General Chemistry I (CHEM 101):	General Chemistry I (CHEM 101) is a four-hour credit course that introduces students to atomic structure, quantum theory, and the periodic table, chemical bonding, reactions in aqueous solutions, physical properties of solutions, properties of gases, thermochemistry, and electrochemistry.
General Physics I (PHY 101):	General Physics I (PHY 101) is a four-hour credit course that introduces students to the basic's laws, principles, and equations in the field of physics and their applications in real-life scenarios. Students will study laws of motion and their associated concepts and principles, and apply such information to solve problems pertaining to physics. Students will conduct and interpret lab experiments and results while gradually improving their proportional reasoning, estimation abilities, and graphing skills.
Calculus I (MA 101):	Calculus I (MA 101) is a four-hour credit course that emphasizes prime topics of differential calculus, including limits and continuity of functions of a single variable; derivatives, and differentiation techniques. In this course, first (second) order derivatives are applied to problems dealing with related rates, linear approximations, functions' behavior, extreme values, and optimization; the Newtonian method of approximate root calculation; Rolle's and Mean-Value theorems; curve sketching.
Introduction to Academic Discourse (ESP 101):	Introduction to Academic Discourse (ESP 101) is a three-hour credit course. It aims to provide students with the necessary academic reading, writing, and vocabulary skills to produce and critique a variety of discourses. Specifically, students will write process, cause and effect, compare and contrast, and opinion paragraphs about relevant engineering topics. Further, students will be taught the skills to meaningfully engage with several genres such as journal articles, encyclopedias, magazines, newspapers, and other digital genres. Meaningful engagement includes traits as critical understanding, argumentation, causal analysis, and skills such as gathering ideas, drafting, and proofreading different types of texts.
Practical Grammar (ARB 101):	Practical Grammar (ARB 101) is a two-hour credit course that aims at improving students' linguistic production. Students will be introduced to grammatical rules that will enhance the cohesion and coherence of their output. Further, students will analyze text stylistics with the goal of improving text quality.

Health and Physical Education (HPE 101):	Heath and Physical Education (HPE 101) is a one-hour credit course. It aims to provide students with practical exercises for the purpose of enhancing their overall health and physical ability while focusing on necessary aspects of values, autonomy, and responsibility.
General Physics II (PHY 102):	General Physics II (PHY 102) is a four-hour credit course. It introduces the topics of wave motion and sound, temperature, first and second laws of thermodynamics, kinetic theory of gases, Coulomb's law, electric and magnetic fields, Gauss' law, electrical potential, capacitors and dielectrics, and D.C. circuits, Ampere's and Faraday's laws by linking them to everyday life scenarios.
Calculus II (MA 102):	Calculus II (MA 102) is a four-hour credit that is a continuation of Calculus I. This course teaches an introduction to integral calculus. The topics include The Fundamental Theorem of Calculus, techniques of integration of functions of a single variable, arc length, areas, volumes, and improper integration. Sequences and series: convergence tests, integral, comparison, ratio, and root tests. Alternating series. Absolute and conditional convergence. Power series. Taylor and Maclaurin series.
Introduction to Report Writing (ESP 102):	Introduction to Report Writing (ESP 102) is a three-credit hour course. The course aims at enabling students to write a variety of reports that are found in the workplace and academic contexts. Specifically, students will be introduced to the writing of long (formal) and short reports alongside the use of graphical representations and appropriate referencing styles. Further, students will be introduced to the basics of data collection, data exploration and analysis, and data graphical representation.
Objective Writing (ARB 102):	Objective Writing (ARB 102) is a two-hour credit course. The course aims to introduce students to objective writing in essays, reports, assessments, summaries, scientific research, and administrative writing in the Arabic language.
Belief and Its Consequences (ISL 101):	Belief and its Consequences (ISL 101) is a two-hour credit course. The course explains the roots of the right faith, special characteristics of the Islamic faith, Islamic description of the universe, human beings and life, and reasons for increasing the faith.

Introduction to Programming (CSE 101):	Introduction to Computer Programming (CSE 101) is a two-hour credit course. This course introduces students with basic programming concepts. The topics covered in this course include basic program constructs: variables, assignments, expressions, decision structures, looping, functions, lists, files and exceptions; Introduction to objects and classes, and pointers.
Calculus III (MA 201):	Calculus III (MA 201) is a three-hour credit course that is a continuation of Calculus II. This course explores multi-dimensional calculus. It introduces various topics including parametric equations and polar coordinates, parametric and polar curves in a plane, area in polar coordinates, three-dimensional coordinate systems, vectors, equations of lines and planes, quadric surfaces, functions of several variables, partial derivatives, directional derivatives, extrema of functions of several variables, double integrals in rectangular and polar coordinates, and triple integrals in rectangular coordinates.
Probability and Statistics for Engineers (MA 202):	Probability & Statistics for Engineers (MA 202) is a three-hour credit course that introduces students to the basic applications of probability and statistics in engineering and sciences. It covers topics related to the nature of probability and statistics, frequency distributions and graphs, measures of central tendency, measures of variation, probability and counting rules, random variables and probability distributions, central limit theorem and confidence intervals, hypothesis testing, and correlation and regression.
Academic and Professional Communication (ESP 201):	Academic & Professional Writing (ESP 201) is a three-hour credit course. The course introduces students to oral and written communication applied in academic and professional settings. Students will prepare and deliver presentations and participate in meetings while applying effective communication strategies. Further, students will write memos, letters, meeting minutes, cover letters, and resumes.
Mechanical Engineering Drawing and Graphics (ME 201):	Mechanical Engineering Drawing and Graphics (ME 201) is a two-hour credit course. The course introduces the principles and interpretation of orthographic projections, including auxiliary views, sectional views, dimensioning, and translation of design instructions into detail and assembly drawings. In addition, the course includes engineering drawing conventions and symbols, including weldments, piping and instrumentation diagram symbols, surface finish notation, and a selection of tolerances.

Mechanical Engineering Drawing and Graphics Lab (ME 202):	Mechanical Engineering Drawings and Graphics Lab (ME, 202) is a one-hour credit course. Students are introduced to a computer laboratory to apply principles of orthographic projections, including auxiliary views, sectional views, dimensioning, and translation of design instructions into detail and assembly drawings. In this course, students apply engineering drawing conventions and symbols, including weldments, piping and instrumentation diagram (P&ID) symbols, surface finish notation, and selection of tolerances based on design requirements.
Statics (ME 203):	Statics (ME, 203) is a three-hour credit course. In this course, students introduce to the fundamental concepts and principles of statics. It covers general principles, force vectors, equilibrium of particles, force system resultants, equilibrium of a rigid body, structural analysis, internal forces, friction, the center of gravity and centroid, moment of inertia, and virtual work.
Thermodynamics I (ME 204):	Thermodynamics I (ME 204) is a three-hour credit course. In this course, students are introduced to the concepts and theories of thermodynamics and their applications. The course covers basic concepts, energy, pure substance, closed system, mass, and energy analysis of control volumes. Also, it introduces the concept of the 2'd law of thermodynamics and exergy.
Elements of Differential Equations (MA 203):	Elements of Differential Equations (MA 203) is a three-hour credit course that introduces students to the basics of ordinary differential equations and their applications. The topics introduced include techniques for solving first-order differential equations, such as linear equations, separable equations, exact equations, integrative factors, and homogeneous and non-homogeneous linear differential equations with constant and variable coefficients. Also, it includes higher-order linear differential equations, series solutions, undetermined coefficients, annihilator approach, and reduction of order.
Introduction to Data Science (CSE 201):	Introduction to Data Science (CSE 201) is a three-hour credit course. This course to data science techniques and applications for practical engineering problems. Topics cover statistics, linear algebra, and optimization from a data science perspective.
Professional Ethics (ISL 201):	Professional Ethics (ISL 201) is a two-hour credit course. In this course, students will learn about the concept of ethics, their status in Islam, how ethics related to faith, worship, and relations, management morals, and positive

	work ethics. Students also will learn about the most important professional violations, and ways of dealing with such violations, and see related examples from the Saudi labor system.
Materials Science and Engineering (ME 205):	Materials Science and Engineering (ME 205) is a three-hour credit course. The course covers the fundamental concepts and theories of materials science and engineering. Topics include atomic structure and interatomic bonding, the structure of crystalline solids, imperfections in solids, diffusion, mechanical properties of metals, dislocations and strengthening mechanisms, failure, phase diagrams, phase transformations, applications and processing of metal alloys, structures and properties of ceramics, applications, and processing of ceramics, and polymer structures, and characteristics, applications, and processing of polymers.
Materials Science and Engineering Lab (ME 206):	Materials Science and Engineering (ME, 206) is a one-hour credit course. This course covers laboratory experiments related to the fundamental concepts and theories of materials science and engineering. The course includes lab experiments such as tensile tests, hardness, fatigue, heat treatment, creep, and impact.
Dynamics (ME 207):	Dynamics (ME, 207) is a three-hour credit course. In this course, students introduce the fundamental concepts and principles of dynamics. It covers the kinematics of particles, force & acceleration, work & energy in particles, impulse & momentum in particles, planar kinematics of a rigid body, and planar kinetics of a rigid body.
Thermodynamics II (ME 208):	Thermodynamics II (ME 208) is a three-hour credit course. The course covers applications of thermodynamics principles to design and optimize thermal systems. Topics include gas power cycles, vapor and combined power cycles, refrigeration cycles, thermodynamics property relations, gas-vapor mixtures and air-conditioning, chemical reactions, and chemical and phase equilibrium.
Introduction to Artificial Intelligence (CSE 301):	Introduction to Artificial Intelligence (CSE 301) is a three-hour credit course. This course introduces students to state of the art of artificial intelligence in the modern world, fundamental issues, searching strategies, knowledge representation & reasoning, basic machine learning, reasoning under uncertainty, and neural networks.

Literary Styles (ARB 201):	Literary Styles (ARB 201) is a two-hour credit course. The course aims to develop the linguistic communication skills that the student needs in their practical and professional career, which contributes to raising their expressive abilities, and competence in mastering communication skills such as speaking delivering, persuading, and good dealing with others.
Electrical Engineering Principles and Applications (EE 331):	Electrical Engineering Principles and Applications (EE, 331) is a three-hour credit course. The course covers electrical engineering fundamentals of and its applications to the mechanical engineering field. Topics include circuit analysis, digital systems, electronics, electric drives, and electromechanical control.
Electrical Engineering Principles and Applications Lab (EE 332):	Electrical Engineering Principles and Applications Lab (EE 332) is a one-hour credit course. This course covers lab experiments for electrical engineering fundamentals and their applications.
Mechanics of Materials (ME 301):	Mechanics of Materials (ME 301) is a three-hour credit course. In this course students introduce to concepts and theories of mechanics of materials. Topics include mainly focused on deformable body mechanics, material behavior, and geometry of deformation.
Fluid Mechanics (ME 302):	Fluid Mechanics (ME 302) is a three-hour credit course. The students are introduced to fluid mechanics concepts and theories and their applications. The topics include an introduction to fluid mechanics, fluid properties, fluid statics, Bernoulli equation and pressure variation, control volume approach and continuity equation, dimensional analysis, and similitude, viscous flow over a flat surface, flow in conduits, drag and lift, compressible flow, flow measurements, and introduction to turbomachinery, flow in open channels and modeling of fluid dynamics.
Manufacturing Processes (ME 303):	Manufacturing Processes (ME 303) is a three-hour credit course. In this course, students are introduced to concepts and principles of manufacturing processes. Topics include an introduction and overview of manufacturing, engineering materials and product attributes, solidification processes, particulate processing of metals and ceramics, metal forming and sheet metalworking, material removal processes, property enhancing and surface processing operations, joining and assembly processes, special processing and assembly technologies, and systems topics in manufacturing.

Manufacturing Processes Lab (ME 304):	Manufacturing Processes Lab (ME 304) is a one-hour credit course. This course covers laboratory experiments related to manufacturing processes such as metal cutting, welding, and CAD CAM technology.
Numerical Methods for Engineers (MA 301):	Numerical Methods for Engineers (MA 301) is a three-hour credit course. This course covers topics of roots of equations, systems of linear algebraic equations, numerical differentiation and integrations, interpolation, least squares and regression analysis, numerical solutions of ordinary and partial differential equations, and introduction to error analysis.
Business and Entrepreneurship (MS 301):	Business and Entrepreneurship (MS 301) is a two-hour credit course. This course introduces the basics of business and entrepreneurship. The course focuses on identifying and evaluating business opportunities, developing business plans, and how to finance, fund, and manage a business.
Human Rights in Islam (ISL 301):	Human Rights in Islam (ISL 301) is a two-hour credit course. Through the course, the student will learn about honoring the human being, the concept of human rights and its advantages in Islam, the basic human rights in Islam, and suspicions about human rights in Islam.
Machine Design (ME 305):	Machine Design (ME 305) is a three-hour credit course. In this course, students are introduced to concepts and principles of machine design. Topics include Introduction to mechanical engineering design, materials properties and materials selections, failure theories, design and analysis of a wide variety of machine elements, and special topics in design.
Mechanical System Design Lab (ME 306):	Mechanical System Design Lab (ME 306) is a one-hour credit course. This course covers case studies and practical topics related to machine design, such as using engineering and research tools to study or solve engineering problems.
Heat Transfer (ME 307):	Heat Transfer (ME 307) is a three-hour credit course. In this course, students are introduced to concepts and principles of heat transfer and its applications. Includes Introduction to heat transfer, theories related to different methods of the heat transfer mechanism, and application of heat exchangers.

Thermo-Fluid Lab (ME 308):	Thermo-Fluid Lab (ME 308) is a one-hour credit course. This course covers the laboratory topics related to thermodynamics, fluid mechanics, and heat transfer.
Design Project I (ME 300):	Design Project I (ME 300) is a two-hour credit course. The course is the first part of the capstone design course. The students emphasize initializing a project or a research idea and forming a team to start integrating the gained engineering knowledge and skills in addition to the values to develop a solution or research real-world engineering problems.
System Dynamics and Control (ME 401):	System Dynamics and Control (ME 401) is a three-hour credit course. The course introduces students to system dynamics and controls concepts and principles. The topics covered include an introduction to dynamical systems and control, modeling of engineering systems, standard models for dynamic systems, numerical simulation of dynamic systems, an analytical solution of linear dynamic systems, system analysis using Laplace transforms, frequency-response analysis, an introduction to control systems, and case studies.
Measurements and Control Lab (ME 402):	Measurements and Control Lab (ME 402) is a one-hour credit course. The course covers case studies and practical topics related to system dynamics and control such as using engineering and research tools to study or solve engineering problems.
Design Project II (ME 400):	Design Project II (ME 400) is a two-hour credit course. The course is the continuation of the capstone design course ME 300 Design Project I. The students will progressively implement and complete their projects in this course based on the planned schedule.
Internship (ME 490):	Internship (ME 490) is a six-hour credit course. This course is a period of 12 weeks of industrial employment followed by 2 weeks of overall evaluation.
Composite Materials (ME 403):	Composite Materials (ME 403) is a three-hour credit course. This course introduces students to the basics of Composite Materials. Topics include basic concepts, materials for reinforcements and matrix, micro and macro and ply mechanics, Manufacturing processes, and Failure criteria.

Engineering Design Optimization (ME 404):	Engineering Design Optimization (ME 404) is a three-hour credit course. This course introduces students to concepts and procedures of engineering design optimization. Topics cover the formulation of optimization problems, optimization concepts using the graphical method, optimality conditions for unconstrained and constrained problems, use of engineering tools for optimum design of practical problems, linear programming, and numerical methods for unconstrained and constrained problems.
Energy Conservation and Management (ME 405):	Energy Conservation and Management (ME 405) is a three-hour credit course. The course covers the principles and concepts of energy conservation and management. Topics include energy accounting, energy audit, economics, efficiencies, and environmental aspects of energy sources, renewable energy, and other advanced energy topics.
Power Plant Engineering (ME 406):	Power Plant Engineering (ME, 406) is a three-hour credit course. The course covers the thermal, chemical, economic, and environmental analysis of different thermal power plant technologies.
Turbomachinery (ME 407):	Turbomachinery (ME, 407) is a three-hour credit course. The course introduces students to the principles and concepts of turbomachinery. Topics include the interaction between the working fluid and the structure, efficiencies and losses, and jet propulsions and their applications.
Production Planning and Control (ME 408):	Production Planning and Control (ME 408) is a three-hour credit course. The course covers the principles and concepts of production planning and control. Topics include fundamentals of planning and control, forecasting, sales and operation planning, master scheduling, inventory management, material requirement planning (MRP), and capacity management.