGR 150.

Statistical quality control including process capability, control charts, and acceptance sampling procedures. Procedures for measurement of dimensional tolerance are introduced. Computer-based data collection and analysis.

INE 327 Applied Engineering Statistics and Data Analytics.

3 credit hours.

Prerequisite(s): CSC 102, EGR 150.

This course provides students with applied knowledge of engineering statistics and data analytics for solving real-world industrial problems. Topics include multivariate distributions, hypothesis testing, non-parametric methods, point and interval estimation, regression analysis, goodness-of-fit tests, and contingency table analysis.

The course also introduces core data analytics concepts such as data preprocessing, visualization, and interpretation using modern tools (e.g., Python, R, or Excel). Emphasis is placed on practical applications in quality control, reliability analysis, production systems, and process improvement.

INE 330 Facilities Design.

3 credit hours.

Prerequisite(s): INE 300.

Design of manufacturing, warehouse and material handling facilities. Use of analytic and computer-aided methods in the facilities design process.

INE 335 Product Engineering.

3 credit hours.

Prerequisite(s): INE 320, INE 325 or INE 327.

Current principles and processes of product engineering. Use of integrated product engineering processes and methods.

INE 345 Manufacturing Process.

3 credit hours.

Prerequisite(s): EGR 100, EGR 101, EGR 102.

Corequisite: INE 346.

A study of the field of manufacturing processes from a mechanical engineering design standpoint. Topics include: processing of metals, polymers and ceramics, and computer-aided manufacturing.

INE 346 Manufacturing Process Lab.

1 credit hour.

Prerequisite(s): None.

Corequisite: INE 345.

Laboratory to accompany INE 346

INE 360 Design of Inventory Systems.

3 credit hours.

Prerequisite(s): INE 310.

This course introduces a number of quantitative methods for the analysis and of inventory systems. These include deterministic and probabilistic economic order quantity (EOQ) models and variants, single and multiple period inventory models, exchange curves, and other advanced inventory models. Forecasting algorithms applicable to inventory systems are also covered.

INE 370 Safety Engineering.

3 credit hours.

Prerequisite(s): INE 320 or Senior Standing.

Application of human factors (ergonomics) and engineering practice in accident prevention and the reduction of health hazards in the occupational environment are presented. Special attention is devoted to the detection and correction of hazards and to contemporary laws and enforcement on occupational safety and health.

INE 395 Industrial Engineering Seminar.

1 credit hour.

Prerequisite(s): Junior standing, INE major.

Select the best technical topic ideas based on student specialization; familiarize students more extensively with the latest technology and methodology of their chosen subject; interact with the example of real-life problems. Required before beginning specialization courses.

INE 400 Digital Automation.

3 credit hours.

Prerequisite(s): CSC 102, INE 345.

This course covers digital control, logic, automation technologies, and data acquisition, with practical lab work. It focuses on PLCs, DCS, SCADA, Fieldbus, WSNs, and IIoT, addressing the evolution, challenges, and future trends of industrial automation from Industry 1.0 to 4.0.

INE 410 Technology for Industry 4.0 & 5.0.

3 credit hours.

Prerequisite(s): INE 400.

Characteristics of the 4th and 5th Industrial Revolution and digitalization, Introduction to Industry 4.0 and main technologies, The impact of digitalization on industry, Challenges and possibilities with Industry 4.0 and 5.0

technologies and future scenarios Design of an Industry 4.0 system

INE 417 Stochastic System Modeling: Queuing & Simulation.

3 credit hours.

Prerequisite(s): INE 300.

Description of queuing systems; analytical solutions; discrete events systems; modeling framework and object models; terminating and non-terminating systems; statistical analysis; case studies.

INE 425 Supply Chain Management.

3 credit hours.

Prerequisite(s): INE 300.

This course explores the design, analysis, and operational control of manufacturing supply chain systems. It examines models at the strategic, tactical, and operational levels, and discusses their integration into various decision support systems. Additionally, the course investigates the role of information technology, including enterprise resource planning software, in the supply chain context. Students will learn to apply theoretical models to real-world scenarios, developing skills in problem-solving and decision-making.

INE 430 Lean Systems.

3 credit hours.

Prerequisite(s): INE 325 or INE 327.

Fundamental theories and concepts in lean manufacturing, six-sigma, mistake proofing, problem solving, process management. Students develop competency in identifying causes and sources of waste in manufacturing, industrial, and business operations.

INE 435 Technology Innovation Management.

3 credit hours.

Prerequisite(s): INE 335.

Topics include the introduction of new products to the global market, technology sourcing, intellectual property rights, industry trends, technology and ethics, new business opportunities and product identification, industry characteristics, regulation, international competition, ecosystems, economic development, and open source.

INE 436 Quality Management Systems.

3 credit hours.

Prerequisite(s): INE 326 or Senior Standing.

Design of quality management systems. Topics include: QFD, quality planning, business operating systems, TQM, standards, and auditing. Quality management tools such as PDCA and root case analysis.

INE 437 Fundamentals of Six Sigma.

3 credit hours.

Prerequisite(s): INE 326.

The attraction of Lean Six Sigma is obvious — designs that work, fewer defects and wastes in manufacturing, faster processes, lowered production costs, and greater customer satisfaction. With these pluses, it's no wonder the world's leading companies are adopting the Six Sigma approach to product development in ever-growing numbers. This comprehensive course covers the fundamental aspects of Lean and Six Sigma, Lean operation principles and tools, and the Six Sigma process improvement, that is Define-Measure-Analyze-Improve-Control (DMAIU).

INE 438 Risk Management and Decision Analysis.

3 credit hours.

Prerequisite(s): EGR 150, INE 300.

Structure, modeling and analysis of technical management decisions with emphasis on multiple objectives and trade-offs, and significant uncertainty. Explores barriers to rational decision making.

INE 440 Systems Simulation.

3 credit hours.

Prerequisite(s): INE 310.

Systems modeling and discrete event simulation. Methodology applied to analysis and design of a broad range of systems including both production and service systems. Computer assignments and a term project are required.

INE 441 Applied Engineering Statistics.

3 credit hours.

Prerequisite(s): INE 325 or INE 327.

An applied statistics course for students in engineering that will build upon introductory statistical knowledge. Students will learn to identify the phenomena they would like to study, design, and run experiments; collect data and analyze

it by applying statistical tools such as multiple regression, ANOVA, and non-parametric statistical tools; and report on the statistical results and their implication to engineering phenomena.

INE 445 Computer Aided Manufacturing and Lab.

3 credit hours.

Prerequisite(s): INE 345.

Develops students into competent engineers capable of managing the process of product and service realization. Provides an understanding of product, service and workflow realization process from conception through market research and validation, to product/service design and production, and then distribution. Topics covered include business context, innovation and entrepreneurship, process planning, computer-aided manufacturing (CAM), integration of manufacturing equipment and material handling systems, manufacturing execution systems, manufacturing planning and control, and logistics and distribution.

INE 448 Fundamentals of Sustainable Manufacturing.

3 credit hours.

Prerequisite(s): INE 345.

Sustainable manufacturing, as defined by the U.S.A. Department of Commerce, is “the creation of manufactured products that use processes that minimize negative environmental impacts, conserve energy and natural resources, are safe for employees, communities, and consumers and are economically sound.” This course is designed to introduce the fundamental concepts of sustainable manufacturing. While the focus will be on sustainable manufacturing, topics will also include connections of sustainable design, environmental sciences, and the social sciences with sustainable manufacturing.

INE 450 Digital Manufacturing and Design.

3 credit hours.

Prerequisite(s): CSC 102, INE 345.

Understand Manufacturing’s Fourth Revolution (Industry 4.0). Learn how manufacturing is evolving with advances in digital-based technology. Three elements of digital manufacturing including Product life cycle, smart factory, and value chain.

INE 456 Cyber-Physical Industrial Applications.

3 credit hours.

Prerequisite(s): CSC 102, INE 325 or INE 327, or Senior Standing.

Explores Cyber-Physical Systems (CPS), covering fundamentals, modeling of physical and computational systems, hybrid systems, control theory, and game theory. It integrates practical lab work, focusing on real-world applications like robot control and communications, preparing students for advanced CPS design and innovation

INE 460 Project Management.

3 credit hours.

Prerequisite(s): Junior standing, school restriction.

Provides an appreciation for the role and importance that project management has in delivering complex engineering projects on time, within budget, within performance specifications, and satisfying the customer. Reviews the fundamental content of the nine knowledge areas and five process groups included in the PMI’s Project Management Body of Knowledge and how they apply to the general stages of a product development project with a look at some basic techniques and tools.

INE 461 Leadership & Strategic Management for Engineers.

3 credit hours.

Prerequisite(s): INE 460, or Senior Standing.

This course covers essential leadership and strategic management concepts tailored for engineers. It explores factors impacting internal environments like culture and structure. Students analyze management theories’ applicability in engineering contexts and develop skills crucial for effective leadership within engineering teams. Topics include organizational behavior, strategic planning, decision-making, emotional intelligence, and ethical leadership. Through case studies and practical exercises, students gain insights into leadership principles relevant to engineering professionals

INE 462 Cost Engineering.

3 credit hours.

Prerequisite(s): ECO 201 or EGR 202, INE 460.

This course examines the key concepts of economic analysis and cost estimation, including cost control, risk analysis, scheduling and change management to achieve the best value for investments and expenditures.

INE 464 Products Liability Introduction for Engineers.

3 credit hours.

Prerequisite(s): INE 460.

Introduction to product safety law, products liability law, defenses, proof and the expert witness, financial loss, the future of products liability, prevention.

INE 465 Systems Engineering in Design.

3 credit hours.

Prerequisite(s): INE 335 or Senior Standing.

Provides an introduction to the engineering and analysis of human-made systems with an emphasis on the process of bringing systems into being. Includes an introduction to systems sciences and engineering and will follow the engineering process from conceptual systems design through concept selection, concept validation, life-cycle acquisition, life-cycle costing, software development, system architecture, and risk management. Addresses system engineering program evaluation including: evaluation requirements, evaluation of the system engineering organization, and program reporting, feedback, and control

INE 472 Sustainable Technology & Commercialization.

3 credit hours.

Prerequisite(s): Junior standing, school restriction.

The main principles that guide modern science and technology towards sustainable solutions. The connections between social, environmental, and economic aspects of sustainable technologies. The technology commercialization process, from invention to market entry.

INE 476 Advanced Fabrication & Computer Integrated Manufacturing.

3 credit hours.

Prerequisite(s): INE 345.

The use of modern industry-standard software, equipment, use of analysis tools, CAD, CNC, and PLC programming. The use of 3D modelling links with the Design and Project units. Computer-integrated manufacturing (CIM) and its impact on productivity, product cost, and quality. The integration of manufacturing activities into a complete system.

INE 492 Directed Study.

3 credit hours.

Prerequisite(s): Department approval.

Supervised study and instruction in a field selected by the student.

INE 493 Special Topics in Industrial Engineering.

3 credit hours.

Prerequisite(s): Senior standing.

Special subject matter in industrial engineering. Topics to be announced in Schedule of Classes.

INE 495 Senior Design Project I.

1 credit hour.

Prerequisite(s): senior standing.

Prerequisite with concurrency: INE 395.

Project selection, team building, and methodological preparation required for IE 496.

INE 496 Senior Design Project II.

3 credit hours.

Prerequisite(s): INE 495.

Intensive design experience defined and executed by the student. Requires synthesis and application of skills and knowledge gained in the program.

Mathematics (MAT) Courses

MAT 105 Math for the Arts.

3 credit hours.

Prerequisite(s): None.

General Education: Mathematics (MA)

An introduction to quantitative reasoning, with the aim of developing the capacity to comprehend and analyze the quantitative information that is prevalent in daily life, with a particular focus on the arts. Topics include problem solving with shape and form and mathematical modeling.

MAT 112 Mathematics for Elementary School Teachers.

3 credit hours.

Prerequisite(s): None.

General Education: Mathematics (MA)

This course provides prospective elementary school teachers with a problem-solving approach to the topics of the elementary school math curriculum. Students will be

able to apply principles and concepts of basic arithmetic operations on the set of real numbers.

MAT 113 Elementary Functions.

4 credit hours.

Prerequisite(s): Placement.

General Education: Mathematics (MA)

A pre-calculus course that includes the study of elementary functions, their graphs and applications including polynomial, rational, algebraic functions, exponential, logarithmic and circular or trigonometric functions. For students with strong high school preparation in mathematics but who are not ready for calculus.

MAT 115 Quantitative Methods I.

3 credit hours.

Prerequisite(s): Placement.

General Education: Mathematics (MA)

This course provides an introduction to the use of quantitative methods in research. Emphasis will be on achieving an understanding of quantitative methods and associated statistical techniques considered so that you can think critically about suitable procedures for research design, collection and analysis of data, and the usefulness of statistics.

MAT 116 Quantitative Methods II.

3 credit hours.

Prerequisite(s): MAT 115.

General Education: Mathematics (MA)

Basic probability theory (definition of probability, conditional probability, independence, random variables, expectation and variance, normal distribution, law of large numbers, central limit theorem), descriptive statistics (histograms, scatter plots, box plots, mean, variance, quantiles, empirical rule, z-scores), statistical inference (confidence intervals for mean, t-tests, chi-square tests, linear regression, analysis of variance) and data analysis.

MAT 121 Calculus I.

4 credit hours.

Prerequisite(s): Placement.

General Education: Mathematics (MA)

Calculus as the study of change. Definitions, concepts,

and interpretations of the derivative and the definite and indefinite integrals; differentiation, integration, applications.

MAT 122 Calculus II.

4 credit hours.

Prerequisite(s): MAT 121.

General Education: Mathematics (MA)

Review definition of definite integral and fundamental theorem of calculus. Techniques of integration; approximate integration; improper integrals; applications of integration. Sequences and series. Approximating functions by polynomials and Taylor series.

MAT 200 Discrete Mathematics.

3 credit hours.

Prerequisite(s): MAT 121.

Discrete mathematics studies finite mathematical systems, and provides students with mathematical ideas, notations and skills which are critical to, for example, formulating what an algorithm is supposed to achieve, proving if it meets the specification, and analyzing its time and space complexity.

MAT 201 Foundations of Mathematical Reasoning for Educators.

1 credit hour.

Prerequisite(s): MAT 115 or Placement.

Introduces logical reasoning, quantitative thinking, problem-solving strategies, and mathematical communication for prospective elementary and secondary educators. Emphasizes conceptual understanding, real-world applications, and inquiry-based learning aligned with teacher preparation standards and Wayne State University foundational mathematics expectations.

MAT 211 Geometry for Middle School Teachers.

3 credit hours.

Prerequisite(s): Placement.

This course is an examination of geometric relationships using reasoning and proof. Topics include Euclidean, non-Euclidean and finite geometries, affine transformations, constructions, and spatial geometry. Provides background for future instruction in middle and high school geometry.

MAT 212 Number Theory for Middle School Teachers.

3 credit hours.

Prerequisite(s): MAT 211.

Concepts and justification involving basic properties of natural numbers, mathematics induction, Euclidean algorithm, and the Fundamental Theorem of Arithmetic. Topics include proofs and problem-solving with divisibility, primes and composites, and prime factorization; congruences and other examples.

MAT 215 Abstract Algebra for Middle School Teachers.

3 credit hours.

Prerequisite(s): MAT 212.

This course presents a detailed study of abstract algebra: elementary number theory (congruences, quadratic residues, arithmetic functions), group theory (monoids, permutation groups, homomorphisms, quotients, Lagrange's theorem, finite Abelian groups, Sylow's theorems), ring theory (domains, prime and maximal ideals, quotients, PIDs), splitting fields, finite fields.

MAT 221 Calculus III.

4 credit hours.

Prerequisite(s): MAT 122.

Calculus III is the study of the concepts, and interpretations of vectors, geometry space, vector functions, partial derivatives, multiple integrals, and vector calculus.

MAT 225 Elementary Linear Algebra.

4 credit hours.

Prerequisite(s): MAT 221.

Topics include: systems of linear equations, matrices, vector spaces, basis, dimension, inner products, linear transformations and eigenvalues.

MAT 230 Differential Equations and Matrix Algebra.

4 credit hours.

Prerequisite(s): MAT 122.

First order and first-degree differential equations. Linear Models. Homogeneous differential equations with constant coefficients. Undetermined Coefficients: annihilator approach, reduction of order, variation of parameters, and Cauchy-Euler equation. Series solutions. Systems of linear first-order differential equations. Linear Algebraic

Equations. Matrices and Vectors. Linear Systems in Normal Form. The Matrix Exponential Function.

MAT 310 Fundamental Concepts of Math & Proof Writing.

3 credit hours.

Prerequisite(s): MAT 122.

The goal of this course is to understand, and construct coherent, logically correct proofs, so that you may more easily make the transition from calculus to the more theoretical junior-senior courses, especially abstract algebra and modern analysis. Starting with explicit axioms and precisely stated definitions, you will systematically develop basic propositions about integers and modular arithmetic, induction and recursion, real numbers, infinite sets, and such other topics as time may allow. You will be provided with the needed background about logic, sets, and functions. For nearly every class you will create written mathematical proofs. You are expected to participate actively in class, including at the co-seminar.

MAT 312 Elementary Theory of Numbers.

3 credit hours.

Prerequisite(s): MAT 225.

This course is an elementary introduction to number theory with no algebraic prerequisites. Topics covered include primes, congruences, quadratic reciprocity, diophantine equations, irrational numbers, continued fractions, and partitions.

Mechanical Engineering (MCE) Courses

MCE 210 Thermodynamics I.

3 credit hours.

Prerequisite(s): MAT 122, PHY 120.

Transformation of heat energy to other energy forms. Basic concepts and laws of thermodynamics. Thermodynamic properties and processes for simple substances. Applications to power and refrigeration cycles.

MCE 310 Thermodynamics II.

3 credit hours.

Prerequisite(s): MCE 210.

First and second laws of thermodynamics; power and refrigeration cycles; gas and vapor mixtures, nozzle and

blade passage flow and combustion. Introduction to compressible flow. Direct energy conversion.

MCE 320 Heat Transfer.

3 credit hours.

Prerequisite(s): MCE 210.

This course introduces the fundamental concepts and basic modes of heat transfer, including conduction, convection, and radiation. Topics covered include the general heat conduction equation, steady-state heat conduction in one and multiple dimensions, and transient heat conduction. The course also explores radiative heat transfer, emphasizing Kirchoff's law, black body radiation, and radiation exchange between diffuse surfaces. Additionally, students will gain an understanding of convective heat transfer, with a focus on the heat transfer coefficient and the Nusselt number.

MCE 330 Applied Fluid Mechanics.

3 credit hours.

Prerequisite(s): MCE 210.

Fundamental principles of fluid mechanics with a focus on applications in mechanical engineering. Topics include fluid properties, fluid statics, conservation laws (mass, momentum, and energy), control volume analysis, Bernoulli's equation, dimensional analysis, internal and external flows, laminar and turbulent flow regimes, and basic concepts of compressible flow. Emphasis is placed on problem-solving and real-world engineering applications, including pipe flow, pumps, and flow measurement devices.

MCE 335 Applied Fluid Mechanics Lab.

1 credit hour.

Corequisite(s): MCE 330.

Laboratory experiments related to MCE 330 course contents.

MCE 340 Design of Machine Elements.

3 credit hours.

Prerequisite(s): EGR 205.

Static body stresses, strain and deflection, failure theories, introduction to impact loading and fatigue. Design of common mechanical elements: threaded fasteners, rivets, welding and bonding, springs, lubrication and sliding bearings, rolling element bearings.

MCE 345 Manufacturing Process: Theory & Laboratory.

3 credit hours.

Prerequisite(s): EGR 101.

A study of the field of manufacturing processes from a mechanical engineering design standpoint. Topics include: processing of metals, polymers and ceramics, and computer-aided manufacturing.

MCE 395 Mechanical Engineering Seminar.

1 credit hour.

Prerequisite(s): Junior standing, MCE major.

Orientation to specialization areas in Mechanical Engineering. Required before beginning specialization courses.

MCE 407 Computer-Aided Mechanical Design.

3 credit hours.

Prerequisite(s): EGR 205.

Introduce aspects of constraint-based solid modeling and parametric modeling using Unigraphics, Solid Edge, I-DEAS and Pro-E. Develop intelligent solid models with application to data management and sheet metal design. Introduce computer-aided simulation and manufacturing.

MCE 412 Combustion Engines.

3 credit hours.

Prerequisite(s): CHM 110.

Cover thermodynamics and cycle analysis of spark and compression ignition engines. Introduce combustion processes in actual systems, engine performance characteristics and engine modeling.

MCE 417 Mechanical Systems Design.

3 credit hours.

Prerequisite(s): MCE 340.

How to design mechanical systems through iterative application of intuition, brainstorming, analysis, computation and prototype testing. Design of custom mechanical components, selection of common machine elements, and selection of electric motors and transmission elements to meet performance, efficiency and reliability goals. Emphasis on high-performance systems. Independent and team-based design projects.

MCE 420 Automotive Manufacturing Systems and Processes.

3 credit hours.

Prerequisite(s): MCE 345.

Introduce principles and methodologies of automotive assembly systems and processes. Cover operation management, quality management, principle of system development, planning and analysis of assembly systems and supportive functions, assembly processes, automatic and manual operations, management of tooling development and honing processes of sheet metal parts

MCE 427 Reliability & Quality Control in Engineering.

3 credit hours.

Prerequisite(s): MAT 122, EGR 150.

Introduction to statistical methods in reliability and probabilistic engineering design methodology, statistical quality control and inspection, life prediction and testing, and design optimization.

MCE 430 Thermal Fluid Systems Design.

3 credit hours.

Prerequisite(s): MCE 310, MCE 320, MCE 330.

Corequisite: MCE 431.

This course focuses on the design and analysis of thermal-fluid systems to meet specified performance requirements. Emphasis is placed on the integration of thermodynamics, fluid mechanics, and heat transfer principles in system design. Topics include system simulation, component selection, performance evaluation, and design optimization to ensure efficient and reliable operation under varying conditions.

MCE 431 Thermal Science Laboratory.

1 credit hour.

Prerequisite(s): MCE 310, MCE 320, MCE 330.

Corequisite: MCE 430.

This laboratory course is designed to provide insight and experience into the advanced fundamental principles taught in core thermal science lecture courses. Topics may include safety, thermodynamic cycles, heat exchangers, conduction and convection heat transfer, turbomachinery, and internal/external flow concepts. Emphasis will also be placed on the further development of technical writing skills and oral presentations.

MCE 435 Advanced Continuum Mechanics.

3 credit hours.

Prerequisite(s): EGR 205, MCE 330.

Introduce Lagrangian and Hamiltonian classical mechanics. Derive thermodynamics laws from mechanics. Cover continuum kinematics and basics of tensor analysis, continuum mechanics (basic laws; thermodynamics of continuum media; classical continuum models).

MCE 440 Vibrations.

3 credit hours.

Prerequisite(s): EGR 210, MAT 230.

Fundamentals of dynamic principles, energy relation and Rayleigh's principle. Undamped and damped free vibration of one degree of freedom systems. Forced vibrations with harmonic excitation. Vibration isolation, critical speed of shafting.

MCE 443 Dynamic Modeling & Control of Engineering Systems.

4 credit hours.

Prerequisite(s): EGR 210, MAT 230.

Mathematical modeling of linear, lumped, time-invariant systems, open and closed loop systems, single-input-single-output system design using root locus method.

MCE 445 Vibrations Laboratory.

1 credit hour.

Corequisite(s): MCE 440.

Laboratory experiments related to MCE 440 course contents.

MCE 451 Fundamentals of Electric-drive Vehicle Modeling.

3 credit hours.

Prerequisite(s): CSC 102, PHY 122,

Covers engineering and modeling fundamentals and basic design of electric-drive vehicle powertrains by understanding and analyzing the relevant multi-physics and applying the associated equations and simple models. MATLAB script m-file is required for all assignments.

MCE 452 Sensors, Actuators, and Computer Vision.

3 credit hours.

Prerequisite(s): EGR 250.

Fundamental principles of sensors, actuators, and computer vision; Image processing, image recognition, and face detection; Introduction to OpenCV and MATLAB computer

vision.

MCE 455 Microprocessor Interfacing in Mechanical Systems.

3 credit hours.

Prerequisite(s): ECE 200.

Principles of microprocessor hardware and software; integration of microprocessor hardware and software in mechanical systems for data acquisition and control purposes (e.g., robotics, internal combustion engine monitoring systems, and pneumatic controls). Intensive hands-on practical problem solving. Introduction of “mechatronics.”

MCE 460 Fundamentals of Alternative Energy Technology.

3 credit hours.

Prerequisite(s): MCE 310.

Provide an overview/review of thermodynamics. Cover advanced thermodynamics topics of energy and chemical reacting systems. Introduce general areas of alternative energy technology, engineering analysis and design of solar angle/time/radiation, solar heating, solar photovoltaic, and wind power.

MCE 465 Energy Conversion Systems.

3 credit hours.

Prerequisite(s): Senior standing.

This course discusses the challenges of making the global energy system independent of finite fossil-energy sources and, instead, dependent on environmentally sustainable energy sources. The course emphasizes strategies for producing energy that is free of greenhouse-gas emissions, including renewable energy sources such as solar, wind, and biomass. The course focuses on direct energy conversion and covers topics such as photovoltaic cells, fuel cells, and thermoelectric systems.

MCE 467 Fundamental Fuel Cell Systems.

3 credit hours.

Prerequisite(s): CHM 110, Senior Standing.

Introduce various types of fuel cells, materials properties of electrodes and polymeric membranes, and electrochemical mechanisms. Reforming of various types of hydrocarbon fuel to hydrogen, and reforming technology.

MCE 470 Finite Element Methods I.

3 credit hours.

Prerequisite(s): EGR 205, EGR 250.

Introduce finite element methods and review solid mechanics concepts and formalisms, variational methods and potential energy principles. Emphasize the basic understanding of the finite element method including its physical and mathematical principles, numerical procedures and their implementation. Define displacement-based formulations of spring, bar, beam, plane strain and plane stress elements along with isoparametric element formulation, assembly of elements and solution of global stiffness equations.

MCE 475 Mechanics of Composite Materials.

3 credit hours.

Prerequisite(s): EGR 101, MCE 340.

Develop a comprehensive understanding of analytical models of micro-mechanical and macro-mechanical behavior of composite materials. Conduct stiffness, strength, hydrothermal, laminate, viscoelastic, dynamic behavior and fracture analyses. Introduce experimental characterization procedures for mechanical behavior evaluation.

MCE 495 Senior Design Project I.

1 credit hour.

Prerequisite(s): senior standing.

Prerequisite with concurrency: MCE 395.

Involve teamwork on semester-long open-ended design project. Develop design concepts based on various design theories, analyze alternative solutions and identify “best design solution” within given constraints. Students perform patent literature search, design, fabricate, develop and test prototypes. Perform product verification and validation. Require submission of formal progress reports, a final written report and a public presentation.

MCE 496 Senior Design Project II.

3 credit hours.

Prerequisite(s): MCE 495.

Second of a two-semester sequence.

Management (MGT) Courses

MGT 201 Organizational Behavior.

3 credit hours.

Prerequisite(s): None.

Applied issues in management examined through a focus on the organization and its external environment, group functions and processes, and employee attitudes and behaviors.

MGT 301 Advanced Organizational Behavior.

3 credit hours.

Prerequisite(s): MGT 201.

Analysis and application of advanced organizational behavior concepts relevant to managing in a complex and changing environment. Topics include: leading and managing organizational change; solving workplace problems creatively; communicating effectively in a diverse work environment; building and empowering effective teams.

MGT 302 Managing Organizational Structures & Processes.

3 credit hours.

Prerequisite(s): MGT 201.

Analysis of strategic pressures on the organization. Application of advanced concepts of structured organizational change to contemporary organizational design problems.

MGT 370 Human Resource Management I.

3 credit hours.

Prerequisite(s): MGT 201.

Theory, policies, procedures and practices in employment relationships. Topics: strategic HRM, legal environment of HRM, equal employment opportunity, job analysis and design, employment planning, recruitment, selection, training and development, performance appraisal, compensation and benefits, labor relations, health and safety. Managerial and policy implications; linkages between HRM practices and organizational effectiveness.

MGT 401 Strategic Management.

3 credit hours.

Prerequisite(s): MGT 201, Senior Standing.

This course is designed for senior standing learners to develop a holistic understanding of managing a firm in dynamic and uncertain environments. It focuses on the integration and application of concepts and skills acquired in previous business courses, enabling students to formulate and implement strategic decisions effectively.

Through case studies, simulations, and real-world business scenarios, learners will analyze competitive positioning, resource allocation, strategic leadership, and corporate sustainability to drive organizational success. This course serves as a culminating experience, preparing students for leadership roles in business strategy and decision-making.

MGT 420 Project Management.

3 credit hours.

Prerequisite(s): MGT 301 or MGT 302.

Understanding and appreciation of the different knowledge areas of project management. Insight into developing the inputs, tools, techniques, and outputs to successfully manage products.

MGT 470 Human Resource Management II.

3 credit hours.

Prerequisite(s): MGT 370.

In-depth study of contemporary human resource practices. Specific personnel techniques discussed and analyzed through applications.

Marketing (MKT) Courses

MKT 101 Introduction to Business & Sustainability

3 credit hours.

Prerequisite(s): None.

An introductory course on business operations and competitive strategies aimed at giving students a foundational background on the interconnectedness of the business environment and society.

MKT 201 Marketing Management.

3 credit hours.

Prerequisite(s): None.

Planning the marketing program within social, economic and legal environments, market segmentation and behavior, market systems and strategy, international marketing.

MKT 303 Consumer Behavior.

3 credit hours.

Prerequisite(s): MKT 201.

The course relates the theory of consumer behaviour to the practice of marketing. Drawing from psychology and the social and behavioural sciences students will learn about the consumer decision making processes and its influencing factors.

MKT 304 Integrated Marketing Communications.

3 credit hours.

Prerequisite(s): MKT 201.

The course introduces the fundamental principles of Integrated Marketing Communications (IMC). It describes and applies the IMC planning process leading to consistent communications strategy of a brand. Develops an understanding of a range of traditional communication tools as well as digital media. Creates the necessary skills to apply the various communications elements to a brand. Judges the effectiveness of the IMC plan and generates recommendations.

MKT 360 Marketing Research Techniques and Applications.

3 credit hours.

Prerequisite(s): MKT 201.

The ability to effectively plan and manage market research projects as well as conduct basic data analysis is crucial for working effectively in the business world. The course provides a practical understanding of how market research is conducted and managed. Covers the stages of marketing research – from problem definition to the reporting of results – with a particular focus on learning how to use the most common market research tools.

MKT 410 Digital Marketing and Analytics.

3 credit hours.

Prerequisite(s): MKT 303 & MKT 360.

Digital marketing is a rapidly changing field. New media marketing, including social, mobile, and search, is revolutionizing how marketers operate and the skills they need to be successful. Students will explore the power of applying digital concepts across marketing functions and how digital marketing is becoming a driver of marketing

strategy. The course also provides an in-depth treatment of contemporary business analytics/digital tools and systems used to measure, analyze and report digital and non-digital marketing performance. The course looks at a range of open-source and proprietary analytic tools used in social and digital marketing schemes. Additionally, strategic issues pertaining to the use of high-end analytics for assessing marketing campaign efficacy is treated, coupled with frameworks for structured deployment of marketing analytics solutions, and marketing performance reporting.

MKT 440 Strategic Marketing & Sales Management.

3 credit hours.

Prerequisite(s): MKT 303 & MKT 360.

The course delves into issues pertaining to strategic marketing and sales management. A range of professional techniques and tools for managing corporate sales are reviewed. It also develops understanding of how international marketing enhances the global competitiveness of a business. Additionally, through the analysis and evaluation of factors the course explains how marketing makes a business more competitive in dynamic global markets. The course highlights the impact of contemporary issues on marketing management planning, and strategy formulation within a complex business environment. Encouraged to critically evaluate the implications of specific decisions and assess various options in making strategic marketing decisions. Through innovative marketing solutions, in relation to brand and market development, recommend strategic developments to enhance competitive advantage and positioning in relation to fluctuating consumer behaviors.

MKT 460 Advanced Marketing Management.

3 credit hours.

Prerequisite(s): MKT 303 & MKT 360.

Students develop advanced competencies in the application of marketing concepts and methods in the design, evaluation, and implementation of marketing strategy. Students will acquire specific set of core marketing metric skills and competencies to evaluate marketing investment performance and make recommendation from completing set of alternatives to add to a firm's value.

Music (MUS) Courses

MUS 101 Music Appreciation.

3 credit hours.

Prerequisite(s): None.

General Education: Arts & Humanities (AH)

This course is designed to acquaint students with the elements of music and the primary musical periods of traditional Western European classical music. Students will have a brief overview of the major composers and their music through class lectures, listening to musical examples in class, reading the text, listening to musical examples provided on the student CD's or recordings, actively engaging in class discussions, and completing research papers and/or oral presentations pertinent to the course material.

Public Health (PBH) Courses

PBH 100 Public Health.

3 credit hours.

Prerequisite(s): None.

General Education: Social Science (SS)

Provides both an overview of the principles and practice of public health and basic information needed to understand and analyze a variety of individual-level and population-level health problems.

EPI 101 Introduction to Social Epidemiology.

3 credit hours.

Prerequisite(s): None.

General Education: Social Science (SS)

This course provides a foundational exploration of the dynamic interplay between social factors and population health, offering an introduction to the field of social epidemiology. Social epidemiology examines the impact of social, economic, and environmental determinants on patterns of health and disease within populations. Through an interdisciplinary lens, students will gain insight into how social structures, networks, and behaviors contribute to health disparities and shape public health outcomes.

Philosophy (PHL) Courses

PHL 101 Introduction to Philosophy.

3 credit hours.

Prerequisite(s): None.

General Education: Arts & Humanities (AH)

Survey of some major questions that have occupied philosophers throughout history, such as Does God exist? What is a good person? Do we have free will? Is the mind the same as the brain? What can we really know? Course will acquaint students with major figures both historical and contemporary.

PHL 112 Professional Ethics.

3 credit hours.

Prerequisite(s): None.

General Education: Arts & Humanities (AH)

Critical examination of moral issues in the workplace, including: discrimination and preferential treatment, sexual harassment, whistle-blowing, privacy and disclosure, corporate social responsibility.

Physics (PHY) Courses

PHY 120 Physics I.

3 credit hours.

Prerequisite(s): None.

General Education: Natural Science (NS)

This course is required for students specializing in engineering. The following topics will be covered: Kinematics, Dynamics, Energy and Linear Momentum, Rotational Kinematics and Dynamics, Angular Momentum, Solids and Fluids, Harmonic Motion and Oscillations, Temperature and Heat.

PHY 121 Physics I Laboratory.

1 credit hour.

Prerequisite(s): None.

Corequisite: PHY 120.

General Education: Natural Science (NS)

PHY 121 is a one-credit physics laboratory course for engineering majors. Its curriculum includes

laboratory experiments demonstrating the following concepts: Statics, kinematics, dynamics, energy and linear momentum, rotational kinematics and dynamics, angular momentum, solids and fluids, vibrations and wave motion, thermodynamics.

PHY 122 Physics II.

3 credit hours.

Prerequisite(s): PHY 120.

General Education: Natural Science (NS)

It is a physics course for students majoring engineering. The course will target the basics concept and laws of electricity and magnetism. The following topics will be introduced: Coulomb's law, electric Field, Gauss's law, electrical potential, equipotential surfaces, capacitors, capacitors in series and in parallel connection, Ohm's Law, resistance, resistivity, electrical energy and power, resistors in series and in parallel connection, Kirchhoff's law, magnetic field, magnetic force, motion of charged particle in magnetic field, Biot-savart law, Ampere's law, solenoids, toroid, Faraday's law, Lenz's law, motional E.M.F, induced electric field, electric generators, inductance, energy in a magnetic field and Maxwell's equations.

PHY 123 Physics II Laboratory.

1 credit hour.

Prerequisite(s): None.

Corequisite: PHY 122.

General Education: Natural Science (NS)

This lab course helps students to complement and strengthen the theoretical knowledge obtained in the physics course by conducting experiments in the laboratory. In this lab course, the experiments related to electricity and magnetism are mostly covered. This includes topics such as electric charge and field, resistance, capacitance, analysis of simple DC circuits, electromagnetic induction, AC circuits and some experiments related to electromagnetic waves.

PHY 150 Introduction to Astrophysics.

3 credit hours.

Prerequisite(s): None.

General Education: Natural Science (NS)

This course is an introductory course for all students who

want to learn more about our universe. The course is taken by the students to satisfy their general elective requirement in their university curriculum. This course provides all the necessary information in astronomy. The student will identify the different kinds of planets in our solar system, stars (types and formation), Galaxies, black holes, how we know that our universe is expanding, Big Bang theory. The student will be able to interpret H-R diagrams and relate it to our universe.

Political Science (PSC) Courses

PSC 100 Introduction to Political Science.

3 credit hours.

Prerequisite(s): None.

General Education: Social Science (SS)

Introduction to the scope and method of political science. Overview of politics, political systems, nature and role of political institutions. Empirical political theory; practice in conducting political research.

PSC 110 Introduction to International Relations.

3 credit hours.

Prerequisite(s): None.

General Education: Social Science (SS)

This is an introductory course on international politics, foreign policy and the relations between actors in the global political system. The main objective of this course is to expose students to the basic concepts, approaches, and decision-making processes, and have them think deeply and systematically about patterns of relationships on the international level.

Psychology (PSY) Courses

PSY 101 Introduction to Psychology.

3 credit hours.

Prerequisite(s): None.

General Education: Social Science (SS)

Introduction to the science of human cognition and behavior. Psychological principles, concepts, and theories of human thought and action.

PSY 201 Health Psychology.

3 credit hours.

Prerequisite(s): None.

General Education: Social Science (SS)

Discusses theories and research results on health and health behavior, like eating, exercising, sleeping, managing stress and symptoms. Applies health behavior to different aspects of social, personal and professional life.

General Education: Arts & Humanities (AH)

Theatre Appreciation is designed to introduce non-theatre major students to a general survey of dramatic principles and theatrical conventions. The course content is designed to increase the student's awareness of the performing arts and their impact on society. The major fields of dramatic art are examined through historical perspective, the functions of theatre personnel, and practices of the contemporary stage.

Sociology (SOC) Courses

SOC 101 Understanding Human Society.

3 credit hours.

Prerequisite(s): None.

General Education: Social Science (SS)

Sociology is the study of society and social relationships and is an excellent major for anyone interested in social issues or the dynamics of social interaction. Training in sociology allows students to look beyond individuals and consider and analyze how social and historical forces shape human interactions. Sociology is a very broad field; students can study topics such as race and ethnicity, health, gender, international development, the economy, politics, labor, and religion. Sociology is relevant for any career that involves social interactions.

SOC 150 Digital Sociology and Society.

3 credit hours.

Prerequisite(s): None.

General Education: Social Science (SS)

Explore the impact of digital technologies on social behavior, relationships, and institutions. Topics include social media culture, online communities, digital inequalities, and how technology shapes contemporary social norms.

Theatre (THR) Courses

THR 101 Theatre Appreciation.

3 credit hours.

Prerequisite(s): None.



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