Tarsus University
Faculty of Aeronautics and Astronautics
Aerospace Engineering

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Course Content Report

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
OD 107	CAREER PLANNING	1	0	0	1.00	2.00	Compulsory

Course Content

Methods and Tools Used in Professional Applications, and the Skill to Utilize Them Effectively; Practical Assignments; Relationships with Career Centers; Activities Offering Opportunities for Students to Enhance Their Skills; Practical Experiences Supporting Students' Skill Development.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
OD 113	TURKISH I	2	0	0	2.00	2.00	Compulsory

Course Content

Definition of language, its characteristics, relations between language-nation / language-thought and language-culture. Language in the world; the place and importance of Turkish among them and its historical development. Ataturk's language revolution, concept and works. Sounds in Turkish. Phonology of Turkish. Spelling rules and application. Punctuation rules and application. Vocabulary. Productiveness of Turkish.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
TM 101	PHYSICS I	3	1	0	3.50	5.00	Compulsory

Course Content

This course includes these topics: units and physical quantities, vectors, motion in one or two dimensions, force, laws of conservation of work and energy, potential energy, circular motion, static equilibrium etc.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
TM 107	GENERAL CHEMISTRY	3	1	0	3.50	5.00	Compulsory

Course Content

In this course, students will learn basic chemistry knowledge and will be able to perform chemical scale calculations with this information. They will also have detailed information about the compound types and their behavior.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
TM 105	MATHEMATICS I	4	0	0	4.00	5.00	Compulsory

Course Content

This lesson includes the following subjects; limit and continuity, derivative and applications of derivative, integral and integral applications.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
OD 117	ADVANCED ENGLISH I	3	0	0	3.00	4.00	Compulsory

Course Content

This course includes the subjects to provide all four English skills in an academic level.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 101	INTRODUCTION TO AERONAUTICAL ENGINEERING	2	0	0	2.00	3.00	Compulsory

Course Content

This course will cover: the historical progress of Aerospace in Turkiye and globally; Atmosphere, Aerostatic Lift; Introducing the Aircraft and the Helicopter; Aircraft and Helicopter Types and Categories; Fundamental Components of Aircraft and Helicopters; Forces acting on the Aircrafts and the Helicopters; Aerodynamic Drag and Aerodynamic Lift Forces; Wings, Fuselage, Tail surfaces, Control Surfaces; Power Units: Engine, Rotor, Propeller, Landing Gears; Aircraft Systems: Avionics; Unmanned Aerial Vehicles.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 103	COMPUTER AIDED ENGINEERING DRAWING I	2	2	0	3.00	4.00	Compulsory

Course Content

The course include topics such as: blocks, library creation, isometric and 3D drawings isometric ellips drawings, the application of view extraction from perpective as well as perspective drawings from view, wire cage modeling system, introduction to surface modeling.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
OD 118	ADVANCED ENGLISH II	3	0	0	3.00	4.00	Compulsory

Course Content

This course includes effective writing techniques, oral communication skills, listening and reading skills, and vocabulary studies.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 102	INTRODUCTION TO ASTRONAUTICAL ENGINEERING	2	0	0	2.00	2.00	Compulsory

Course Content

Space overview, general astronomy and astrophysics, structures of space, introduction to general theory of relativity, astrodynamics, orbital mechanics, satellites, rockets, spaceships, space propulsion, space robotics, space missions, space communication, spacecraft materials.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 104	COMPUTER AIDED ENGINEERING DRAWING II	2	2	0	3.00	4.00	Compulsory

Course Content

The course consists of topics such as modeling and design of machine parts through computers, and techniques that is used by current softwares.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 106	STATICS	3	0	0	3.00	4.00	Compulsory

Course Content

The course includes: general principles, fundamental concepts, SU units, Newton`s laws, force vectors, scalar and vectorel quantities, vector calculus, components of force, moment concept, couple, equivalent systems, balance of rigid bodies, free body diagrams, balance equations, friction, carrier systems, cage systems, inertial moment, parallel axis theorem, center of gravity and mass, inertial moment of bounded shapes, shear forces and beding moment.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 108	COMPUTER PROGRAMMING	2	1	0	2.50	4.00	Compulsory

Course Content

This course covers basic MATLAB commands, conditional statements, loops and loop creation, functions, 2D and 3D graphics, data visualization, data analysis, and Simulink topics.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
OD 114	TURKISH II	2	0	0	2.00	2.00	Compulsory

Course Content

Expression disorders, types of written expression, thoughts, artistic writing, types of correspondence, types of verbal expression.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
TM 102	PHYSICS II	3	1	0	3.50	5.00	Compulsory

Course Content

This course includes these topics: electric charges, electric fields, electric potential, capasitors, current and resistance, direct-current circuits, magnetic fields, sources of magnetic field, inductance, alternative-current circuits etc.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
TM 106	MATHEMATICS II	4	0	0	4.00	5.00	Compulsory

Course Content

This course includes sequences, series and applications, vectors, limit, continuity and derivative, direction derivatives and multiple integrals in multivariable functions etc.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
TM 201	DIFFERENTIAL EQUATIONS	3	0	0	3.00	5.00	Compulsory

Course Content

The content of this lesson; solution methods of first order differential equations, linear differential equations and solution methods of systems, laplace and inverse laplace transforms.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 201	STRENGTH OF MATERIALS I	3	0	0	3.00	5.00	Compulsory

Course Content

The course covers: Fundamental Principles and Categorisation; Internal Forces; Hypotheses in Strength of Materials, Effects of beam cross section and beam cross section diagrams, Deformation under stress, Hook Laws, Moment of Inertia, Fundamental concepts: normal force, shear force, torsional moment, straight and curvature bending, Investigation of elastic deformations.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 203	THERMODYNAMICS I	3	0	0	3.00	5.00	Compulsory

Course Content

Main principles of thermodynamics, measurement methods of pressure and temperature, temperature scales, zeroth law of thermodynamics, Pure substance ,phase-change processes, The ideal gas equation ,Heat and Work, The first law of thermodynamics analysis of closed and opened systems, The second law of thermodynamics and Entropy.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 205	MATERIALS SCIENCE	3	0	0	3.00	5.00	Compulsory

Course Content

Atomic structure and properties of solid materials, lattice structure, defects, phase diagrams, mechanical, electrical and thermal properties of materials, alloys, production and characterization techniques

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 207	FUNDAMENTALS OF ELECTRICITY AND ELECTRONICS	3	0	0	3.00	3.00	Compulsory

Course Content

Basic Electrical concepts, Alternating current (AC) and Direct current (DC) voltage and current sources (dependent and independent), Ohm's law, Kirchhoff's laws, Resistors (R), Capacitors (C) and Coils (L), RLC circuits, AC and DC electrical circuit analysis methods (superposition, environmental currents method, node currents method, Thevenin and Norton theorem), semiconductor circuit elements (diodes, transistors, thyristor, triac and diac), Operation Amplifiers (Op-Amp), Various electronic circuit applications (diode, transistor, triac and Op-Amp applications, rectifier and amplifier circuits).

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 209	DYNAMICS	3	0	0	3.00	5.00	Compulsory

Course Content

Introduction into Engineering Mechanics-Dynamics. Basic quantities and units. Newton’s laws of motion and law of gravitation. Kinematics of particle. Rectilinear motion and basic kinematic quantities: position, displacement, velocity and acceleration. Special cases of rectilinear motion of particle: motion with constant velocity and motion with constant acceleration. Dependent rectilinear motions. Curvilinear motion of particle: position vector, velocity and acceleration. Free flight of a projectile. Tangential and normal components of acceleration. Radial and transvers components of velocity and acceleration.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 211	TECHNICAL ENGLISH	2	0	0	2.00	2.00	Compulsory

Course Content

1. Introducing the student to the publicly accessible Academic Journals in Aerospace and related fields. 2. Reading, translation, analysis and in-the-class presentation of a selected scientific or a technical publication. 3. Class Discussion of the selected article. 4. Writing of a sample article and its presentation.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 202	STRENGHT OF MATERIALS II	3	0	0	3.00	5.00	Compulsory

Course Content

This course covers the following main topics: Combined strength states, Stress transformations, Shape deformations, Failure criteria, Design of beams and shafts, Collapse of beams and shafts, Buckling, Energy Methods etc.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 204	THERMODYNAMICS II	3	0	0	3.00	5.00	Compulsory

Course Content

Entropy, second law of thermodynamics for closed and open systems. Calculation of availability and irreversibility. The second law efficiency of thermodynamic systems. The third law of thermodynamics. Application of steam engines, gas power cycles and cooling machine cycles. First and second law analysis.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 206	FLUID MECHANICS I	3	0	0	3.00	4.00	Compulsory

Course Content

Fundamental Concepts of Fluid Mechanics, Properties of Fluids, Pressure Distribution in Fluids and Fluid Statics, Conservation Relations for Finite Control Volumes, Bernoulli's Principle, Conservation Relations for Infinitesimal Control Volumes

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 208	AUTOMATIC CONTROL I	3	1	0	3.50	5.00	Compulsory

Course Content

Introduction to automatic control systems: brief history of automatic control. Classification of control systems, principles of control. Feedback inteconnection diagram. Open loop and closed loop systems. Laplace transform method. Properties of Laplace transforms. Block diagrams and transfer functions. First and second order systems. Time domain analysis of control systems: time responses. Quality and speed of the response characteristics of systems. The concept of stability: stability analysis of linear feedback control systems. Routh Hurwitz stability criterion. The root locus method and its procedures. Control system design and analysis examples.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 210	BUSINESS ENGLISH	2	0	0	2.00	2.00	Compulsory

Course Content

This lesson contains topics such as reading and vocabulary studies, dialogs, e-mail, reports, telephone communication examples and patterns etc.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
TM 202	ENGINEERING MATHEMATICS	3	0	0	3.00	5.00	Compulsory

Course Content

This course includes matrices and linear systems, determinants, complex numbers and functions, complex integration topics etc.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
TM 204	NUMERICAL ANALYSIS	3	0	0	3.00	4.00	Compulsory

Course Content

This lesson contains solution methods of nonlinear equations, methods of numerical integral calculation, etc.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 301	AERODYNAMICS	3	2	0	4.00	5.00	Compulsory

Course Content

Aerodynamic Forces and Moments, Center of Pressure, Aerodynamic Center, Viscous and Inviscid Flow, Finite Volume and Infinitesimal Volume Approximations in Fluid Mechanics, Governing Equations of Fluid Mechanics, Stream Function, Circulation and Velocity Potential Concepts, Bernoulli Equation and Its Application, Velocity Measurement with Pitot Tube, Pressure Coefficient, Approximate Solutions of Navier-Stokes Equations, Kutta-Joukowski Theorem, Airfoil Definitions, Airfoil Characteristics, Lift Force Calculations for Cambered and Symmetric Airfoils, Effects of Load Distribution on Finite Wings, Load Distribution Calculations and Lift Force Calculations on Finite Wings

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 303	FLIGHT MECHANICS	3	0	0	3.00	4.00	Compulsory

Course Content

Aerodynamics; propulsion; vertical plane flight; takeoff, climb, cruise, descend, and landing flight phases; turning flight; flight and maneuvering envelopes; energy methods; maximum range and endurance; wind effects on performance

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 305	AEROSPACE STRUCTURES	3	0	0	3.00	4.00	Compulsory

Course Content

Design of Aerospace Structures, Proper Material Selection, Loads and Stresses on Aerospace Structures, Aircraft and Spacecraft Manufacturing, Safety Issues, Design Choices, Preliminary Design Solutions.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 307	MEAUREMENT TECHNIQUES	3	0	0	3.00	3.00	Compulsory

Course Content

The course includes topics including quality, measurement techniques, tolerances, specifications, calibrations, statistical process control, measurement tools and metrics.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 309	FLUID MECHANICS II	3	0	0	3.00	4.00	Compulsory

Course Content

Dimensional Analysis and Similarity, Internal Flow, Hydraulics of Pipe Networks, Flow and Boundary Layers Around Solid Surfaces, Turbomachinery.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 311	AUTOMATIC CONTROL II	2	1	0	2.50	3.00	Compulsory

Course Content

1. Mathematical description of linear multivariable systems in continuous time. 2. Concepts of controllability, observability and stability. 3. Description of disturbances, perturbations and their effects. 4. Modelling disturbances and sensor noises. 5. Sensitivity and Complementary Sensitivity functions and their interpretation. 6. Controller synthesis using Hinfinity and Linear quadratic theory. 7. Controller analysis in the frequency domain (Bode, Nyquist and Nichols charts). 8. Limitations on Performance in SISO dynamical systems.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 302	COMPRESSIBLE AERODYNAMICS	4	0	0	4.00	5.00	Compulsory

Course Content

Fundamentals of compressible fluid dynamics and application to external and internal flows. Quasi-one-dimensional channel flow, extensions, and analysis of multi-dimensional flows in nozzles, diffusers, and inlets. Forces, moments, and loss generation resulting from compressible fluid flow interactions with aerodynamic shapes in subsonic, supersonic, transonic, and hypersonic flight, shock waves, and vortices. Disturbance behavior in unsteady compressible flow.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 304	FLIGHT STABILITY AND CONTROL	3	0	0	3.00	5.00	Compulsory

Course Content

Fundamental definitions of flight mechanics, control and control surfaces. Aircraft static and dynamic stability- stability derivatives. Static longitudinal and lateral stability. Aircraft longitudinal and lateral equations of motion. Nonlinear dynamic equations. Linearization of equations. Aircraft's longitudinal and lateral dynamics representation as transfer functions. Longutinal and lateral modes of motion. Transient response of aircraft dynamics. General structure of flight control systems. The types of autopilots and their design. Classical, Modern and Robust control system design approaches. Multi-loop design techniques: inner and outer loop concepts. Use of numerical software package Matlab and its simulation tool Simulink in the simulation and analysis of aircraft dynamics and design of aircraft autopilots.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 306	EXPERIMENTAL ENGINEERING	1	2	0	2.00	3.00	Compulsory

Course Content

Fundamental measurements and sensing devices used in engineering, including measurements of strength, wear, flow, discharge, and signaling.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 308	HEAT TRANSFER	3	0	0	3.00	4.00	Compulsory

Course Content

General definitions and Concepts / Fourier’s Law of Heat Conduction / Heat Conduction Differantial Equation and Temperature Distrubitions / One Dimensional Heat Conduction and Multilayer Walls / Transient Heat Transfer / Fundamental Convection Equations / Boundary Layer / Forced Convection ,Internal Flows ,External Flows ,Tube Bundles / Naturel Convection / Fundamentals of Boiling and Condensation / Heat Exchangers / Radiation

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 310	INTRODUCTION TO PROPULSION SYSTEMS	3	0	0	3.00	5.00	Compulsory

Course Content

Introduction to air-breathing jet propulsion systems; Thermodynamics review; Compressible flow; Ideal engine cycle analysis (parametric cycle analysis and engine performance analysis); Engine components; Non-Ideal engine cycle analysis; Rocket and electric propulsion

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 401	AIRCRAFT DESIGN I	2	4	0	4.00	8.00	Compulsory

Course Content

1. Formulation of requirements for preliminary sizing 2. Evaluation of the design requirements 3. Trade-off studies with aircraft designed to comparable requirements 4. Selection of an Aircraft Configuration 5. Selection of a Propulsion System 6. Application of Preliminary Sizing Method

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 403	ASTRODYNAMICS	2	2	0	3.00	6.00	Compulsory

Course Content

This course covers the fundamentals of Astrodynamics, two-body problems, orbit determination, classical orbital elements, Kepler's problem, Lambert's problem, orbital maneuvers, relative motion and orbital rendezvous, interplanetary orbits, atmospheric entry.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 405	ROCKET PROPULSION	3	0	0	3.00	6.00	Compulsory

Course Content

Rocket Engine Basics. Nozzle Mechanics. Heat transfer. Cooling. Liquid Rocket Engines (thermodynamics, common propellant combinations, engine cycles, turbomachinery design). Control of Rockets. Orbital Mechanics.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
OD 111	ATATURK PRINCIPLES AND HISTORY OF TURKISH REVOLUTION I	2	0	0	2.00	2.00	Compulsory

Course Content

Atatürk’s Principles and Revolution History-I expresses the historical conditions of Turkish Revolutions and includes purpose and meaning of the revolution.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
OD 112	ATATURK PRINCIPLES AND HISTORY OF TURKISH REVOLUTION II	2	0	0	2.00	2.00	Compulsory

Course Content

The course of Atatürk's Principles and History of Turkish Revolution-II includes political, economical, cultural, social developments during the historical process from the foundation of Turkish Republic up to now. It deals with the changes that Turkey has experienced by being predicated on the important turning points of our recent history. The principles of Atatürkist thought and Atatürkism as a modern thought are included to the course content properly according to the aim of the course.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 402	AIRCRAFT DESIGN II	2	4	0	4.00	8.00	Compulsory

Course Content

1. Drawing and scaling of the aircraft fuselage. 2. Definition of the wing parameters, number, size and position of the ailerons. 3. Calculation of lift coefficients and lift. 4. Design of a horizontal and vertical tails. 5. Design of elevators and rudder. 6. Calculation of aircraft mass and position of the center of gravity. Assessment of center of gravity position. 7. Stability and Control Analysis. 9.Calculation of polar for cuise flight, L/D ratio, fuel mass, take-off mass. Evaluation of calculated parameters. 11. Aircraft Performance and operation costs.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 404	GRADUATING PROJECT	0	2	0	1.00	5.00	Compulsory

Course Content

Project Selection and Definition, Literature Review and Research, Project Planning, Design and Modeling, Prototype Production and Testing, Data Analysis and Results, Documentation and Reporting, Presentation and Defense

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
HU GS I	GENEL SEÇMELİ I	2	0	0	2.00	3.00	

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 001	RESEARCH METHODS	2	0	0	2.00	3.00	Seçmeli

Course Content

This course includes information about scientific research, research process, identification of research problem, literature review, data collection methods, creating hypothesis, universe, sample, analysis methods and research report.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 003	TECHNICAL COMMUNICATION	2	0	0	2.00	3.00	Seçmeli

Course Content

The content of this course; definition of communication concept, communication types and classification, functions of communication, and effective communication ways.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 005	STRESS AND TIME MANAGEMENT	2	0	0	2.00	3.00	Seçmeli

Course Content

Stress definitions, types, physical and behavioral results, stress-personality relationship, stress-work quality of life relationship, physical, mental and behavioral approaches to dealing with stress, time management constitutes the content of this course.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 007	OCCUPATIONAL HEALTH AND SAFETY	2	0	0	2.00	3.00	Seçmeli

Course Content

This lesson; historical development of occupational health and safety, occupational accident and occupational diseases and costs, the concept of occupational safety, the importance of occupational safety studies in terms of workforce efficiency, basic factors in occupational safety, sources of hazards, the concept of occupational health, psychosocial risk factors, ILO conventions, events that disrupt security Includes fire, earthquake and flood issues.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 009	PUBLIC ADMINISTRATION	2	0	0	2.00	3.00	Seçmeli

Course Content

The nature of public administration, Central government organizations, Local administrations; Subjects such as special provincial administration and the concept of bureaucracy constitute the content of this course.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 011	VOLUNTEERING STUDIES	2	0	0	2.00	3.00	Seçmeli

Course Content

The content of the course; corporate social responsibility concept and development, social responsibility areas, social responsibility plan, business ethics and social responsibility relationship, the impact of social responsibility practices on corporate success.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 013	ACADEMIC TURKISH	2	0	0	2.00	3.00	Seçmeli

Course Content

Definition of language, its characteristics, relations between language-nation / language-thought and language-culture. Language in the world; the place and importance of Turkish among them and its historical development. Ataturk's language revolution, concept and works. Sounds in Turkish. Phonology of Turkish. Spelling rules and application. Punctuation rules and application. Vocabulary. Productiveness of Turkish.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 015	CREATIVE DRAMA AND IMPROVISION	2	0	0	2.00	3.00	Seçmeli

Course Content

This course includes the sociological and psychological dimensions of drama, history of drama and its applications in education, drama in education, role play and improvisation, and the relationship of drama with creativity and communication concepts, drama practices and how to use drama activities in teaching different courses.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 017	HUMAN RESOURCES MANAGEMENT	2	0	0	2.00	3.00	Seçmeli

Course Content

Historical Development of Human Rights, European Convention on Human Rights and International Fundamental Documents on the Protection of Human Rights, European Court of Human Rights and its Case Laws, Fundamental Rights and Freedoms, Generational Rights.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 019-1	FIRST AID	2	0	0	2.00	3.00	Seçmeli

Course Content

The main content of the first aid of the course, basic life support in adults, children and infants, first aid in respiratory obstruction, external and internal bleeding, injuries, land and sea bites, fractures, poisoning, heat stroke, burns and freezes. creates emergency transport techniques.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 021	BUSINESS LAW	2	0	0	2.00	3.00	Seçmeli

Course Content

Concept of law, functions of law, differences of legal rules from other legal rules regulating social life, types of sanctions, branches of law, sources of labor law, individual labor law, collective (collective) labor law.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 023	ENTERPRISE RESOURCE PLANNING	2	0	0	2.00	3.00	Seçmeli

Course Content

The content of this course is the development of Enterprise Resource Planning (ERP), basic concepts about ERP; The importance of ERP for businesses; Basic modules of ERP systems, management of ERP projects, challenges and critical success factors in ERP projects, future of ERP systems.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 025	HUMAN RIGHTS	2	0	0	2.00	3.00	Seçmeli

Course Content

Historical Development of Human Rights, European Convention on Human Rights and International Fundamental Documents on the Protection of Human Rights, European Court of Human Rights and its Case Laws, Fundamental Rights and Freedoms, Generational Rights.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 027	ENTREPRENEURSHIP	2	0	0	2.00	3.00	Seçmeli

Course Content

Basic terms in entrepreneurship, preparing a business plan, basics of marketing research, preparing a marketing plan, production plan, organization plan, financial plans and financial statement.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 031	HISTORY OF SCIENCE	2	0	0	2.00	3.00	Seçmeli

Course Content

Science. Science from the perspective of civilizations: Nile and Anatolian civilizations; Asian, Chinese, Indian, Roman, Greek and Islamic civilizations. European, American, Asian, Far East, Middle-Eastern civilizations. Turkish World History of Science and Technology; History of glass, textile and ceramic technology; history of iron-copper and casting technology.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 033	SOCIAL PSYCHOLOGY	2	0	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 035	COMMUNICATION	2	0	0	2.00	3.00	Seçmeli

Course Content

Introduction to Communication; Language, Culture and Communication; Types of Communication (Written, Verbal, Nonverbal); Communication Models; Mass Media (Television, Radio, Press, Social Media); Communication and Public Relations; Political Communication; Media Literacy; You Have The Word; Communication and Ethics.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 037	FINANCIAL LITERACY	2	0	0	2.00	3.00	Seçmeli

Course Content

Bu ders; Para ve bankacılığın ekonomideki rolü ve etkilerinin teorik ve uygulama düzeyinde tartışılması vb. konularını içermektedir.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 039	SIGN LANGUAGE	2	0	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 041	DISASTER AND CRISIS MANAGEMENT	2	0	0	2.00	3.00	Seçmeli

Course Content

The principles of disaster and crisis management, concepts, definitions and standards, elements of the emergency plans and emergency management, emergency situations, the communication, the importance of evacuation, examination of mitigation-preparation-intervention improvement phase, the next desk applications; The objective of crisis management, identification of the crisis, characteristics, stages, aspects of crisis management, history and time, disaster management and crisis management as well as providing information on legislative issues

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 043	CITY AND SOCIETY	2	0	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 045	ENVIRONMENTAL PROTECTION	2	0	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 047	BEHAVIORAL SCIENCES	2	0	0	2.00	3.00	Seçmeli

Course Content

Behavior, Behavioral Sciences, Development of Behavioral Sciences and Their Relationship with Other Social Sciences, Behavioral Plane and Social Institutions, Needs and Related Theories as the Main Source of Behaviors, Personality and Personality Traits, The Concept of Learning, Perception and Perception, Social Impact and Adaptation, Attitude Concept and Attitudes, Communication and Impressive Communication, Group Structure and Dynamics, Teaming, Group Team Decomposition, Effect of Culture and Behavior.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 049	HISTORY OF CLOTHING	2	0	0	2.00	3.00	Seçmeli

Course Content

Clothing in Prehistoric Societies; A.D. Clothing Culture in Various Regions of the World (Anatolia, Asia, Europe, Australia, Africa, America...) from the 5th Century to the 20th Century; the Latest Situation of Clothing Culture in the 21st Century.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 051	FINANCIAL INVESTMENT ANALYSIS	2	0	0	2.00	3.00	Seçmeli

Course Content

Financial markets, investment instruments, interest calculations, return and risk calculations, valuation, and portfolio transactions.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 053	SPECIAL EDUCATION	2	0	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 055	INTERNATIONAL POLITICS	2	0	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 057	HISTORY OF TURKISH DEMOCRACY	2	0	0	2.00	3.00	Seçmeli

Course Content

Democracy, Political Party and Parliament; Parliamentary System, Presidential System, Parliamentary Government System; Emergence of Parliament: England; Emergence of Parliament: France; Turkish Modernization and Democratization: From Nizam-ı Cedid to the First Constitutional Monarchy; I. Constitutional Monarchy and II. Abdulhamid Eras; II. Constitutional Era; War of Independence and Parliamentary Government System; Early Republican Era; From Transition to Multi-Party Life to the Constitution of 61; Political Developments from the Adoption of the Constitution of 61 to the 12 March Regime; Political Developments from 1971 to the 12 September Regime; Political Developments from 12 September Regime to the 28 February; Political Developments Since the 28 February.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 059	CREATIVITY MANAGEMENT AT THE WORKPLACE	2	0	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 061	HISTORY OF MATHEMATICS	2	0	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 063	ANALYZING THE ECONOMICAL INDICATORS	2	0	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 065	ENGLISH-TURKISH TRANSLATION	2	0	0	2.00	3.00	Seçmeli

Course Content

This course follows a process consisting of material sharing that facilitates students' basic vocabulary knowledge and foreign language reading and writing skills, as well as provides guidance for translating the target language to the native language. It also includes regular assignments to practice and apply what they have learned.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 067	NEUROMARKETING	2	0	0	2.00	3.00	Seçmeli

Course Content

The basic topics in this course are; determining the methods of neuroscience methods on marketing strategies, using neuroscience data in the process of consumer protection, neuromarketing strategies and ethical side of neuromarketing.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 069	COMMUNICATION WITH DISABLED INDIVIDUALS	2	0	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 071	ADDICTION AND FIGHT AGAINST ADDICTION	2	0	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 073	INFORMATION LITERACY	2	0	0	2.00	3.00	Seçmeli

Course Content

The importance of information literacy Information literacy: Concepts, definitions Legal and ethical issues in the scientific research process The scientific research process (wonder, research, select, binding, transfer and evaluation) Information access tools (library catalogs, databases, search engines) Information Search Strategies Principles of quotation, footnote and bibliography

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS-MTH-01	INTRODUCTION TO SYSTEM ENGINEERING	2	0	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE TS I	TEKNİK SEÇMELİ I	3	0	0	3.00	4.00	

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 329	SPACE PHYSICS	3	0	0	3.00	4.00	Seçmeli

Course Content

Space plasmas and magnetic fields; solar radiation, atmosphere and solar winds; heliosphere; movement of charged particles in a magnetic field; Magnetosphere, radiation belts; Ionosphere and earth plasma-sphere; shock waves and boundary layers; cellular structure of space; fundamental magnetohydrodynamics and its applications in space plasmas; magnetospheric dynamics; geomagnetic winds; rocket principles, movement in central areas; satellite orbits; interplanetary orbits; interaction of spacecraft with the space environment.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 333	DYNAMIC SYSTEMS AND CONTROL	3	0	0	3.00	4.00	Seçmeli

Course Content

Modeling of mechanical, electrical, electromechanical, hydraulic, pneumatic, and thermal systems; Transfer functions; Block diagrams; MATLAB/Simulink applications; Frequency responses; DC gain; Bode diagrams; Control systems; PID control; Root-locus method rules.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 337	C PROGRAMMING	3	0	0	3.00	4.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 339	PROPELLER AERODYNAMICS	3	0	0	3.00	4.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE TS II	TEKNİK SEÇMELİ II	3	0	0	3.00	4.00	

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 322	AVIONIC SYSTEMS	3	0	0	3.00	4.00	Seçmeli

Course Content

1. Elements and configuration of the Flight Control System (UKS), FCS,2. Sensors and Actors: types and uses, 3. Autopilot System (Function, Working Principle and Usage),4. Longitudinal and Transverse motion control systems,5. Classification of avionic systems, 6. Basic knowledge of radiotechnical, geotechnical and astronomical navigation instruments and systems, 7. Collision Warning System (CAS), 8. Navigation systems based on the use of Doppler Radar, 9. Inertial Navigation Systems (INS), 10. Gyro-adjusted (Gimballed) Inertial Navigation System, 11. Analytical (Strapdown) Inertial Navigation System, 12. Ground Radio Navigation Systems, 13. Fundamentals and configuration of Satellite Radio Navigation Systems, 14. Global Positioning System (GPS), 15. Errors in the GPS system and their elimination methods, 16. Differential Global Positioning System (DGPS).

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 338	AEROSPACE MATERIALS	3	0	0	3.00	4.00	Seçmeli

Course Content

mechanical properties of solid materials, strengthening mechanisms in metals, Ni, Al, Ti and Fe alloys, ceramic and composite materials

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 346	COMPUTATIONAL FLUID DYNAMICS	3	0	0	3.00	4.00	Seçmeli

Course Content

What is CFD? Applications and advantages of CFD. Solution procedure, definition of the problem, numerical solution and visualization of the results. Governing equations. Discretization methods. Initial and boundary conditions. Discretization of the diffusion equation. Discretization of the convection-diffusion equation. Algorithms for pressure-velocity coupling. Finite volume method for transient problems. Error, convergence, accuracy, efficiency.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 348	MANUFACTURING TECHNOLOGIES	3	0	0	3.00	4.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE TS III	TEKNİK SEÇMELİ III	3	0	0	3.00	4.00	

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 330	COMPOSITE MATERIALS	3	0	0	3.00	4.00	Seçmeli

Course Content

Definition and Characteristics of Composite Materials, Components of Composite Materials, Reinforcement Materials: Fibers, Particles, Fillers, Matrix Materials: Polymers, Metals, Ceramics, Interface Region and Effects, Mechanical Behavior and Strength, Stresses and Deformations, Hooke's Law and Elastic Behavior, Isotropy and Anisotropy, Strength Calculations in Composite Materials, Elasticity Moduli and Thermal Expansion, Young's Modulus, Shear Modulus, Poisson's Ratio, Thermal Expansion and Thermal Stresses, Application Areas: Aviation and Aerospace Industry, Role of Composites in Aircraft Design, Spacecraft and Satellite Applications.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 336	INTRODUCTION TO OPTIMIZATION	3	0	0	3.00	4.00	Seçmeli

Course Content

Fundamentals of Optimization; Linear Optimization; Graphical Method; Simplex Method; Unconstrained Optimization; Constrained Optimization; MATLAB Optimization Toolbox; Engineering Case Studies; Curve Fitting with Optimization

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 342	UNMANNED SYSTEMS	3	0	0	3.00	4.00	Seçmeli

Course Content

Fixed wing unmanned aerial vehicles, rotary wing unmanned aerial vehicles, rocket systems, simple satellites, unmanned land vehicles, unmanned system avionics, swarm structures.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 350	PROJECT MANAGEMENT IN ENGINEERING	3	0	0	3.00	4.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE TS V	TEKNİK SEÇMELI V	3	0	0	3.00	4.00	

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 431	AIRCRAFT INSTRUMENTS	3	0	0	3.00	4.00	Seçmeli

Course Content

This course contains topics such as Aircraft Indicator Types, Pressure Inlets, Altimeter, Mahmeter, Air Temperature Indicator, Magnetism, Gyroscopes, Artificial Horizon, Inertial Platform Navigation System and Reference System etc.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 437	FLOW IN TURBOMACHINERY	3	0	0	3.00	4.00	Seçmeli

Course Content

Basic Principles of Thermodynamics and Fluid Mechanics, Dimensional Analysis and Similarity in Turbomachines, Flow Analysis in Two-Dimensional Cascades, Mean Line Analysis of Axial Flow Turbines, Axial Flow Compressors and Ducted Fans, Three Dimensional Flow in Axial Flow Turbomachines,

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 467		3	0	0	3.00	4.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 465		3	0	0	3.00	4.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE TS IV	TEKNİK SEÇMELİ IV	3	0	0	3.00	4.00	

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 423	PROPERTIES OF MATERIALS MECHANICAL	3	0	0	3.00	4.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 425	MECHANICAL VIBRATION	3	0	0	3.00	4.00	Seçmeli

Course Content

Basic concepts in vibration analyses, modeling of mechanical systems, single degree of freedom systems, two degrees of freedom systems, multi degree of freedom systems, harmonic system analysis, eigenvalue problem, eigenvalue and vector analysis, energy method, and identifying critical frequencies.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 439	MICROCONTROLLER PROGRAMMING	3	0	0	3.00	4.00	Seçmeli

Course Content

Differences between microprocessor systems and microcontroller systems, Microcontroller systems, Programmer cards, Translation program to machine language, Installation of the compiled program to microcontroller, Algorithms, Flow diagrams, Microcontroller memory map, Digital input-output applications with a microcontroller, Analog applications with a microcontroller, Display (Display, LCD) applications with a microcontroller, Keypad applications with a microcontroller, Motor control applications with a microcontroller, Communication applications (Serial, I2C, SPI) with a microcontroller, Timer applications with a microcontroller, Various sensors applications with microcontroller.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 469		3	0	0	3.00	4.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
HU GS II	GENEL SEÇMELİ II	2	0	0	2.00	3.00	

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 002	MEDIA AND COMMUNICATION	2	0	0	2.00	3.00	Seçmeli

Course Content

The content of this course; It will provide a historical, economic, political and cultural general introduction to communication theories, current mass communication systems and different factors in their development. In addition to cultural industries such as internet, radio, television, cinema, newspaper, advertising and public relations, more comprehensive topics such as globalization will be examined.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 004	DICTION AND EFFECTIVE SPEAKING	2	0	0	2.00	3.00	Seçmeli

Course Content

The content of this course will focus on the importance of individuals speaking in front of the society to convey their thoughts and feelings in correct words so that they can express themselves better. Mainly, in order to be able to master the art of rhetoric, all linguistic tools, word selection, sentence structure, ways to improve speech melody, emphasis, tone of voice, and tempo will be emphasized.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 006	BUSINESS ETHICS	2	0	0	2.00	3.00	Seçmeli

Course Content

This lesson; ethical and moral concepts, ethical systems, factors that play a role in the formation of morality, examining professional ethics, professional corruption and the consequences of unethical behavior in professional life, social responsibility concept.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 008	PROTOCOL AND SOCIAL BEHAVIOR RULES	2	0	0	2.00	3.00	Seçmeli

Course Content

The content of this course will examine the definition and historical development of the protocol, implement the social behavior protocol, implement the protocol in institutions and organizations, and apply the protocol in institutional events.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 010	PRODUCTION MANAGEMENT	2	0	0	2.00	3.00	Seçmeli

Course Content

Basic Economic Concepts, National Income, Inflation, Unemployment, Interest Rate, Exchange Rate and Balance of Payments, Money-Making and Non-Money-Creating Financial Institutions.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 012	VOLUNTEERING STUDIES	2	0	0	2.00	3.00	Seçmeli

Course Content

The content of the course; corporate social responsibility concept and development, social responsibility areas, social responsibility plan, business ethics and social responsibility relationship, the impact of social responsibility practices on corporate success.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 014	ACADEMIC TURKISH II	2	0	0	2.00	3.00	Seçmeli

Course Content

Definition of language, its characteristics, relations between language-nation / language-thought and language-culture. Language in the world; the place and importance of Turkish among them and its historical development. Ataturk's language revolution, concept and works. Sounds in Turkish. Phonology of Turkish. Spelling rules and application. Punctuation rules and application. Vocabulary. Productiveness of Turkish.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 016	CREATIVE DRAMA AND IMPROVISATION	2	0	0	2.00	3.00	Seçmeli

Course Content

This course includes the sociological and psychological dimensions of drama, history of drama and its applications in education, drama in education, role play and improvisation, and the relationship of drama with creativity and communication concepts, drama practices and how to use drama activities in teaching different courses.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 018	HUMAN RESOURCE MANAGEMENT	2	0	0	2.00	3.00	Seçmeli

Course Content

Historical Development of Human Rights, European Convention on Human Rights and International Fundamental Documents on the Protection of Human Rights, European Court of Human Rights and its Case Laws, Fundamental Rights and Freedoms, Generational Rights.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 020	FIRST AID	2	0	0	2.00	3.00	Seçmeli

Course Content

The main content of the first aid of the course, basic life support in adults, children and infants, first aid in respiratory obstruction, external and internal bleeding, injuries, land and sea bites, fractures, poisoning, heat stroke, burns and freezes. creates emergency transport techniques.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 022	BUSINESS LAW	2	0	0	2.00	3.00	Seçmeli

Course Content

This lesson; the emergence of labor law, sources of labor law, types of employment contract, termination of employment contract, working hours, Permissions and wages, etc. covers topics.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 024	POLITICAL MANAGEMENT	2	0	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 026	SUSTAINABILITY	2	0	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 028	PROBLEM SOLVING AND DECISION MAKING	2	0	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 030	TECHNOLOGY ADDICTION	2	0	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 032	BUSINESS ADMINISTRATION	2	0	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 034	FACTORY ORGANIZATION	2	0	0	2.00	3.00	Seçmeli

Course Content

Production, Production Planning, Quality Control, Procurement, R&D, Marketing, Sales, Maintenance, Finance, Accounting, Human Resources, and Personnel departments' responsibilities, interrelationships, performance metrics, required competencies for staff, stress management, conflict management, motivation management, and strategic planning.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 036	QUALITY MANAGEMENT SYSTEMS	2	0	0	2.00	3.00	Seçmeli

Course Content

The content of this course consists of the concept and meaning of quality, history and principles of quality management, the concept of total quality management, measurement and evaluation methods used in quality management, quality certification.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 038	TECHNOLOGY MANAGEMENT AND R&D	2	0	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 040	MARKETING	2	0	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 042	SERVICE MARKETING	2	0	0	2.00	3.00	Seçmeli

Course Content

Content of the Service Marketing course; The concept of service and amenities, the importance of the service sector, the reasons for the growth of the service sector, the service sector in Turkey. Classification of services, Product, Service as a product, Product mixed strategies in services, Distribution, Distribution channel options for service businesses, Pricing, Pricing approaches for services, Promotion, advertising, sales promotion, Public relations, Personal sales, Direct marketing, Service marketing and Human resources, Service and customer, Service marketing and physical evidence, Capacity and demand management strategies for services, Capacity management, Revenue management, Transactional marketing, Relational marketing.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 044	E-COMMERCE	2	0	0	2.00	3.00	Seçmeli

Course Content

Historical Development Process of Electronic Commerce, Basic Concepts of Internet and Electronic Commerce, Management of Marketing over the Internet, Electronic Logistics; Electronic Commerce Applications

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 046	CURRENT ECONOMIC ISSUES	2	0	0	2.00	3.00	Seçmeli

Course Content

Basic Economic Concepts, National Income, Income Distribution and Poverty, Factors of Production, Inflation, Unemployment, Interest Rate, Middle Income Trap, Cryptocurrency, Structural Reforms, Sustainable Development.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 048	PUBLIC RELATIONS	2	0	0	2.00	3.00	Seçmeli

Course Content

Concept of Public Relations; Historical Development; Methods and Techniques Used; Principles and Organization; Strategic Management in Public Relations; Public Relations in the Information Society

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 050	SOCIOLOGY	2	0	0	2.00	3.00	Seçmeli

Course Content

Within the scope of the course, the definition of sociology, its basic concepts, its emergence as a science will be emphasized. Afterwards, some topics of sociological interest (such as modernization, globalization, social stratification, class, gender) will be discussed.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 052	GLOBALIZATION READINGS	2	0	0	2.00	3.00	Seçmeli

Course Content

The course covers the modern and its conceptual concepts, the general outlines of the modernization process and evolution from the past to the present, 20th-century modernization theories and their criticism, the post-modern period, the emergence conditions and historicity of globalization, the large-scale changes that occurred in the post-globalization period and their economic, political discusses and discusses the topics that will reveal the social and cultural consequences of these developments, and finally question the effects, results, and meanings of these developments in Turkey.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 054	PHOTOGRAPHY	2	0	0	2.00	3.00	Seçmeli

Course Content

The phenomenon of photograph, Concept of Photography, Historical Development of Photography, Types of Cameras, Working Principles of Camera, Interpretation of Photography, Golden Ratio, Exposure Triangle, Application Examples.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 056	PROJECT MANAGEMENT	2	0	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 058	INTRODUCTION TO BUSINESS SCIENCE	2	0	0	2.00	3.00	Seçmeli

Course Content

Basic concepts of business organizations, organizations' objectives and environment, establishment and classification of organizations, expansion of organizations, the concept of international business and business functions.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 060	HEALTHY AND ACTIVE AGEING	2	0	0	2.00	3.00	Seçmeli

Course Content

This course includes the concept of health and other related concepts, physical health, mental health, social health concepts, aging concept and active aging practices.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 062	SALES TECHNIQUES	2	0	0	2.00	3.00	Seçmeli

Course Content

In addition to the theoretical information given in the preparation of pre-sales, performing the sales process and following the after-sales services, the student shares his / her knowledge with the class through a field study.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 064	DIGITAL TRANSFORMATION AND INDUSTRY 4.0	2	0	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 066	HISTORY OF CLOTHING	2	0	0	2.00	3.00	Seçmeli

Course Content

Clothing in Prehistoric Societies; A.D. Clothing Culture in Various Regions of the World (Anatolia, Asia, Europe, Australia, Africa, America...) from the 5th Century to the 20th Century; the Latest Situation of Clothing Culture in the 21st Century.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 068	ADDICTION AND FIGHT AGAINST ADDICTION	2	0	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
GS 070	CHILD RIGHTS AND FAMILY EDUCATION	2	0	0	2.00	3.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE TS VII	TEKNİK SEÇMELİ VII	3	0	0	3.00	4.00	

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 430	INTRODUCTION TO NONLINEAR CONTROL	3	0	0	3.00	4.00	Seçmeli

Course Content

Course introduction and representation of nonlinear controlled systems, Lyapunov stability theory, Invariance principle, Passivity and passivity based control, Feedback linearization, Control Lyapunov functions, Backstepping control, Sliding mode control, Adaptation concept and adaptive controller design, Nonlinear observer design.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 432	GUIDANCE, CONTROL AND NAVIGATION SYSTEMS	3	0	0	3.00	4.00	Seçmeli

Course Content

This course, Types and basic principles of guidance systems, Autonomous and non-autonomous guidance systems, Guidance according to the radio beam, Radio-controlled guidance system, Tracking system, Self-guided systems, Integrated guidance systems, Basic guidance methods: follow curve method; target coverage method; forward guidance method, The dynamics of the missile's trajectory and control system when guided according to the radio beam, Self-guidance dynamics, Guidance and trajectory control algorithms of rockets, Non-autonomous control systems, Autopilot principles and usage, Design of non-autonomous control system in the environment of random disturbances, Control based on game theory system design, general information about avionic navigation systems, Inertial Navigation Systems, Radio navigation systems, Global Navigation Satellite Systems.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 434	INTRODUCTION TO ROBOTICS	3	0	0	3.00	4.00	Seçmeli

Course Content

Classification of Robots, Basic Robot Elements, Robot Motion, Industrial Robots, Coordinate Transformations, Robot Arm Kinematics, Inverse Kinematics, Jacobian, Velocity and Acceleration Analysis, Static Force Analysis, Denavit-Hartenberg Notation, Robot Arm Dynamics, Lagrangian Dynamics.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 458	BATTERY TECNOLOGIES	3	0	0	3.00	4.00	Seçmeli

Course Content

Introduction to Battery Technologies, Historical Developments in Battery Technologies, Basic Concepts of Batteries (Cell Potential, Current Potential Relationship, Capacity, Cycle Life etc.), Battery Design and Standards, Primary Battery Technologies, Secondary Battery Technologies, Lithium-Ion Battery Technologies, Usage of Lithium-Ion Batteries Areas, Market Shares and Safety, Basic Components, Basic Working Mechanism, Electrolytes, Separators, Hardware Elements, Anode Materials in Lithium-Ion Battery Technology (Carbon Anodes, Oxide Anodes, Alloy Anodes), Cathode Materials in Lithium-Ion Battery Technology (Layered Cathode Materials, Spinel Structured Cathode Materials, Olivine Structured Cathode Materials), Production Methods of Electrode Materials (Solid State Methods, Co-precipitation Method, Sol-Gel Method, Electrolytic Coatings, Hydrothermal Method, Microwave Method, Thin Film Coating Methods, Spray Pyrolysis Method etc.), Characterization Techniques of Lithium-Ion Batteries (CV, Impedance, Capacitance Cycles), Future Materials and Technologies in Lithium-Ion Batteries-Nanotechnology Relationship, Industrial Applications, Presentations.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE-MTH-460	MODERN NAVIGATION SYSTEMS	3	0	0	3.00	4.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 462	MISSILE DESIGN AND ENGINEERING	3	0	0	3.00	4.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE TS VI	TEKNİK SEÇMELİ VI	3	0	0	3.00	4.00	

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 420	INTRODUCION TO ASTROPHYSICS	3	0	0	3.00	4.00	Seçmeli

Course Content

Dimension and time scaling, history of astrophysics, stars, stellar structure equations, stellar vibrations, degenerate matter, interaction with binary systems, interstellar matter, molecular clouds, dust in space, high energy astrophysics, galactic distribution and population, cosmic rays.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 452	COMPUTATIONAL HEAT TRANSFER	3	0	0	3.00	4.00	Seçmeli

Course Content

General conservation equations; Application of finite volumes and differences method to heat transfer problems; Production of geometry suitable for the problem; Network production; Application of boundary conditions; Method selection according to the problem; Solution of heat transfer problems (conduction - indoor/outdoor/natural convection - heat exchangers) with CFD software.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 454	HELICOPTER DYNAMICS STABILITY AND CONTROL	3	0	0	3.00	4.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 464	COMPUTATIONAL METHODS IN UAV DESIGN	3	0	0	3.00	4.00	Seçmeli

Course Content

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE TS VIII	TEKNİK SEÇMELİ VIII	3	0	0	3.00	4.00	

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 442	AIRCRAFT SYSTEMS	3	0	0	3.00	4.00	Seçmeli

Course Content

1. General aircraft structure and cabin interior, 2. Structural systems, 3. Hydraulic systems, 4. Pneumatic systems, 5. Fuel and fluid systems, 6. Avionic systems, 7. Power systems, 8. Ventilation systems, 9. Maintenance of aircraft systems.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 444	SPACE MISSION ANALYSIS AND DESIGN	3	0	0	3.00	4.00	Seçmeli

Course Content

Types of space missions, manned and unmanned missions, satellite missions, space stations, space telescopes, observation and experiment in space.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 446	STRUCTURAL ANALYSIS AND DESIGN	3	0	0	3.00	4.00	Seçmeli

Course Content

Modeling of mechanical, electrical, electromechanical, hydraulic, pneumatic, and thermal systems; Transfer functions; Block diagrams; MATLAB/Simulink applications; Frequency responses; DC gain; Bode diagrams; Control systems; PID control; Root-locus method rules.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 450	GAS TURBINES	3	0	0	3.00	4.00	Seçmeli

Course Content

In this course, students will be able to successfully make analyzes in their applications by getting a general knowledge in the topics of historical development of gas turbines, classification, compressibility and one-dimensional compressible flow of ideal gases, theoretical cycles, regeneration, heated gas turbines, closed system gas turbines, actual cycles, stagnation values, compressor and turbine efficiency, pressure losses, regenerator efficiency, mechanical losses, combustion efficiency and performance, work and air ratios, jet turbines, turbofans, compressors, compressor stage speed diagrams, stage characteristics, combustion chambers, combustion characteristics, turbines, turbine stages and speed diagrams, fuel economy, transmission need and materials.

Course Unit Code	Course Name	T	U	L	Credit	ECTS	Type
AE 456	ALGORITHM AND CODING IN ENGINEERING APPLICATIONS	3	0	0	3.00	4.00	Seçmeli

Course Content

This course covers basic operations in MATLAB such as conditions, loops, functions, graph plotting, data analysis, Simulink, and engineering applications.