1st YEAR - I. SEMESTER

Atatürk's Principles and History of Revolution-I (2+0) 2

The purpose of studying the course on Atatürk's principles and the history of revolution, the concept of revolution, a general view of the reasons behind the collapse of the Ottoman Empire and the preparation of the Turkish Revolution; the partitioning of the Ottoman Empire, the Mondros Armistice Agreement, the situation of the country in the face of occupations, Mustafa Kemal Pasha's landing in Samsun, the first step towards national struggle, organization through congresses, the National Forces and the National Pact, the opening of the Grand National Assembly of Turkey, the Grand National Assembly's management of the War of Independence, the national struggle until the Sakarya Victory, the Sakarya Battle, and the Great Offensive, from Mudanya to Lausanne, national struggle in education and culture, national struggle in social and economic areas.

Turkish Language-I (2+0) 2

Understanding that language is a product of the human mind, comprehending the structural characteristics and richness of the Turkish language, understanding how to succeed in written expression, research, and developing reading and information-gathering skills.

Foreign Language-I (2+0) 2

Basic grammar, adjectives, nouns, pronouns, basic tenses, moods, reading, writing, speaking, and listening skills, vocabulary, affirmative, negative, and question sentences, conjunctions, demonstrative pronouns, and expanding vocabulary.

Mathematics-I (2+0) 4

Set theory, numbers, operations with numbers, modular arithmetic, algebra, polynomial applications, ratios and proportions, probability and its applications.

Mechanics and Statics (3+0) 4

Units, physical quantities, geometry and physics, vectors, vector addition, scalar product, vector product, Newton's laws of motion, conservation of momentum, energy concepts, potential energy, conservative forces, equilibrium equations, and internal force calculations in structures.

Building Technology (2+2) 6

Practical applications of wall construction rules using materials such as stone, brick, and concrete blocks; plastering, construction scaffolding, suitable economical formwork systems, wooden roof installation, placement of beam, floor, and column reinforcements according to project specifications.

Building Materials Science (2+2) 6

The internal structures of materials and their effects on properties, properties of construction materials, necessary tests for determining these properties, types of materials used in construction, and correct material selection.

Elective Courses (2+0) 2

Occupational Health and Safety (2+0) 2

The historical development of occupational health and safety, workplace accidents and occupational diseases, sources of hazards, physical risks, criminal sanctions.

Information and Communication Technology (2+0) 2

Introduction to computer technology as a key tool in the information age, understanding computer systems and hardware, software knowledge, Windows software, and program information.

Technical Infrastructure (2+0) 2

Measurement techniques for electricity, gas, drinking and wastewater, sewage systems, transportation, communication, and purification facilities.

Building Installation Technology (2+0) 2

Installation of electricity, clean water, fire safety, waste and dirty water, hot water, heating, and ventilation systems in buildings.

1st YEAR - 2nd SEMESTER

Atatürk's Principles and the History of Turkish Revolution II (2+0) 2

The aim of studying Atatürk's Principles and the History of Turkish Revolution, and understanding the concept of revolution; an overview of the reasons leading to the collapse of the Ottoman Empire and the Turkish Revolution; disintegration of the Ottoman Empire, the Mondros Armistice Agreement, the situation of the country under occupation, and Mustafa Kemal Pasha's arrival in Samsun, the first step for the national struggle, organization through congresses, Kuvayi Milliye and the National Pact, opening of the Grand National Assembly of Turkey, the Grand National Assembly's control over the Independence War, the national struggle up to the Battle of Sakarya, the Battle of Sakarya and the Great Offensive, from Mudanya to Lausanne, national struggle in education and culture, and in social and economic fields.

Turkish Language II (2+0) 2

Learning about written communication types in daily life, understanding the importance of punctuation in written communication, realizing the significance of correct communication in personal and social interactions, applying research, reading, and information-gathering skills.

Foreign Language II (2+0) 2

Improving basic tense structures, language structure, and technical terminology for practical use in daily and professional life. Conducting exercises and applications to develop practical language skills.

Mathematics II (2+0) 4

Understanding basic concepts of matrices and determinants, solving linear equation systems using determinants, comprehending vector quantities and their properties, making calculations related to angles, area, and volume in professional fields, performing probability and statistics calculations relevant to the profession.

Structural Mechanics (3+0) 5

Calculating internal forces and drawing graphs for isostatic beams, calculating internal forces and drawing graphs for isostatic plane frames, calculating bar forces for isostatic plane trusses, calculating internal forces and drawing graphs for three-jointed systems.

Strength of Materials (3+0) 5

Center of gravity, moment of inertia, calculation of internal forces (Normal Force, Shear Force, Bending Moment, and Torsion Moment), and stress calculations derived from them. Tensile stress, compressive stress, shear stress, and uniaxial bending.

Field Measurements (2+2) 6

Field measurement techniques, leveling work, electronic field measurement instruments, extracting longitudinal profiles, cross-sections, and elevation measurements.

Elective Courses (2+0) 2

Professional Ethics (2+0) 2

Examining the concepts of ethics and morality. Studying professional ethics. Investigating professional corruption and the consequences of unethical behavior in professional life. Exploring the concept of social responsibility.

Damage in Structures (2+0) 2

Basic principles of preparing drawings for structures, causes of damage in masonry buildings, and methods for detecting damages.

Geographic Information Systems (2+0) 2

Fundamentals of Geographic Information Systems (GIS), general principles, components, basic functions, physical and functional components of GIS, introduction to geographic coordinate systems and map projections, basic concepts such as data-information, database management systems, spatial data, vector and raster data models, data quality, data management, and spatial data models (vector and cellular), integrated analysis techniques and concepts for graphical and attribute data.

Directed Study (2+0) 2

Students will conduct research on topics related to their field of study using research methods, compile them into a report, and present them effectively.

Research Methods and Techniques (2+0) 2

Selecting research topics, conducting literature reviews, evaluating research results, turning research findings into reports, preparing for presentations, and delivering the presentation.

2nd YEAR - 1st SEMESTER

Computer-Aided Drawing (2+2) 5

Drawing architectural plans, details, and reinforced concrete elements of a structure using CAD systems; preparing the drawings of the created projects.

Building Inspection (2+0) 3

Applying control procedures for buildings within the legal framework, understanding the required laws, application process, construction material standards, occupational safety, and health regulations.

Geotechnical Knowledge (2+0) 2

Methods for field investigations and sample collection, sample preservation and transportation, basic physical properties of soils, experimental methods for determining soil properties, sieve analysis, consistency limit tests, soil classification based on particle size, groundwater movement in soils, Darcy's law, and permeability tests.

Concrete Technology (2+2) 4

Definition, classification, and technical properties of aggregates; aggregate granulometry and tests; cement raw materials and production processes; cement types and their properties; cement testing; concrete mix water and additives; classification and definition of concrete; components and mix calculations for concrete; physical-mechanical properties of concrete; fresh concrete testing; hardened concrete testing; ready-mix concrete; concrete placement and maintenance techniques; concrete types and developments in concrete technology.

Water Supply and Wastewater (2+0) 2

Learning methods of water supply and wastewater evaluation, understanding the relationship between the environment and water, drinking and usage water, construction of wastewater treatment and purification plants.

Road Construction (3+0) 3

Road transportation systems, determining land conditions and creating cross-sections from leveling curves on maps, general definitions related to road components, content of the General Directorate of Highways' road technical specifications, classification of roads, and geometric standards for roads.

Internship Evaluation (0+2) 6

Applying knowledge and skills in the industry and service sectors, becoming familiar with the internship area, gaining insight into workplace operations, observing the profession and field of study, gaining skills through permitted practice.

Elective Courses (2+0) 2

Professional Legal Knowledge (2+0) 2

Introduction to land registry systems, transactions in land registry, information about the condominium law, condominium procedures, construction prior to expropriation, expropriation technical procedures, preparing expropriation technical files, real estate buying and selling, inheritance and donation-related real estate taxes, VAT applications in real estate sales and leases, rental of real estate and tax return submissions, real estate taxes, and the status of housing obtained through cooperative housing.

Zoning Knowledge (2+0) 2

Teaching the basic concepts and methods of construction according to zoning law, and providing practical applications based on this law.

Prefabricated Structures (2+0) 2

Providing general information about prefabricated structures, their materials, usage areas, calculations, and drawings.

System Analysis and Design (2+0) 2

General system theory, information systems, feasibility, flowcharts, data flow diagrams, decision tables, decision trees.

Insulation Technology (2+0) 2

Defining insulation, teaching material properties and application methods, providing knowledge about insulation types and general definitions, waterproofing materials and applications for building foundations, thermal insulation materials and applications in buildings, soundproofing materials and applications, fireproofing materials and applications in buildings.

2nd YEAR - 2nd SEMESTER

Building Inspection Applications (2+2) 4

Acquiring necessary information about the Building Inspection Law No. 4708 and its applications, the legislation of Building Inspection Law No. 4708, the Ministry system, YDS and its outlines, preparing progress payments, building inspection service contracts, the duties and responsibilities of parties involved in the building inspection system, application principles of building inspection, services provided during the project and permit stages, recognition and preparation of control forms and reports.

Reinforced Concrete (4+0) 4

General information, concrete and reinforcement, anchorage, loads or load effects on structures, calculations and design of elements under simple bending effects, calculations for slabs, beams, columns, and foundations. Axial (central) compressive effect.

Office and Site Organization (2+2) 5

Definition of tenders, types of tenders, contract definitions and types, technical specifications, site setup, work schedule, manufacturing preparation at the construction site, production teams, application works, excavation works, site logs, office work, production control, preparing progress payments, temporary and final acceptance.

Cost Estimation and Quantity Surveying (2+2) 5

Ability to prepare tenders according to the applicable laws, understanding tender processes according to the applicable laws, and contract knowledge with the contractor firm in line with applicable regulations.

Project Reading and Application (2+2) 3

Concept of application, horizontal point application, application of lines, horizontal angle application, vertical application, vertical application practice, block and parcel application, horizontal curve application, horizontal curve application practice, vertical curve application, building application, and TUS practice. Reading of architectural application projects, reinforced concrete application projects, and plumbing projects.

Computer-Aided Design (1+2) 5

Drawing architectural projects, details, and reinforced concrete elements of a building using CAD systems, and preparing the generated projects for printing.

Elective Courses (2+0) 2

Quality Assurance and Standards (2+0) 2

Standards and standardization, management quality and standards, environmental standards, importance of standards.

Real Estate Valuation (2+0) 2

Introduction to real estate valuation, definitions of value, principles of valuation, valuation methods, construction cost calculation, basic financial mathematics.

Timber and Steel Structures (2+0) 2

Basic information, loads and loading in timber and steel structures, joining tools, tension and compression members.

Scaffolding and Formwork (2+0) 2

Preparation of scaffolding and formwork elements, control of scaffolding and formwork systems, types of scaffolding and formworks.

Earthquake-Resistant Building Design Applications (2+0) 2

Studying the behavior of load-bearing systems under earthquake loads, limitations imposed by earthquake regulations on building load-bearing systems, design of reinforced concrete beams, columns, and foundations.

Infrastructure Structures (2+0) 2

Necessary art structures in road construction and their construction purposes, bridges, culverts, tunnels, retaining walls, and drainage structures.