



I. Semester

Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
ATİ101	Atatürk's Principles and Revolution History-I	2	0	0	2	2	2	Compulsory
<p>Concepts and Ottoman modernization. European developments, Industrial Revolution and French Revolution. New Ottomans, Constitutional Monarchy and Union and Progress Society. II. Constitutional Monarchy Period, Tripoli and Balkan Wars. Causes of World War I. World War I: Sharing the Ottoman Empire. National Struggle preparatory period. Congress. Sivas Congress, the last Ottoman Parliament and the National Pact. TBMM Period: Formation of fronts. Treaty of Lausanne.</p>								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
İMO101	Maths	3	0	0	4	3	3	Compulsory
<p>Transactions Related to Numbers. Bibliographers. Rooted Fanciers. Methods of Separation of Factors. Polynomials. Solutions of inequality systems with one and two unknowns of the first order. Absolute Value. Ratio-proportion. Functions and Graphics. Solutions of first order systems of equations with one and two unknowns. Trigonometry.</p>								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
İMO107	Engine Technology	2	1	0	4	3	3	Compulsory
<p>Internal Combustion Engine History and Technological development. Classification of ICEs. Technical terms. Thermodynamics properties. Theoretical otto cycle. Theoretical dual cycle. Real otto cycle. Real dual cycle. Engine lubrication systems. Engine cooling systems. Fuel injection systems. Turbocharge systems. Engine test and maintenance. Engine maintenance and settings.</p>								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
İMO121	Heavy Equipments-I	2	0	0	3	2	2	Compulsory
<p>Introduction to heavy equipment operator. Classification of heavy equipment. Excavators, crawler excavator, Wheel Excavator, Shovel Excavator, Amphibious excavator. Loaders, wheel loader crawler loader. Attachments; Hammers, Grapples, Buckets). Dozers. Backhoe Loader Digger. Asphalt machines. Motor Grades. Jumbo machine. Cranes. Mobil cranes. Tower cranes.</p>								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
İMO123	Workshop-I	0	3	0	3	2	3	Compulsory
<p>Maintenance and repair of heavy equipment machinery. Classification of heavy equipment. Mechanical workplace Environment. Occupational safety rules in the workshop. Mechanical Hand Tools. Measurement tools. Mechanical Workshop Machines.</p>								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
İMO125	Scientific Principles of Technology	3	0	0	4	3	3	Compulsory
<p>Basic concepts, units and transformations. Scalar and vector quantities. Statics. Kinematics. Dynamics. Work, power and energy. Pressure and fluids. Mechanical and electromagnetic waves. Electricity and magnetism.</p>								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
TDİ101	Turkish Language-I	2	0	0	2	2	2	Compulsory
<p>Definition of language. The relationship between nation and language. The relationship between language and culture. Family of languages, the place of Turkish language among other languages. Historical development of Turkish language. The current situation of Turkish language, its history and current examples, vernacular, accent, dialect. Definition of grammar and its sections, features of Turkish language. Phonetic, phonetic of Turkish, its features and classification of phonemes. Grammatical rules of Turkish. Punctuations. Word structure of Turkish and particles, derivational affix, inflexional suffix.</p>								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
YDİ101	Foreign Language-I	2	0	0	2	2	2	Compulsory
<p>Greetings. Brainstorming about the mutual expectations. Ice breakers. To be. Possessive adjectives. Countries. Describing jobs. Simple present tense. Word order. WH questions. Expressing likes/dislikes. Foods and drinks. Ordering. Speaking about food from all over the World. Writing and speaking about free time activities. Making dialogues using frequency adverbs. Reading passage about basketball and vocabulary practice. Talking and writing about what people are doing. Using present progressive. Understanding the polite rules of talking on the phone and acting. Talking about past events using simple past tense. Was/were. Understand an article about past and present.</p>								

Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
İMO109	Professional Ethics	2	0	0	3	2	2	Elective
Examine the concepts of ethics and morality. Examine the ethical systems. Investigate the factors that play a role in the formation of morality. Examine the ethics of profession. Analyzing the results of corruption and unethical behavior in professional life. Examine the concept of social responsibility.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
İMO111	Business law	2	0	0	3	2	2	Elective
Introduction to business law. Important laws of labor law. The basic concepts of labor law. Application areas of labor law. Types of employment contracts. Jobs where work contract is prohibited. Rights and obligations of workers and employers arising from the employment contract. Termination of employment contract, working hours, leave and wages. The concept of social security. Trade union law. Collective bargaining law. Industrial action. Lockout. Rights and interests disputes.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
İMO113	Occupational health and Safety	2	0	0	3	2	2	Elective
Occupational Health and safety overview. Security Culture. Occupational health and safety law No. 6331. Occupational accident and occupational illness. Risk Assessment. Fire. Emergency Plan and exercise. Emergency Plan and Risk Factors for Exercise Health and safety. Working with Screen tools-manual lifting-Health and safety signs. Occupational Safety in ship, Shipyard and Industry, Safety in indoor areas. Safety studies in welding and electricity. Safe Use Of Work Equipment, Working High. Case study.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
İMO115	Environmental Protection	2	0	0	3	2	2	Elective
Introduction of the course, topics and activities and evaluation. Environmental regulation. Risk analysis: By interpreting the analysis results, threats. Waste storage. Waste regulation and control. Personal protection methods. International health and safety alerts.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
İMO117	Communication	2	0	0	3	2	2	Elective
The concept and definition of communication. Communication Process. Verbal Communication. Body Language. Barriers to communication. Effective communication. Information Technologies and Communication. Communication in Business Life.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
İMO119	First Aid	2	0	0	3	2	2	Elective
Basic applications of first aid. First and second evaluation. Basic life support in adults. Basic life support in children and infants. First aid in respiratory obstruction. External and internal bleeding. Wound and wound types. Regional injuries, first in the head and spine fractures. First aid in upper extremity fractures, dislocations and sprains, First aid in hip and lower limbs fractures, dislocations and sprains. First aid in diseases requiring emergency care. First aid in poisoning, heat stroke, burns and freezes, foreign body escape. Emergency transport techniques Fast transport techniques in short distance. Moving patients or injured by creating a stretcher.								

II. Semester

Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
ATİ102	Atatürk's Principles and Revolution History-II	2	0	0	2	2	2	Compulsory
Political revolutions: Abolition of the Sultanate, Declaration of the Republic, Abolition of the Caliphate. Political parties and political events established in the period of Atatürk and represented in the Turkish Grand National Assembly. Legal reform and legal order. Revolutions in education. Revolutions in culture and social area. Revolutions in economic area. Turkish foreign policy in Atatürk period (1923-1930). Turkish foreign policy in Atatürk period (1930-1938). Principles of Atatürk and complementary principles. After Atatürk's Turkey.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
İMO102	Fuels and Oils	2	0	0	2	2	2	Compulsory
Crude Oil. Fuels. Natural Gas. LPG, Liquefied petroleum gas. Gas. Jet fuels and gas oil. Diesel fuels, fuel oil. Liquefied petroleum gas (LPG). Alternative motor fuels. Mineral oils and their properties. Synthetic oils and their properties. Additives. Used oils. Waste Oils, collection and recovery.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
İMO106	Materials Tecnology	2	0	0	2	2	2	Compulsory
Mechanical, physical, chemical and thermal properties of materials, classification of metals. Material group to be used, reason for preference. Atomic structure, atomic models, atomic bonds. Unit cell, space cage, Bravais cages. Atomic fill factor, the presence of densities from crystal structure, allotropy. Solidification-melting behavior, cooling of pure and alloyed material. Dendritic structure, equilibrium diagrams and types. Iron carbon balance diagram. Austenite, ferrite, perlite, cementite, ledeburite concepts. The critical temperatures in the equilibrium diagram, the contributions of the alloying elements. Cast iron and places of use. Heat treatments applied to steels.								

Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
İMO120	Internship	0	0	0	10	0	0	Compulsory
Getting to know the workplace and getting information about the work done. Learning the planning and work flow of workplace applications. To be able to analyze the hierarchical order and human relations in business life, to fulfill the duties and responsibilities related to the profession. To examine business practices, participate in applications and report the work done.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
İMO122	Workshop-II	0	3	0	3	2	3	Compulsory
Excavability, excavation with martop. Mechanized gallery opening, full section gallery opening machines and partial section gallery opening machines. Mechanized production excavations and support systems, excavation with plow, digging with drum cutter-loaders. Excavation with continuous cutters, excavation with ANS method. Other excavation methods, hydromechanical excavation. Filling operations, fill amount and material, fill methods, manual fill, gravity fill, mechanical fill with conveyor, hydraulic fill and pneumatic fill. Water slip, water and well hydrology in nature, pumps and their dimensions and drainage in underground operations. Underground haulage systems, cutaway haulage systems, railway haulage, truck haulage, excavation and transport with LHD. Underground transport systems, belt conveyors. Underground transport systems, Chain conveyors. Underground haulage systems, Gravite haulage. Underground transport systems, Compressed air systems. Underground operations, lighting, communications, signaling, monitoring.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
İMO124	Technical Drawing	1	2	0	4	2	3	Compulsory
Definition of technical drawing, presentation of tools and materials, explanation of the image paper measurements. Presentation of letters, teaching letter format features. Geometric drawings. Polygon drawings. Oval, ellipse, spiral drawings. Scale definition, definition of projection and types of projection. Dimensioning, identification of cross sections scanning lines. Description of profile drawings, half circle, explanation of depressed profile drawings. Projection of Solids. Architectural drawing applications.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
İMO126	Statics and Strength	2	1	0	4	3	3	Compulsory
Vector Operations. Force Systems. Mass Center. Statics. Linear Motion, Curvilinear Motion. Relative Motion. Work and Energy. Stress Concept and Stress-Strain Relations. Bending. Torsion. Shear force-bending moment diagrams. Shear Stress, Stress Transformations-Mohr Circle.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
İMO130	Heavy Equipments-II	2	0	0	3	2	2	Compulsory
Excavability, excavation with martop. Mechanized gallery opening, full section gallery opening machines and partial section gallery opening machines. Mechanized production excavations and support systems, excavation with plow, digging with drum cutter-loaders. Excavation with continuous cutters, excavation with ANS method. Other excavation methods, hydromechanical excavation. Filling operations, fill amount and material, fill methods, manual fill, gravity fill, mechanical fill with conveyor, hydraulic fill and pneumatic fill. Water slip, water and well hydrology in nature, pumps and their dimensions and drainage in underground operations. Underground haulage systems, cutaway haulage systems, railway haulage, truck haulage, excavation and transport with LHD. Underground transport systems, belt conveyors. Underground transport systems, Chain conveyors. Underground haulage systems, Gravite haulage. Underground transport systems, Compressed air systems. Underground operations, lighting, communications, signaling, monitoring.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
TDİ102	Turkish Language II	2	0	0	2	2	2	Compulsory
Definition of language. The relationship between nation and language. The relationship between language and culture. Family of languages, the place of Turkish language among other languages. Historical development of Turkish language. The current situation of Turkish language, its history and current examples, vernacular, accent, dialect. Definition of grammar and its sections, features of Turkish language. Phonetic, phonetic of Turkish, its features and classification of phonemes. Grammatical rules of Turkish. Punctuations. Word structure of Turkish and particles, derivational affix, inflexional suffix.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
YDİ102	Foreign Language II	2	0	0	2	2	2	Compulsory
Talking about clothes. Using comparative adjectives. Making dialogues about shopping. Speaking activity about fashion. Describing appearances and personalities of people, Using "be like" and "look like". Speaking and writing activity about describing our friends. Talking about tourist sites. Using can/can't. Listening and comprehending a passage about city attractions. Talking about places around town. Using "There is" and "There are". Reading a text about favourite places around town and vocabulary gain. Talking about vacation activities. Using past tense. Reading text about describing a hotel. Talking about future plans. Using future tense. Listening activity about travel plans and follow-up activities. Reading text about travel activities.								

Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
IMO108	Measuring Technology	2	1	0	3	3	3	Elective
SI unit system and derived units. Calipers. Micrometer. Comparators. Angle measurement. Surface control. Screw gauges. Feeler gauge. Sources of error in measuring instruments. Calibration of measuring instruments.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
IMO110	Professional Mathematics	2	1	0	3	3	3	Elective
Linear Equation Systems. Matrix. Limits and Continuity. The concept of derivative, rules of differentiation. Integral. Differential equations. Statistics.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
IMO114	Diesel Engines Technology	2	1	0	3	3	3	Elective
Diesel Engine Classification, advantages and disadvantages of diesel engines. Diesel cycle, Dual cycle. Combustion in diesel engines, Knock and ignition delay in diesel engines. Diesel Fuel System. Common rail fuel System. Turbocharging Systems. Intercooler.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
IMO116	Entrepreneurship and Innovation	2	0	0	3	2	2	Elective
Entrepreneurship approaches. Entrepreneurship culture. Types of entrepreneurship. Entrepreneurship functions. Entrepreneurship fields. Entrepreneurship process. Business idea and resources. Business idea development. Business plan and elements. Preparing business plan. Local, national and international context of entrepreneurship.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
IMO118	Soil Types and Excavation Technology	2	1	0	3	3	3	Elective
Soil types and properties. Classification of soils. Soil recognition through observation and in the field. The concept of excavability. Excavation determination methods. Excavation tools and methods. Classification of excavability.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
IMO128	Basic Information Technologies	2	1	0	3	3	3	Elective
Entry. Computer (definition, functions). Hardware concept in computer. The concept of software on the computer. Operating systems. Internet (definition, function), internet protocols, internet services (e-mail, ftp). Browse the web. Using MS-Excel. Using MS-Excel (Professional applications). Introducing Microsoft Office, Using MS-Word (petition, writing and CV). Using MS-Word (Relation and table). Using MS-Powerpoint. Technical report writing rules. Preparing a report / presentation.								

III. Semester

Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
IMO201	Automotive Electrics and Electronics	2	1	0	4	3	3	Compulsory
Electrical Principles, Magnetism. Electricity Measurement Units. Ohm's Law. Kirchoff's Laws (Series, Parallel and Mixed Circuit Theory). Current Tasks and Working Principles, Types of Batteries Power Structure Electrolyte, Battery Tag, Factors Affecting Battery Capacity, Battery Electrolyte Preparation. Battery controls and charging. Control of Starter System Maintenance and Defects. Types of Cable Used in Starter Circuit and Starter Circuit. Charge system, mission, structure and types. Working Principles, Controls and Maintenance of Alternators. Lighting, Fog Headlamps Short and Long Headlamp Controls and Headlamp Adjustments. Front and Rear Park Circuit, Signal Circuit, Reverse Circuit, Horn Circuit Brake Warning Lamp circuit. Indicator system, signal transmission techniques and sensor types, digital display systems.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
IMO203	Hydraulic-Pneumatic	2	1	0	5	3	3	Compulsory
Hydraulic systems, properties of hydraulic systems, unit systems, hydraulic pneumatic symbols, solving problems related to force transmission in hydraulic circuit, drawing hydraulic pneumatic symbols. Hydraulic fluid and oil reservoirs, showing the hydraulic circuit elements. Hydraulic pump and motors, hydraulic cylinders, connecting and operating the hydraulic circuit elements. Directional control valves, pressure control and flow control valves, other circuit elements. Hydraulic circuit diagrams, installation and operation of hydraulic circuits. Electrohydraulic circuit diagrams, installation and operation of electrohydraulic circuits. Introduction to pneumatic systems, drying of air and control of conditioners, pneumatic circuit elements. Compressors, pneumatic cylinders, pneumatic motors, pneumatic valves, other pneumatic circuit components, connection and operation of pneumatic circuit components. Pneumatic circuit diagrams, connection and operation of pneumatic circuit elements. Electropneumatic circuit diagrams, pneumatic and electropneumatic circuit installation.								

Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
IMO205	Machine Science and Elements	2	1	0	5	3	3	Compulsory
Introduction to machine elements. Shape changes in machine elements, stresses. Material information. Construction principles. Binding elements. Solvable binding elements. Unsolvable binding elements. Wedge, shaft and hub binding elements. Belt-pulley mechanisms. Gear wheels.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
IMO209	Heavy Equipment Maintenance and Repair-I	2	1	0	4	3	3	Compulsory
Basic principles of fault diagnosis. Definition and objectives of fault diagnosis. Reasons for faulty diagnosis. Results of faulty diagnosis. Features that need to be found in a good fault diagnosis. Accurate diagnosis. Service equipment. Communication in the service. Economy in the service. Service work flow charts. Management of service staff. Car receipt processing.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
IMO223	Heavy Equipment-III	2	0	0	3	2	2	Compulsory
General information on lifting machines and lifting systems. Inspection of rails, wheels from moving systems on lifting machines. Examination of load assumptions and basic principles in the calculation of lifting machines. Inspection of main beams, head beams and side beams of traveling cranes. Inspection of beam structures of traveling cranes. Bending tension and deflection in traveling cranes. Inspection of traveling bridge connection constructions. Examination of leg cranes, console cranes. Examination of revolving circles and revolving tower design. Examination of ascending tower cranes. Inspection of the cranes. Examination of floating cranes, rotating cranes.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
IMO225	Workshop-III	0	3	0	3	2	3	Compulsory
General information on lifting machines and lifting systems. Inspection of rails, wheels from moving systems on lifting machines. Examination of load assumptions and basic principles in the calculation of lifting machines. Inspection of main beams, head beams and side beams of traveling cranes. Inspection of beam structures of traveling cranes. Bending tension and deflection in traveling cranes. Inspection of traveling bridge connection constructions. Examination of leg cranes, console cranes. Examination of revolving circles and revolving tower design. Examination of ascending tower cranes. Inspection of the cranes. Examination of floating cranes, rotating cranes.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
IMO211	Professional Foreign Language	3	0	0	3	3	3	Elective
To be able to communicate in a foreign language. To use technical foreign language. Learning technical foreign language. Learning technical terms related to profession/ Internal combustion engines' term. Reading and understanding maintenance and repair manual.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
IMO213	Business Administration	3	0	0	3	3	3	Elective
Following Microeconomic Data. Analyzing Macroeconomic Indicators. Detecting Gaps in the Market. Selecting the Most Appropriate by Evaluating Investment Alternatives. Conducting Feasibility Studies. Getting to Know Your Business Environment. Demand Analysis and Forecasting Determining the Place of Establishment of the Business. Determining the Legal Structure of the Business. Determining the Capacity of the Workplace Total Investment Cost. Making Estimated Income-Expense Calculation. Making a Workplace and Production Plan. Creating the appropriate structure and opening the workplace.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
IMO215	Emission Control Systems	2	1	0	3	3	3	Elective
Fuels. Combustion. Diesel emissions. Emissions from internal combustion engines. Emission standards and measurement of emissions. Emission reduction systems on vehicles. Catalytic converter. Diesel particle filters. EGR system. Selective catalytic reduction (SCR).								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
IMO217	Manufacturing Methods	2	1	0	3	3	3	Elective
Definition and advantages of casting, solidification in casting. Casting solidification, special events in solidification of metal melts. Molds used in casting. Casting methods, sand mold casting, molding methods in sand mold casting. Centrifugal casting, plaster casting, precision casting, continuous casting. Iron casting, finishing processes, casting errors and control, fitting design for casting. Principles of Plastic Forming. Plastic forming methods. Machining methods and tool materials. Welding Technique.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
IMO219	Welding Technology	2	1	0	3	3	3	Elective
Gas melting welding. Electric arc welding. MIG/MAG welding. TIG welding. Submerged arc source. Plasma welding.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
IMO221	Damage Analysis	2	1	0	3	3	3	Elective
What is damage analysis, recognition and operations on damaged parts. Reporting damaged, injured and fatal accident and accident. Damage analysis methods and equipment used. Examination of accident report, filling the content, determination and explanation of defect rates, determination of alcohol status. Sketching the scene of the accident and the environment, determining the causes of the accident,								

preparing an accident report when necessary. Control of documents requiring obligations regarding vehicle and driver. Making accident occurrence and avoidance analysis of sample accident events. Bent, twisted, broken and need to be replaced. Cost analysis of the parts to be renewed, labor cost, paint, transportation, work done outside the business. Features of traffic and automobile insurance. Application of insurance transactions on damaged vehicles. Insurance appraisal procedures. Rights and restrictions provided by insurance. To prepare damage report, expertise.

IV. Semester

Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
IMO202	Power Transmission Bodies	2	1	0	4	3	3	Compulsory
Definitions and basic concepts. Clutch systems. Mechanical clutches. Electromechanical clutches. Hydraulic clutches. Mechanical gear boxes. Torque converter. Planetary gear mechanisms. Automatic gearboxes. Shafts, joints and axles. Differential.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
IMO204	Transport Technique	2	1	0	4	3	3	Compulsory
Industrial transport. Classification of materials and classification of transport machines. Industrial storage techniques. Planning and design of material flow in production. Crane construction and design of elements. Chain and chain driven. Mechanical brake constructions. Movement mechanisms in crane constructions. Crane types and construction. Crane construction. Belt conveyor design. Chain conveyor design. Construction of pneumatic and hydraulic transport systems.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
IMO206	Mechanism Technique	2	1	0	4	3	3	Compulsory
Detachable Bindings. Undetachable Bindings. Transmission Organs. Retention Elements. Power Transmission at Long Distances. Cam design.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
IMO208	Pumps and Compressors	2	1	0	4	3	3	Compulsory
Pumps. Making fluid calculations. Examination of pressure-flow and power graphs of a pump (Pump characteristic curves). Faults that may occur in the pump and maintenance. Compressors. Faults that may occur in the compressors and maintenance.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
IMO212	Heavy Equipment Maintenance and Repair -II	2	1	0	4	3	3	Compulsory
Fault finding rules. Repair catalogs. Reading the parameters. The path to be followed when failure diagnosis is not possible. Common diagnostic equipment. Use of common diagnostic equipment. Processes in the diagnostic unit. Actions performed on the diagnostic unit. Decide on the method of troubleshooting. Preparation of spare parts list. Preparation of repair orders. Occupational health and safety measures during repair.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
IMO226	Heavy Equipment Operation	0	3	0	4	2	3	Compulsory
Excavators. Spreading machines. Compression machines. Loader. Heavy Equipment operation. Regulations on the Heavy Equipment operation. Operation, maintenance, safety for operator.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
IMO214	Factory Organization	2	1	0	3	3	3	Elective
Introduction of factory operation and construction site main units. Drawing of factory operation and site layout plans. Water supply and waste water treatment processes in factories and enterprises. Thermal processes of factory process waters and other fluids. Introduction of factory operation and construction site energy systems. Introduction of dust holding and exhaust systems. Introducing factory energy systems. Comparison of sample factory, operation and site layout plans.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
IMO216	Service Equipment	2	1	0	3	3	3	Elective
Structures of tools and apparatus used in service workshops in mechanical workshops. Devices, machines and apparatus that should be available in service mechanical workshops. Efficient use of the necessary apparatus in the service. Establishing the service mechanical workshops. Planning the workshop according to the working features. Productivity in mechanical workshops. Planning the use of machines and devices used in the mechanical workshops. Precautions to be taken against work accidents mechanical workshops. On-site inspection of a sample service workshop. Knowledge and skills that employees must possess according to the characteristics of the service workshop. The effect of knowledge and skills of service workers on efficiency. New technologies developing in the creation of service equipment.								
Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
IMO218	Quality Assurance and Standards	3	0	0	3	3	3	Elective
Concept of Quality. Standard and Standardization. The importance of the standard in the production and service sector. Management quality and standards. Environmental standards. Quality management								

system models. Strategic management. Participating in management. Process management system. Resource management system. Quality control in production. Inspection and sampling. Total quality control. Control Diagrams.

Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
IMO220	Computer Aided Drawing	2	1	0	3	3	3	Elective

AutoCAD window, menu bar, toolbars, shortcut menus, mouse usage, dialog boxes, command features. File operations, opening a new file, logging into an existing file, saving, saving a large number of files in a session, exiting a file, exiting AutoCAD. Straight line command, delete command, point input (point input with Cartesian coordinates, point input with polar coordinates). Object docking modes Drawing commands: point drawing, rectangular drawing, unified line, circle drawing, arc drawing. Drawing area boundaries, Unit system and line settings, Drawing items selection, Magnification and reduction, Image shift, Bird's eye view. Practice with learned information. Function keys, Modes on / off, Status line buttons, (Tab spacing, grid alignment points, Horizontal and vertical parallel to coordinates, Enable / disable Dynamic UCS, Enable / Disable dynamic input, Enable / disable display of line thicknesses). Drawing commands: Thick solid line, Ring, Inner solid plane shapes, Combined line, Polygon, Resurfacing, Beam, and related applications. Drawing commands: Freehand line, Curve line, Divide by equal spacing, Divide by length value, Multiparallel line, Area bounding, Zone creation, Scan and related applications. Drawing commands: Freehand line, Curve line, Divide by equal spacing, Divide by length value, Multiparallel line, Create region bound, Create region, Scan and related applications. Editing commands: cropping, mirroring, rotating, scaling, stretching, stretching, moving, shifting copying, chamfering, rounding, pruning. Layers, colors, dimensioning, writing function, blocks and attributes.

Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
IMO222	Alternative Engines and Fuel Systems	2	1	0	3	3	3	Elective

Advantages and disadvantages of internal combustion engines. Alternative fuels. LPG fuel properties. LPG Fuel system. CNG fuel properties. Wankel engine. Stirling engine. Electricity vehicles. Hybrid vehicles.

Course Code	Course Name	T	P	L	ECTS	C	Hours	Type
IMO224	Comfort Systems	2	1	0	3	3	3	Elective

Central Lock Systems. Automatic car window Systems. Electric car Seats. Indicating Systems. Audio and Video Systems. Airbags. Fuel Cutting switch. Immobilizer. Alarm Systems.