NATIONAL DEFENCE UNIVERSITY
Army NCO Vocational College

COURSE CATALOGS

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Course Catalogs

The aim of the Turkish Army NCO Vocational College is to train active non-commissioned officers who have the qualifications specified in the Turkish Armed Forces Internal Service Law and the Turkish Armed Forces Internal Service Regulation, who have developed leadership qualities, adhered to Atatürk's principles and reforms, and gained military management and management skills at the level of associate degree. Turkish Army NCO Vocational College is maintaining teaching and education facilities with nine different academic programs listed below (in alphabetical order):

1. Aircraft Technology Department
2. Automotive Technology Department
3. Business Administration Department
4. Computer Technology Department
5. Construction Technology Department
6. Construction Plumbing Technology Department
7. Electrics Department
8. Electronics Communications Technology Department
9. Mechatronics Technology Department

Aircraft Technology Department

Aircraft Technology Department Course List

1st Year

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
1st Semester	Mathematics-I	2	2	0	2	2
	Physics	2	2	0	2	2
	Atatürk's Principles and Reforms History -I	2	2	0	2	2
	Turkish Language-I	2	2	0	2	2
	Foreign Language -I	4	4	0	4	4
	Common Military Issues-I	4	4	0	4	4
	Computer Technology	2	2	0	2	2
	Basic Electric and Electronics	2	0	2	1	3
	Aircraft Material and Equipment-I	2	2	0	2	3
	Basic Aircraft Information	2	2	0	2	2
	Technical Drawing	2	0	2	1	2
	Measurement Techniques	2	2	0	2	2
	TOTAL	28	24	4	26	30

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
2nd Semester	Mathematics-II	2	2	0	2	2
	Atatürk's Principles and Reforms History -II	2	2	0	2	2
	Turkish Language- II	2	2	0	2	2
	Introduction to Psychology	2	2	0	2	2
	Foreign Language -II	4	4	0	4	4
	Common Military Issues-II	3	3	0	3	3
	Aviation Electronics-I	3	1	2	2	3
	Aircraft Material and Equipment-II	2	2	0	2	3
	Basics of Aerodynamics	2	2	0	2	3
	Piston Engines	4	2	2	3	4
	Human Factors in Aviation	2	2	0	2	2
	TOTAL	28	24	4	26	30

Aircraft Technology Department Course List

2nd Year

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
3rd Semester	Democracy and Civil Society	2	2	0	2	2
	Introduction to Sociology	2	2	0	2	2
	Foreign Language -III	4	4	0	4	4
	Common Military Issues-III	2	2	0	2	2
	Aviation Electronics-II	3	1	2	2	4
	Aircraft Structure and Systems - I	4	1	3	3	4
	Gas Turbine Engines	3	1	2	2	4
	Hydraulic Pneumatic	3	1	2	2	3
	Maintenance Applications - I	5	1	4	3	5
	TOTAL	28	15	13	22	30

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
4th Semester	Military History	2	2	0	2	2
	Foreign Language -IV	4	4	0	4	4
	Common Military Issues-IV	3	3	0	3	3
	Aircraft Structure and Systems - II	4	1	3	3	4
	Propellers	2	2	0	2	2
	Maintenance Applications - II	4	1	3	3	4
	Digital Techniques and Electronic Device Systems	4	2	2	3	5
	Automatic Flight Control Systems	3	1	2	2	4
	Aviation Legislation	2	2	0	2	2
	TOTAL	28	18	10	24	30

AIRCRAFT TECHNOLOGY DEPARTMENT COURSE DESCRIPTIONS

Computer Technology: In this course, students are expected to recognize computer hardware components, to understand general principles of computer operating systems and to utilize word processor, spreadsheet and presentation software.

Basic Electric and Electronics: In this course it is aimed to develop students' knowledge and capability to make the drawings of analogue and digital circuit components to make connections of components to the board, to use oscilloscope and multimeter, to prepare step circuits and to make voltage regulator applications

Aircraft Material and Equipment-I: In this course, it is intended that students know ferrous and non-ferrous materials used in air vehicles, non-metal aircraft material types and usage areas, corrosion preventetion and cleaning methods, destructive and non-destructive inspections, removable fasteners and they have some knowledge about composite materials.

Basic Aircraft Information: In this course it is aimed to develop students' knowledge and capability to make basic levels of aircraft maintenance, to have the basic information about international wide requirements and instructional guides and also to have information about human factor and fault models. Another aim is to give information about widely using aircrafts.

Technical Drawing: This course aims to develop students' basic knowledge and skills about definition of technical drawing, drawing sets and tools, standard lines and texts, geometrical drawings, projection methods, creating views, perspective drawings, sectioning views and dimensioning.

Measurement Techniques: The aim is to learn improve of basic information and ability about definition and importance of measurement, measurement methods, measurement imperfection use of measurement tolls with basic partitioned, use of measurement tolls with accuracy partitioned in this course.

Aviation Electronics-I: The aim of the course is to provide students with a basic knowledge of electronics materials used in aircraft, to know the properties and operating principles of electronic materials, and to be able to read electronic circuit design.

Aircraft Material and Equipment-II: In this course, it is intended that students know aircraft rivets, locking materials, pipe and hose types, pipe an höse properties, characteristics of the control cables which allow movement of the control surfaces, electrical cables and connector types, they have some knowledge about UAV fuselage and wing structure.

Basics of Aerodynamics: In this course, students are expected to learn basic principles of aerodynamics and to solve basic problems of aerodynamics. At the end of this course, students will be able to learn; basic equations of streams, basic equations of momentum and protection of mass, basic components of stream and lift and drag forces for finite wings at different platforms.

Piston Engines: In this course, students are expected to learn basic principles of aerodynamics and to solve basic problems of aerodynamics. At the end of this course, students will be able to learn; basic equations of streams, basic equations of momentum and protection of mass, basic components of stream and lift and drag forces for finite wings at different platforms.

Human Factors in Aviation: This course aims to develop students' basic knowledge about aircraft accidents that reasoned from problematic aircraft maintenance, piloting, cabin crew faults. Accident reports, analysis, reducing accident risks and instructional guidelines about these processes will be taught.

Aviation Electronics-II: The aim of the course is to provide students with a basic knowledge of electronics materials used in aircraft, to know the properties and operating principles of electronic materials, and to be able to read electronic circuit design.

Aircraft Structure and Systems-I: Students are expected to learn structure of aircraft and systems and understand the working principle, on aircraft results of careless activities and effects of performance and safety, aims to develop the basic knowledge and skills.

Gas Turbine Engines: Students understand the basic laws of thermodynamics and gas laws, they introduce the components of turbine engines, gas turbines and aim to develop the basic knowledge and skills.

Hydraulic Pneumatic: The object of course to teach hydraulic - pneumatic systems and circuit elements properties of hydraulic / pneumatic and to make a design hydraulic / pneumatic circuit.

Maintenance Applications-I: In this course it is aimed to develop students' knowledge and capability about aircraft maintenance applications to recognize safety of aircraft area, to recognize techniques of aircraft storing, to know measurement techniques and tools, to recognize and test aircraft weight and to recognize safety of aircrafts.

Aircraft Structure and Systems-II: Students learn structure of aircraft and systems and understand the working principle, on aircraft results of careless activities and effects of performance and safety, aims to develop the basic knowledge and skills. And they know ice and rain preventive system working principles know fuel systems parts and working principles and know the main parts of hydraulic systems.

Propellers: The aim of this lesson is to cover the basic principles of propellers and develop an intuitive understanding of propellers by emphasizing the maintenance arguments. In addition, students develop the necessary skills to bridge the gap between knowledge and the confidence to properly apply knowledge in this lesson.

Maintenance Applications-II: In this course it is aimed to develop students' knowledge and capability about steel cutting, fasteners, welding, aircraft maintenance applications.

Digital Techniques and Electronic Device Systems: In this course it is aimed to develop students' knowledge and capability to use electronic instruments systems, to teach the electronic instrument systems, how to use pilot-static systems, how to use gyroscopic instruments and how to use electronic flight systems.

Automatic Control Applications: The aim of this course is to make students led to the recognition in the automatic control system of the aircraft. Also the behavior of faults and maintenance of these systems will be able to train gained technicians.

Aviation Legislation: In the course, Civil Aviation Organizations, their duties and international organization structure, aircraft maintenance personnel license regulation, aircraft maintenance organization license regulation, aircraft maintenance training organization license regulation, within the scope of national and international requirements; maintenance programs, maintenance procedures will be taught.

Automotive Technology Department

Automotive Technology Department Course List

1st Year

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
1st Semester	Mathematics-I	2	2	0	2	2
	Physics	2	2	0	2	2
	Atatürk's Principles and Reforms History -I	2	2	0	2	2
	Turkish Language-I	2	2	0	2	2
	Foreign Language -I	4	4	0	4	4
	Common Military Issues-I	4	4	0	4	4
	Computer Technology	2	2	0	2	2
	Automotive Electrics	3	2	1	3	4
	Measurement Techniques	2	2	0	2	2
	Gasoline Engine Technology	5	2	3	4	6
	TOTAL	28	24	4	27	30

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
2nd Semester	Mathematics-II	2	2	0	2	2
	Atatürk's Principles and Reforms History -II	2	2	0	2	2
	Turkish Language- II	2	2	0	2	2
	Introduction to Psychology	2	2	0	2	2
	Foreign Language -II	4	4	0	4	4
	Common Military Issues-II	3	3	0	3	3
	Hydraulic Pneumatic	3	1	2	2	4
	Automotive Electronics	2	0	2	1	3
	Alternative Engine and Fuels	2	2	0	2	2
	Diesel Engine Technology	4	2	2	3	4
	Technical Drawing	2	0	2	1	2
	TOTAL	28	20	8	24	30

Automotive Technology Department Course List

2nd Year

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
3rd Semester	Democracy and Civil Society	2	2	0	2	2
	Introduction to Sociology	2	2	0	2	2
	Foreign Language -III	4	4	0	4	4
	Common Military Issues-III	2	2	0	2	2
	Computer Aided Design	2	0	2	1	3
	Material Technology	2	2	0	2	2
	Thermodynamics	2	2	0	2	3
	Vehicle Motion Control Systems	4	1	3	3	4
	Power Transfer Systems	4	2	2	3	4
	Emission Control Systems	4	2	2	3	4
	TOTAL	28	19	9	24	30

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
4th Semester	Military History	2	2	0	2	2
	Foreign Language -IV	4	4	0	4	4
	Common Military Issues-IV	3	3	0	3	3
	Motor Vehicle Mechanics	2	2	0	2	3
	Engine Test-Tuning	5	2	3	4	5
	Service and Maintenance	5	2	3	4	5
	Mechanical Elements	2	2	0	2	3
	Fuel Injections Systems	5	2	3	4	5
	TOTAL	28	19	9	25	30

AUTOMOTIVE TECHNOLOGY DEPARTMENT COURSE DESCRIPTIONS

Computer Technology: In this course, students are expected to recognize computer hardware components, to understand general principles of computer operating systems and to utilize word processor, spreadsheet and presentation software.

Automotive Electrics: In this course, it is aimed to develop the knowledge and skills of the students about the basic principles of vehicle electricity and the installation, maintenance and malfunction of electrical installations on the vehicle.

Measurement Techniques: The aim of this course is to learn basic information about definition and importance of measurement, measurement methods, measurement imperfection use of measurement tolls and use of measurement tolls with accuracy partitioned.

Gasoline Engine Technology: With Gasoline Engine Technology course, the general principles of gasoline engine and the diesel engine parts, and maintenance of systems are intended to be gained. At the end of the course the students know the basic principles of internal combustion engines; they can remove Gasoline engine parts on the vehicle, make mounts and controls. They have the ability of recognizing systems of gasoline engines on the vehicle and repairing operations.

Hydraulic and Pneumatic: In this course it is aimed to provide scientific background for students in the subjects of basic concepts related with hydraulic and pneumatic, identifying hydraulic and pneumatic systems and basic maintenance and repairing of system. Repairing hydraulic and pneumatic systems with groups or individually after defining their troubles is also aimed.

Automotive Electronics: In this course it is aimed to make students grasp the concepts about automotive electric and electronics and learn about installation of electric and electronic equipment on vehicles and their maintenance.

Alternative Engine and Fuels: In this course, it is aimed to provide scientific background for students in the subjects of energy and terminology, types of alternative fuels in internal combustion engines and alternative motor types.

Diesel Engine Technology: Diesel Engine Technology course program is designed to gain and maintain skills and the general principles of the diesel fuel system of diesel engine parts.

Technical Drawing: This course aims to develop students' basic knowledge and skills about definition of technical drawing, drawing sets and tools, standard lines and texts, geometrical drawings, projection methods, creating views, perspective drawings, sectioning views and dimensioning.

Computer Aided Design: In this course it is provided that students improve their abilities and knowledge about interface of computer aided design (CAD), operating logic, commands of two dimensional drawing, commands of three dimensional drawing, assembly technics and creating technical drawing of part and assembly.

Material Technology: The aim is to make students know the varieties of materials, the atomic form of materials and the destructive and non-destructive inspections that are implemented on materials.

Thermodynamics: The aim of this lesson is to cover the basic principles of mathematics and develop an intuitive understanding of thermodynamics by emphasizing the physics and physical arguments. In addition, students develop the necessary skills to bridge the gap between knowledge and the confidence to properly apply knowledge in this lesson.

Vehicle Motion Control Systems: Periodic maintenance for internal combustion engines vehicles, technological developments of suspension and steering system, diagnose the car at any time in the future, and students will be qualified at creating the necessary infrastructure to develop their knowledge and skills.

Power Transfer Systems: Periodic maintenance procedures for motor vehicles, gear boxes and technological developments differential system, diagnose the car at any time in the future, and students will be qualified at creating the necessary infrastructure to develop their knowledge and skills.

Emission Control Systems: In this course, students will acquire the basic principles of Emission Control Systems and the systems that make up the engine to foster their knowledge about emission control systems.

Motor Vehicle Mechanics: Vehicle Mechanics course program is intended to give students basic knowledge and skills such as tires, aerodynamics, slope, and acceleration resistance, the forces of the linear movement of the vehicle, braking performance and handling characteristics of the vehicle

Engine Test-Tuning: Participants taking this course know about the engine test and its function apart from its general structure.

Service and Maintenance: Service and maintenance provides the students information about engine systems, general principles, engine parts on maintenance.

Mechanical Elements: In this course, it is aimed to provide scientific background for students in the subjects of basic concepts, connection components, motion transfer components and supplying components. They know non-partible connection components and make strength calculations.

Fuel Injection Systems: In this course, it is aimed to provide scientific background for students in the fuel injection system which is used in the internal combustion engine and these system's components, connection components, motion transfer components and supplying components. The students can classify the fuel injection systems and know the reasons of developing these systems. They know many kinds of fuel injection systems' operating, components, properties, check them and remove the failures. They can fix the kind of fuel injection systems which used on the vehicle.

Business Administration Department

Business Administration Department Course List

1st Year

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
1st Semester	Mathematics-I	2	2	0	2	2
	Atatürk's Principles and Reforms History -I	2	2	0	2	2
	Turkish Language-I	2	2	0	2	2
	Introduction to Psychology	2	2	0	2	2
	Foreign Language -I	4	4	0	4	4
	Common Military Issues-I	4	4	0	4	4
	Computer Technology-I	3	1	2	2	3
	General Administration- I	4	4	0	4	5
	Economy-I	3	3	0	3	3
	General Accounting - I	2	2	0	2	3
	TOTAL	28	26	2	27	30

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
2nd Semester	Mathematics-II	2	2	0	2	2
	Atatürk's Principles and Reforms History -II	2	2	0	2	2
	Turkish Language- II	2	2	0	2	2
	Foreign Language -II	4	4	0	4	4
	Common Military Issues-II	3	3	0	3	3
	Computer Technology-II	3	1	2	2	3
	General Administration- II	4	4	0	4	5
	Economy-II	3	3	0	3	3
	General Accounting - II	2	2	0	2	3
	Communication and Public Relations	3	3	0	3	3
	TOTAL	28	26	2	27	30

Business Administration Department Course List

2nd Year

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
3rd Semester	Statistics-I	4	2	2	3	5
	Military History	2	2	0	2	2
	Foreign Language -IV	4	4	0	4	4
	Common Military Issues-IV	2	2	0	2	2
	Introduction to Law and Defense Legislation	3	3	0	3	4
	Management and Organization - I	3	3	0	3	3
	Production Management	4	4	0	4	4
	Human Resource Management	3	3	0	3	3
	Financial Management	3	3	0	3	3
	TOTAL	28	26	2	27	30

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
4th Semester	Statistics-II	4	2	2	3	5
	Democracy and Civil Society	2	2	0	2	2
	Introduction to Sociology	2	2	0	2	2
	Foreign Language -III	4	4	0	4	4
	Common Military Issues-III	3	3	0	3	3
	Constitutional Law	2	2	0	2	2
	Management and Organization - II	3	3	0	3	3
	Cost Accounting	3	1	2	2	3
	Organizational Behavior	3	3	0	3	4
	Logistics Management	2	2	0	2	2
	TOTAL	28	24	4	26	30

BUSINESS ADMINISTRATION DEPARTMENT COURSE DESCRIPTIONS

Computer Technology-I: In this course, students are expected to recognize computer hardware components, to understand general principles of computer operating systems and to utilize word processor software.

General Administration- I: In this course, the basic concepts of business administration, business processes of the organization, operation and management of the growth and function issues are discussed.

Economics - I: The science of economics is the science of meeting necessities with limited sources. In this sense, the Turkish Armed Forces personnel must know how to use these resources effectively and economically and by adapting the basic concepts of the economy, they can get more realistic approaches to assessment of the economics for Turkish Armed Forces' unit that has economical characteristic.

General Accounting- I: In this course, the aim is to teach students recording of fiscal procedures and turning them into reports. By a good planning, these procedures will be reported and comments will be made by students. At the end of the course; students know the basic concepts of accounting, explain the basic equality of the balance sheet and the impact of financial transactions in the balance sheet. They know the rules of procedures for the accounts, practice the rules of functioning of the accounts, know the method of double entry, solve questions about the method of double entry and do income statement accounts partitioning.

Computer Technology-II: In this course, students are expected to recognize electronic spreadsheet software components, to create tables by using electronic spreadsheet software, to make calculations by utilizing functions, and to create presentations according to Military Presentation Guidelines.

General Administration-II: Students are supposed to learn the basic knowledge about the functions of organizations and the contemporary developments in the field of business and management sciences. Students are supposed to use the given knowledge in their professional life and acquire a scientific point of view.

Economic – II: Subjects of these courses are mainly topics of Macroeconomics. Macro-economic handles the economy with general features and it is concerned with setting up the economic structure. In other words, the macro economy takes the economy as a whole, it analyzes the sum rather than smaller units. In Economics-II class students are taught the basic concepts of macroeconomics on the courses.

Communication and Public Relations: It's impossible for a social human being to live without communicating. This truth forms a basis for individuals and society. Individuals should behave empathetically, which brings less conflicts of communication. From this point of view, this course aims to win students communication skills, who will have an important role in Turkish Armed Forces. They should be informed about communication and relations.

Statistics-I: This course is a practice area for statistical techniques based on mathematical grounds. It aims to use quantitative techniques for identifying and solving problems, and aims to explain how to use the analysis made in the scientific decision-making process.

Introduction to Law and Defense Legislation: It is aimed to give students the basic knowledge of law, to teach the basic concepts and rules, to make it easier to find solutions to legal events they will encounter in their professional lives and to gain the mission of looking at the events from a legal perspective.

Management and Organization – I: On the courses, the basic knowledge and skills related to management are taught to students who will be non- commissioned officers. Additionally, they are taught how to manage / lead people efficiently.

Production Management: On the courses, students are taught the methods of preventing waste of resources with existing facilities, and the obtaining maximum output with minimum entry by a good planning. The use of resources rationally and appropriately is based on a good production method in the Turkish Armed forces. Additionally, resources should be used in accordance with their usage.

Human Resource Management: Non-commissioned officers who will work in different parts / institutions of the armed forces are supposed to be leaders to their subordinates and to be in the position of management. In this sense, the Human Resource Management courses aim to teach the future managers how they can make use of their subordinates or personnel effectively.

Financial Management: The aim of the Financial Management course is to address the basic elements of financial management in enterprises and the basic financial decisions and practices for solving financial problems within the framework of financial management, investment decisions and financial markets. The topics will be processed: Financial management and functions, Financial system, Financial markets, Financial Instruments and Institutions, Financial Analysis, Financial planning and control.

Statistics-II: This course is a practice area for statistical techniques based on mathematical grounds. It aims to use quantitative techniques for identifying and solving problems, and aims to explain how to use the analysis made in the scientific decision-making process.

Constitutional Law: Students who will perform the task of command at all levels will be taught to obey the law of superiors and subordinates and to get the knowledge of being just and fair. In addition, the importance of being knowledgeable managers and model leaders in their professional life will be stressed. Positive thinking and abiding laws will also be emphasized.

Management and Organization-II: Lesson of Management and Organization-II, basic management functions of the infrastructure for the students to gain a better understand and apply the science of management to follow contemporary developments, aims to give a scientific point of view.

Cost Accounting: It is necessary that costs should be calculated / accounted correctly to increase the productivity of organizations. In this sense, students who will be employed in different units of the armed forces should be acknowledged about cost accounting logic and they should learn the cost of goods and services produced.

Organizational Behavior: The purpose of Organizational Behavior; in his time the Turkish Armed Forces, assigned to the expectations of the staff to demonstrate behaviors that are required to achieve the highest level of understanding of the basic principles and concepts, understand, provide the level of contributions to the life of internalized, noncommissioned officers to train, so the profession to live their lives to provide forecasts of reason and science.

Logistics Management: The main objective of the course is to teach the students the fundamentals of logistics-related knowledge, skills and techniques they will need, and to develop an understanding of the role of logistics in the armed forces.

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Computer Technology Department

Computer Technology Department Course List

1st Year

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
1st Semester	Mathematics-I	2	2	0	2	2
	Atatürk's Principles and Reforms History -I	2	2	0	2	2
	Turkish Language-I	2	2	0	2	2
	Introduction to Psychology	2	2	0	2	2
	Foreign Language -I	4	4	0	4	4
	Common Military Issues-I	4	4	0	4	4
	Measurement and Basic Electronics	3	1	2	2	3
	Integrated Office Programs	3	1	2	2	3
	Algorithms and Introduction to Programming	2	2	0	2	4
	Computer Hardware	4	2	2	3	4
	TOTAL	28	22	6	25	30

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
2nd Semester	Mathematics-II	2	2	0	2	2
	Physics	2	2	0	2	2
	Atatürk's Principles and Reforms History -II	2	2	0	2	2
	Turkish Language- II	2	2	0	2	2
	Foreign Language -II	4	4	0	4	4
	Common Military Issues-II	3	3	0	3	3
	English for Information Technology	2	2	0	2	2
	Operating Systems- I	3	1	2	2	3
	Computer Network Systems-I	2	0	2	1	3
	Visual Programming-I	3	1	2	2	3
	Programming Applications	3	1	2	2	4
	TOTAL	28	20	8	24	30

Computer Technology Department Course List

2nd Year

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
3rd Semester	Military History	2	2	0	2	2
	Foreign Language -III	4	4	0	4	4
	Common Military Issues-III	2	2	0	2	2
	Operating Systems-II	4	2	2	3	4
	Computer Network Technologies	4	2	2	3	5
	Internet Programming-I	4	2	2	3	5
	Visual Programming-II	4	2	2	3	4
	Database Management Systems	4	2	2	3	4
	TOTAL	28	18	10	23	30

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
4th Semester	Democracy and Civil Society	2	2	0	2	2
	Introduction to Sociology	2	2	0	2	2
	Foreign Language -IV	4	4	0	4	4
	Common Military Issues-IV	3	3	0	3	3
	Computer Maintenance and Repair	4	2	2	3	4
	Information Technology Security	3	1	2	2	4
	Internet Programming-II	4	2	2	3	4
	Object Oriented Programming	3	1	2	2	4
	Graphic and Animation Techniques	3	1	2	2	3
	TOTAL	28	18	10	23	30

COMPUTER TECHNOLOGY DEPARTMENT COURSE DESCRIPTIONS

Measurement and Basic Electronics: With this course the students can understand fundamental principles of electric circuits, gain general knowledge about electronic measurement tools, know basics of number systems, and gain general knowledge about electronic circuit gates, construct electronic circuits.

Integrated Office Programs: In this course, students are expected to utilize word processor, spreadsheet and presentation software which they will use in their daily life.

Algorithms and Introduction to Programming: In this course, students are expected to understand fundamental principles of algorithms, reasons for using algorithms and to create algorithm for a given problem, to draw flowcharts for algorithms, to understand basic programming concepts, and to create applications using programming language.

Computer Hardware: In this course, it is aimed to make students gain general knowledge about computer hardware, and troubleshoot general computer hardware problems and keep maintenance of computer hardware.

English for Information Technology: In this course, students are expected to comprehend English equivalent of following concepts; basic electronic devices, computer hardware units, operating system concepts, computer network concepts, office software concepts, database concepts, software engineering concepts.

Operating Systems-I: The aim of the course is to teach students how to install computer operating systems, troubleshoot operating system problems and maintain operating systems.

Computer Network Systems: Students can recognize networks, install local area network, and recognize components which needed for local area network and design local area network.

Visual Programming-I: In this course, students are expected to know fundamental principles of algorithms, reasons for using algorithms, to create algorithm for a given problem, to draw flowcharts for algorithms, to understand basic programming concepts, to create applications in C# programming language.

***Programming Applications*:** In this course, it is aimed that students will be able to solve problems using Ardunio programming and application cards and turn it into an application, develop programming logic, write programs with the help of algorithms and flow diagrams, and apply their examples to real life.

Operating Systems-II: In this course, students can learn different sorts of computer operating systems, install operating systems, manage network operating systems.

Computer Network Technologies: In this course, students are expected to recognize networks, network devices and to configure network devices.

Internet Programming-I: The abilities of explaining fundamental principles of internet, using basic HTML tags, designing web sites using web programming editors and creating dynamic and static web sites are the subjects of the course.

Visual Programming-II: In this course, students are expected to understand basic programming concepts using databases, to conduct queries to a data source using SQL, to implement queries by using C# programming languages, to transfer data for office software and to create applications with databases in C# programming language.

Database Management Systems: The contents of this course are; basic knowledge about database management systems and SQL commands and queries. The students learn to practice database utilization methods, to use databases in related projects and to develop database management skills.

Computer Maintenance and Repair: In this course, students are expected to gain general knowledge about computer hardware, to troubleshoot general computer hardware problems, to keep maintenance of computer hardware, to test hardware components and to install computer operating system.

Information Technology Security: In this course, students are expected to secure personal or network-based information systems hardware and software, to gain knowledge about viruses and malwares, and to defend computer systems for attacks.

Internet Programming-II: In Internet Programming-II course, students are expected to design dynamic web sites using web programming editors, to explain client-server model, to understand new web technologies like XML and Ajax.

Object Oriented Programming: The students are expected to understand fundamental principles of object orient programming, to create applications in C# programming language using classes and objects, to derive new classes from existing classes using inheritance, to create setup files.

Graphic and Animation Techniques: The aim of the course is to make students create images for web pages, create animations for web pages, utilize image processing software and utilize animation processing software.

Construction Technology Department

Construction Technology Department Course List

1st Year

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
1st Semester	Mathematics-I	2	2	0	2	2
	Atatürk's Principles and Reforms History -I	2	2	0	2	2
	Turkish Language-I	2	2	0	2	2
	Introduction to Psychology	2	2	0	2	2
	Foreign Language -I	4	4	0	4	4
	Common Military Issues-I	4	4	0	4	4
	Technical Drawing	2	0	2	1	3
	Building Materials	2	2	0	2	3
	Building Technology	2	2	0	2	3
	Masonry Structures	4	0	4	2	3
	Building Installations	2	2	0	2	2
	TOTAL	28	22	6	25	30

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
2nd Semester	Mathematics-II	2	2	0	2	2
	Physics	2	2	0	2	2
	Atatürk's Principles and Reforms History -II	2	2	0	2	2
	Turkish Language- II	2	2	0	2	2
	Foreign Language -II	4	4	0	4	4
	Common Military Issues-II	3	3	0	3	3
	Computer Technology	2	2	0	2	2
	Building Architecture and Detail Drawings	4	1	3	3	3
	Topography	2	0	2	1	4
	Mechanics and Statics	2	2	0	2	3
	Building Repair and Reinforcement	3	0	3	2	3
	TOTAL	28	20	8	25	30

Construction Technology Department Course List

2nd Year

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
3rd Semester	Democracy and Civil Society	2	2	0	2	2
	Military History	2	2	0	2	2
	Foreign Language -III	4	4	0	4	4
	Common Military Issues-III	2	2	0	2	2
	Computer Aided Design-I	3	1	2	2	4
	Building Cost And Feasibility	3	3	0	3	3
	Building Statics	2	2	0	2	3
	Reinforced Concrete	3	1	2	2	3
	Concrete Technology	4	1	3	3	4
	Plumbing Applications	3	0	3	2	3
	TOTAL	28	18	10	24	30

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
4th Semester	Introduction to Sociology	2	2	0	2	2
	Foreign Language -IV	4	4	0	4	4
	Common Military Issues-IV	3	3	0	3	3
	Computer Aided Design-II	3	1	2	2	3
	Soil Mechanics	2	2	0	2	3
	Wooden Structures	5	1	4	3	5
	Steel Structures	3	1	2	2	3
	Heating Installation Applications	3	0	3	2	4
	Electrical Installation in Building	3	1	2	2	3
	TOTAL	28	15	13	22	30

CONSTRUCTION TECHNOLOGY DEPARTMENT COURSE DESCRIPTIONS

Technical Drawing: In this course, it is intended for the student to develop knowledge and skills on the basic drawing skills, structural elements of the design, drawing and dimensioning. During the course, description and the importance of technical drawing, painting sets and tools, lines, articles, geometrical drawings, projections, sectional views, perspective views, dimensioning will be taught in practice.

Building Materials: In the course general features of construction materials, binders, concrete and concrete mixing calculations, the construction materials, soil, metals, wood, plastics, glass, paints, and latex paint, insulation materials will be taught in practice.

Building Technology: In this course, the student is aimed to comprehend the elements that make up the building, foundation ground and foundation structures, supporting walls and expansion joints, stairs, roofs, chimneys, earthquake and strength information.

Masonry Structures: In this course, it is aimed to provide the students with skills in the construction of walls, plaster coatings and reinforced concrete iron reinforcement.

Building Installations: In this course, the importance and supply of water, clean and waste water installation systems, clean cold and hot water installation, waste water and waste water installation, rain water installation, basic information about fire installation are covered. In addition, it is aimed to provide students with information about the maintenance and repair of the mentioned elements.

Computer Technology: In this course, students are expected to recognize computer hardware components, to understand general principles of computer operating systems and to utilize word processor, spreadsheet and presentation software.

Building Architecture and Detail Drawings: In this course, it is aimed to give the student the knowledge and skills related to the principles of architectural project drawing.

Topography: In this course students will be taught the necessary knowledge and skills in order to practice and make the basic measurements about his profession of land surveying techniques.

Mechanics and Static: In this course, it is aimed to introduce students to the equilibrium conditions and basic principles of stationary objects, to teach the importance of the balance of rigid bodies and the calculation methods, to gain the knowledge and skills to calculate the center of gravity, moment of inertia and moment of resistance.

Building Repair and Strengthening: In this course, it is aimed to provide the student with the knowledge and skills about damage assessment, destructive and non-destructive inspection techniques, repair and strengthening techniques.

Computer Aided Design- I: In this course, it is aimed to give students the knowledge and skills related to architectural project drawing principles using CAD software in computer environment.

Building Cost and Feasibility: In this course, it is aimed to make the student comprehend the preparation stages of the building, the content and functions of the zoning law and regulation, the tender works and work schedules, the quantity and exploration works and the related applications, the progress payment reports and the temporary and final acceptance procedures.

Building Statics: In this course it is aimed to teach students the basis of static force, stress and burdens to introduce cross-section under the force of structural members and accounting methods, and get them make measurements on coercion, force and moment beams.

Reinforced Concrete: In this course, it is aimed to provide students with knowledge and skills related to the principles of static project drawing.

Concrete Technology: In this course, it is aimed to provide the students with the knowledge and skills to make various experiments in the concrete laboratory and to compare and interpret the results.

Plumbing Applications: In this course, it is aimed to teach the students the basic information about plumbing elements, vitrified materials and armatures and the assembly workmanship of the materials, as well as to gain the skills to perform their maintenance and repair.

Computer Aided Design- II: In this course, it is aimed to make students gain knowledge and skills in respect to static project drawing on CAD program. Using CAD programs, the basic plan, colon, application plans, floor of the plan, and the drawing of beams and columns will be taught.

Soil Mechanics: In this course, the elements forming the soil, the physical properties of the soil, the determination of the basic properties of the soil, the grain size distribution in the soils, soil consistency limits, soil classification systems, water types in the soil, capillarity phenomenon, pore water pressure, effective stress, mohr stress circle, collapse of the building foundation and The causes of foundation soil fracture, Terzaghi bearing capacity theory, plate loading test and soil bearing capacity calculations are covered.

Wooden Structures: In this course, it is aimed to provide students with the skills of manufacturing building elements such as molds, roofs, coatings and joinery, which are the main and complementary elements of buildings, with machines and hand tools in the workshop.

Steel Structures: In this course, it is aimed to enable students to recognize the joining tools used in steel structures, to make calculations and drawings of rivets, bolts and welded joints, as well as to gain the knowledge and skills to make detailed drawings of a steel structure.

Heating Installation Applications: In this course, it is aimed to provide students with the skills of tools, tools and tools used in heating installation workmanship, heating installation pipe work, floor heater installation, heat exchanger, boiler, heater installation work and installation elements insulation applications.

Electrical Installation in Building: In this course, it is aimed to develop the knowledge and skills of the students to make feasibility studies on the features of painting household studies, drawing forms, types of projections, lighting, power, energy, transmission and distribution projects, to organize the details of the project, and to make presentations about the project.

Construction Plumbing Technology Department

Construction Plumbing Technology Department Course List

1st Year

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
1st Semester	Mathematics-I	2	2	0	2	2
	Atatürk's Principles and Reforms History -I	2	2	0	2	2
	Turkish Language-I	2	2	0	2	2
	Introduction to Psychology	2	2	0	2	2
	Foreign Language -I	4	4	0	4	4
	Common Military Issues-I	4	4	0	4	4
	Drawing Techniques in Installation	4	1	3	2	4
	Basic Plumbing Operations	4	1	3	2	4
	Plumbing Technology	2	2	0	2	3
	Building Materials and Building Technology	2	2	0	2	3
	TOTAL	28	22	6	24	30

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
2nd Semester	Mathematics-II	2	2	0	2	2
	Physics	2	2	0	2	2
	Atatürk's Principles and Reforms History -II	2	2	0	2	2
	Turkish Language- II	2	2	0	2	2
	Foreign Language -II	4	4	0	4	4
	Common Military Issues-II	3	3	0	3	3
	Computer Technology	2	2	0	2	2
	Welding Techniques and Applications	4	0	4	2	5
	Plumbing Applications	4	0	4	2	5
	Project Accounts - I	3	1	2	2	3
	TOTAL	28	18	10	23	30

Construction Plumbing Technology Department Course List

2nd Year

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
3rd Semester	Democracy and Civil Society	2	2	0	2	2
	Military History	2	2	0	2	2
	Foreign Language -III	4	4	0	4	4
	Common Military Issues-III	2	2	0	2	2
	Computer Aided Drawing in Installation-I	3	0	3	2	3
	Project Accounts - II	3	1	2	2	3
	Heating Installation Applications - I	5	1	4	3	5
	Heating Installation Technology	2	2	0	2	3
	Masonry Structures	2	0	2	1	3
	Electric and Automatic Control	3	1	2	2	3
	TOTAL	28	15	13	22	30

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
4th Semester	Introduction to Sociology	2	2	0	2	2
	Foreign Language -IV	4	4	0	4	4
	Common Military Issues-IV	3	3	0	3	3
	Computer Aided Drawing in Installation-II	3	0	3	2	3
	Heating Installation Applications - II	5	1	4	3	5
	Refrigeration and Air Conditioning Applications	4	1	3	3	4
	Energy Management and Applications	2	0	2	1	3
	Burner Technology	2	1	1	2	3
	Building Cost and Feasibility	3	3	0	3	3
	TOTAL	28	15	13	23	30

CONSTRUCTION PLUMBING TECHNOLOGY DEPARTMENT COURSE DESCRIPTIONS

Drawing Techniques in Installation: In this course students will learn how to use and maintain drawing tools and equipment, to make geometric drawings, to draw adequate views of projections and machine parts, to take cross-sections, to measure, to draw the perspectives of machine parts, to plan, schematics and assembly of systems, devices and materials used in plumbing. will have information about their drawings, plans, schemes and assembly drawings of systems, devices and materials used in the field of heating installation.

Basic Installation Operations: In this course, students will learn about the way and requirements of the applications, the introduction of the workshop and the workshop, occupational health and safety, measurement and control equipment, cutting, grinding, filing equipment, drilling-screwing equipment, compression-fixing, joining equipment, keys will have knowledge about carrier equipment, other equipment and materials, pipes used in plumbing, their features and workmanship, fittings used in plumbing, their features and workmanship, fixtures used in plumbing, their features and workmanship.

Plumbing Technology: In this course, students will learn about the supply and importance of water, the identification and use of tools, tools and equipment used in plumbing, basic information about clean and waste water installation pipe work, rainwater installation, fire installation, malfunctions that may arise in all kinds of plumbing processes and their elimination. will have information about methods.

Building Materials and Building Technology: In this course it is aimed for the student to comprehend building technology and applications from foundation to roof, general specifications of basic material used in the construction work.

Computer Technology: In this course, students are expected to recognize computer hardware components, to understand general principles of computer operating systems and to utilize word processor, spreadsheet and presentation software.

Welding Techniques and Applications: The aim of this course is to introduce student's machines, equipment and other helping tools that are used for electrical arc and oxi-gas welding, to teach the principles and safety rules when applying electrical arc and oxi-gas welding and to apply different welding practices with both method of welding.

Plumbing Applications*:* In this course, students will learn about the basic information about plumbing elements, sanitary ware and armatures, and the assembly work of the materials, the malfunctions that may arise in all kinds of plumbing processes and the methods of their removal.

Project Accounts- I: In this course, students can learn the general definitions and concepts related to mechanical devices, learn how to prepare the project of a building plumbing, plumbing projects, drawing diagrams show the columns used in the floor and clean and dirty water plumbing pipe diameters to calculate understand, plumbing materials in the building how it should be appropriate to explain the settlements, installation drawings show cross-sections, the placement of the devices, columns and beam detail drawings, the design of a clean water supply, sewage, drainage pipes design, sealed septic tank where the design, details and drawing, the location of the rain water, calculation and drawing, fire, system design, calculation and drawing, and writing to booster account, plumbing devices, making detailed drawings, plumbing preparation of project reports.

Computer Aided Drawing in Installation-I: The aim of Computer Aided Design - I course is to teach knowledge and skills about plumbing, heating and gas installation projects, computer drawing programs (AutoCAD).

Project Accounts – II: The purpose of this course is to introduce students the properties of building components and building components, heat loss calculations, the system detailed accounts, heating equipment and project implementation, related to the cooling load calculations.

Heating Installation Applications – I: In this course, students will learn about the classification of heating systems, selection of heating systems, central heating systems, heating installation work, heating installation pipe work and floor heating installation work.

Heating Installation Technology: In this course, students will learn about basic definitions and concepts related to heating, classification of heating systems, criteria for selection of heating systems, basic information and working principles of heating system types, basic knowledge and working principles of elements that make up heating systems, innovations in heating systems and will learn about technological developments and natural gas installations.

Masonry Structures: In this course, students will learn about masonry with brick and various blocks, plastering, masonry floor and wall covering, foundation reinforcement, column and beam reinforcement, and flooring reinforcement.

Electric and Automatic Control: In this course it is aimed to develop students' knowledge and capability about basic laws of electrics. They are supposed to use and apply to basic laws of electrics in alternative and direct current. Kinds of electric motors, their contents, their functioning principles, connection principles to network, usage and character of electric motors, usage and character of control devices, setting control circuit, characters of heat control devices and their functions are mainly subjects to be taught.

Computer Aided Drawing in Installation-II: The aim of this course is to gain knowledge and ability on plumbing, heating and gas installation projects, computer drawing programs (AutoCAD). In thıs course, students can draw shapes on basic plumbing materials, implement of fresh water, implement of dirty water project, apply heating project applications and make air conditioning project applications.

Refrigeration and Air Conditioning Applications: The aim of this course is to give students theoretical knowledge about cooling technology and make them able to do basic applications related with cooling technology. The purpose of this course is also to teach students definition of devices, tools and equipment that is used for metal sheet laboring, air ducts and clincher joints and pull in-out processes of air conditioning equipment.

Energy Management and Applications: In this course, students learn about energy and energy resources, the general energy situation of our country, energy consumption, energy management, energy saving, measuring instruments and measurement techniques, boiler types, increasing energy efficiency in boilers, electricity systems, electric motors, lighting, pumps and fans. energy conservation, economic analysis, environmental laws, environment and energy relationships, alternative energy sources, evaluation of turkey wherein the energy potential, combined heat and power production systems will have information about cogeneration.

Burner Technology: The aim of this course is to teach students, definition of crude oil and its subtraction, definitions and concepts related with burn and burn control, information about high pressured burners and gas burners.

Building Cost and Feasibility: In this course, it is aimed to make students calculate the preparation of structure, content and functions of the zoning laws and regulations, procurement jobs and job schedules, quantities and exploration works and related applications, comprehend the progress reports and the preliminary and final acceptance procedures.

Electrics Department

Electrics Department Course List

1st Year

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
1st Semester	Mathematics-I	2	2	0	2	2
	Atatürk's Principles and Reforms History -I	2	2	0	2	2
	Turkish Language-I	2	2	0	2	2
	Introduction to Psychology	2	2	0	2	2
	Foreign Language -I	4	4	0	4	4
	Common Military Issues-I	4	4	0	4	4
	Direct Current Circuit Analysis	4	2	2	3	5
	Measurement and Basic Electronics	3	1	2	2	3
	Electric Wiring Plans	2	2	0	2	3
	Winding Technique	3	1	2	2	3
	TOTAL	28	22	6	25	30

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
2nd Semester	Mathematics-II	2	2	0	2	2
	Physics	2	2	0	2	2
	Atatürk's Principles and Reforms History -II	2	2	0	2	2
	Turkish Language- II	2	2	0	2	2
	Foreign Language -II	4	4	0	4	4
	Common Military Issues-II	3	3	0	3	3
	Computer Technology	2	2	0	2	2
	Electrical Machines-I	4	2	2	3	5
	Alternating Current Circuit Analysis	4	2	2	3	5
	Analog Electronics	3	1	2	2	3
	TOTAL	28	22	6	25	30

Electrics Department Course List

2nd Year

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
3rd Semester	Democracy and Civil Society	2	2	0	2	2
	Military History	2	2	0	2	2
	Foreign Language -III	4	4	0	4	4
	Common Military Issues-III	2	2	0	2	3
	Special Electrical Machines	4	2	2	3	4
	Digital Electronics	3	1	2	2	4
	Supplementary Electrical Services and Systems	2	2	0	2	2
	Applications and Theory of Generator's Engine	2	2	0	2	2
	Electromechanics Command Systems	4	2	2	3	5
	Refrigeration and Air Conditioning	3	1	2	2	3
	TOTAL	28	20	8	24	30

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
4th Semester	Introduction to Sociology	2	2	0	2	2
	Foreign Language -IV	4	4	0	4	4
	Common Military Issues-IV	3	3	0	3	3
	Electrical Machines - II	4	2	2	3	5
	Power Electronics	4	2	2	3	4
	Computer Aided Design	3	2	1	3	3
	Programmable Controllers	4	2	2	3	5
	Electrics Network and Constructions	4	2	2	3	4
	TOTAL	28	19	9	24	30

ELECTRICS DEPARTMENT COURSE DESCRIPTIONS

Direct Current Circuit Analysis: In this course, it is aimed to develop students' knowledge and capability about basic concepts about electricity, electric circuit substance, energy, work and power in electric circuit, circuit solving methods and magnetism.

Measuring and Basic Electronics: In this course, it is aimed to develop students' knowledge and capability about basic concept about measuring devices, AC and DC measurement devices and measuring techniques, work, power and energy measuring in electric circuits, getting circuit signal by using oscilloscope, getting printed circuit board.

Electric Wiring Plans: In this course, it is aimed to develop students' knowledge and capability about drawing shapes, kinds of projection, be able to do feasibility work about lighting, power, energy, transmission and distribution projects, be able to organize details about the project, being able to arrange about the project.

Winding Technique: In this course, it is aimed to develop students' knowledge and capability about being able to recognize substance technology of electric machines, to calculate production of any electrical machine and to comprehend the rules of substance choice, to wind electric machines.

Computer Technology: In this course, students are expected to recognize computer hardware components, to understand general principles of computer operating systems and to utilize word processor, spreadsheet and presentation software.

Electrical Machines – I: In this course, it is aimed to develop students' knowledge and capability about content, working, characteristics of transformers and direct current machines and their applications and solving problems about working characteristics of transformers and direct current machines.

Alternative Current Circuit Analysis: In this course, it is aimed to develop students' knowledge and capability about basic concepts, electric circuit substance, energy, work and power in electric circuit, circuit solving methods, magnetism, basic elements in alternative current, the behaviors of resistive, capacitive and inductive substances in alternative current and circuit solving methods, the characteristics and analysis of energy, work and power in alternative current and three-phase systems.

Analog Electronics: In this course, it is aimed to develop students' knowledge and capability about features and production materials of semi-conductors in electronics, diodes, varieties of diodes, structures and features of diodes, structure of BJT's, features and varieties of BJT's, basic principles and biasing of BJT's, features, varieties, structures, principles and biasing of FET's.

Special Electrical Machines: In this course, contents and working principle of universal motors, stepper motors and servo motors will be taught in practice.

Digital Electronics: In this course, students learn number systems, logic circuits and karnough map. Students learn how many number systems are, their conversions, and addition and subtraction in number systems. By knowing the basic logic circuits and their types, students can make various designs related to these elements and apply these circuits they have designed in a board or computer environment.

Supplementary Electrical Services and Systems: In this course, students learn the working principle of heating systems, water supply systems in buildings, the elements used in fire alarm systems and the working principle. In this way, students know the fire alarm systems and set up the fire alarm circuits by selecting the appropriate materials. In this course, students also learn about lightning systems and the working principle of backup supply systems.

Applications and Theory of Generator's Engine: In this course, diesel and internal combustion engines' functions, principles of engines' running systems and system information will be taught in practice.

Electromechanic Command Systems: In this course; control circuit components, electric motor protection relays and PLC systems will be taught practically

Refrigeration and Air Conditioning: In this course, it is aimed to teach students general definitions and concepts related to cooling and air-conditioning, air- conditioning equipment and their working principles, vacuuming and gas-charging processes, burners, pumps and hydrants; to reinforce their knowledge with up-to-date applications; to provide them to gain the common information about air-conditioning with following latest developments in technology and cooling; to give students information and ability to reach results by applying formulas, theories and diagrams and to interpret them under the light of the cooling science.

Electrical Machines-II: In this course contents, connection and working principle of single and three - phase induction motors, contents, connection and working principle of three - phase synchronous machines will be taught in practice.

Power Electronics: In this course, it is aimed to develop students' knowledge and capability about semi-conductive elements and properties, inverters, converters, rectifiers, sensors and transducers types and their usages.

Computer Aided Design: In this course, it is aimed to develop students' knowledge and capability about electronic circuit design in computer, preparing printed circuit boards of these circuits and simulation of electronic circuit by connecting measurement components, evaluation about working of circuit after simulation.

Programmable Controllers: In this course, Programming PLC will be taught with ladder diagrams and function blocks in practice.

Electrics Network and Constructions: In this course, it is aimed to develop students' knowledge and capability about basic concepts about electricity grids and plants, electrical installation technology, low –voltage electricity grid types and protection methods, practices in setting up the installation by using the elements used for electrical installations in a building, importance and practice of compensation at electrical installations and transmission and distribution lines.

Electronics Communications Technology Department

Electronics Communications Technology Department Course List

1st Year

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
1st Semester	Mathematics-I	2	2	0	2	2
	Atatürk's Principles and Reforms History -I	2	2	0	2	2
	Turkish Language-I	2	2	0	2	2
	Introduction to Psychology	2	2	0	2	2
	Foreign Language -I	4	4	0	4	4
	Common Military Issues-I	4	4	0	4	4
	Computer Technology	2	2	0	2	2
	Direct Current Circuit Analysis	4	2	2	3	5
	Measurement and Basic Electronics	3	1	2	2	3
	Digital Electronics	3	1	2	2	4
	TOTAL	28	22	6	25	30

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
2nd Semester	Mathematics-II	2	2	0	2	2
	Physics	2	2	0	2	2
	Atatürk's Principles and Reforms History -II	2	2	0	2	2
	Turkish Language- II	2	2	0	2	2
	Foreign Language -II	4	4	0	4	4
	Common Military Issues-II	3	3	0	3	3
	Computer Aided Design	2	2	0	2	3
	Digital Design	4	2	2	3	4
	Alternating Current Circuit Analysis	4	2	2	3	5
	Analog Electronics-I	3	1	2	2	3
	TOTAL	28	22	6	25	30

Electronics Communications Technology Department Course List

2nd Year

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
3rd Semester	Military History	2	2	0	2	2
	Democracy and Civil Society	2	2	0	2	2
	Foreign Language -III	4	4	0	4	4
	Common Military Issues-III	2	2	0	2	2
	Analog Electronics-II	3	1	2	2	3
	Digital Communication	4	2	2	3	5
	Analog Communication	4	2	2	3	5
	Computer Programming Language	3	1	2	2	3
	Microcontrollers	4	2	2	3	4
	TOTAL	28	18	10	23	30
Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
4th Semester	Introduction to Sociology	2	2	0	2	2
	Foreign Language -IV	4	4	0	4	4
	Common Military Issues-IV	3	3	0	3	3
	Computer Hardware	4	2	2	3	5
	Computer Network Systems	2	0	2	1	3
	Developing Communication Technologies	4	2	2	3	4
	Industrial Electronic Applications	3	1	2	2	3
	System Analysis and Design	3	1	2	2	3
	Telephone Switching and Communication Systems	3	1	2	2	3
	TOTAL	28	16	12	22	30

ELECTRONICS COMMUNICATION TECHNOLOGY DEPARTMENT
COURSE DESCRIPTIONS

Computer Technology: In this course, students are expected to recognize computer hardware components, to understand general principles of computer operating systems and to utilize word processor, spreadsheet and presentation software.

Direct Current Circuit Analysis: This course covers information of Ohm principle, Kirchoff principles, calculation of current, voltage, power and equivalence resistor, Star-Triangle transformations, periphery current method, Superposition, maximum power, Thevenin, Norton theorem, structure and parameters of inductance and capacitor, parallel-series equivalence calculation of inductance and capacitor, direct current RLC circuit, power, energy and gain topics.

Measurement and Basic Electronics: This course covers precaution for electric shocks and grounding, current, voltage, period and frequency measurement, power and energy, calculations related to power and energy, measurement and measurement errors, types and structure of digital/analog measurement instruments, structure and features of digital/analog oscilloscope, types, structure and specifications of passive circuit components, types, structure and specifications of active circuit components, industrial electronic circuit components, pressure sensors.

Digital Electronics: The aim is to teach number systems, Boolean algebra, structure and working of converter and performing their workshops.

Computer Aided Design: This course covers menu and toolbars of the schematic editor program, drawing line and bus connections, creating new components and save to the library, simulation of the analog and digital circuits, using menu and toolbars of the schematic editor program, observing printed circuit drawing from circuits schematics automatically, creating, deleting, moving blocks, adding, deleting and rotating letters on the circuit schematic, practice segmentation for the special areas.

Digital Design: In this course it is aimed to teach multivibrators, flip-flops, sequential circuits, analogue-digital converters, digital-analogue converters and their principles, and perform their applications.

Alternating Current Circuit Analysis: The topics included in the course are amplitude, phase, frequency, period, mean value, instantaneous value, effective value, Complex Numbers Arithmetic operations, Representation of Sinusoidal magnitude in the Complex Plane, Vector Representation of a Sinusoidal Magnitude, impedance information, The Concept of Resonance, Periphery Current Method, Node Voltage Method, Superposition Theorem, Thevenin and Norton Method.

Analog Electronics-I: This course covers specifications of semiconductor components, types and principles of diodes, types and specifications of bipolar junction transistors, analyze of BJT at direct and alternative current, types and specifications of field effect transistors, analyze of FET at direct and alternative current, types and specifications of amplifiers, working class of amplifiers, types and specifications of oscillators.

Analog Electronics-II: This course covers ideal, inverter, non-inverter, adder, subtracter, differentiator, integrator, voltage spectator and logarithmic amplifiers, SCR knowledge, diac and triac knowledge, UJT, PUT and relays.

Digital Communication: This course covers sampling circuits, which provide the basis for communication, and analog-digital converter, digital-analog converter, compression-expansion circuits, pulse modulation techniques, and digital modulation techniques, type of multiplexing and telephone plant.

Analog Communication: This course covers time and frequency domain analysis of signals (Fourier Analysis), the principles of filters and types, the principles of linear modulation and types, the principles of exponential modulation and types.

Computer Programming Language: In this course, students are expected to understand fundamental principles of algorithms and reasons for using algorithms, to create algorithm for a given problem, to draw flowcharts for algorithms, to understand basic programming concepts and to create applications using programming language.

Microcontrollers: This course covers general structure of a microcomputer, setting up a microcontroller system, compiler instructions, software instructions, branching instructions, special purpose instructions, control applications with microcontroller, 4x4 matrix key-pad control, step motor applications.

Computer Hardware: The students learn how to gain general knowledge about computer hardware, troubleshoot general computer hardware problems and to keep maintenance of computer hardware.

Computer Network Systems: In this course, students are expected to recognize networks, to install local area network, to recognize components which needed for local area network and to design local area network.

Developing Communication Technologies: In this course, it is aimed to improve the knowledge and skills of students in understanding the basic principles of communication technologies, testing and splicing fiber optic systems and fiber optic cables.

Industrial Electronic Applications: This course covers; power control signals, power control circuit components, power control application circuits, buck convertors, boost convertors, buck-boost convertors, motor types.

System Analysis and Design: In this course, it is aimed to teach students the fundamentals of electronics, circuit components used in electronic technology, their behaviors and specifications, current and voltage measurements, and also to improve their practical abilities about accomplishing applications circuits.

Telephone Switching and Communication Systems: In this course, students will be able to recognize the communication principles, voice and telephone set features, the systems between the subscriber and the exchange from the local telephone network, the basic principles of switching in telephone exchanges, the telephone traffic and traffic density, the analogue and digital switchboard structures and the principles of signaling and It is aimed to develop knowledge and skills to comprehend energy requirements.

Mechatronics Technology Department

Mechatronics Technology Department Course List

1st Year

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
1st Semester	Mathematics-I	2	2	0	2	2
	Physics	2	2	0	2	2
	Atatürk's Principles and Reforms History -I	2	2	0	2	2
	Turkish Language-I	2	2	0	2	2
	Foreign Language -I	4	4	0	4	4
	Common Military Issues-I	4	4	0	4	4
	Measurement Techniques	2	2	0	2	2
	Measurement and Basic Electronics	3	1	2	2	3
	Manufacturing Operations	4	2	2	3	4
	Technical Drawing	3	1	2	2	5
	TOTAL	28	22	6	25	30

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
2nd Semester	Mathematics-II	2	2	0	2	2
	Atatürk's Principles and Reforms History -II	2	2	0	2	2
	Turkish Language- II	2	2	0	2	2
	Introduction to Psychology	2	2	0	2	2
	Foreign Language -II	4	4	0	4	4
	Common Military Issues-II	3	3	0	3	3
	Computer Technology	2	2	0	2	2
	Circuit Analysis	2	2	0	2	3
	Analog Electronics	3	1	2	2	3
	Computer Aided Machine Tools	3	1	2	2	3
	Computer Aided Drawing	3	1	2	2	4
	TOTAL	28	22	6	25	30

Mechatronics Technology Department Course List

2nd Year

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
3rd Semester	Introduction to Sociology	2	2	0	2	2
	Foreign Language -III	4	4	0	4	4
	Common Military Issues-III	2	2	0	2	2
	Electrical Machines	3	1	2	2	4
	Digital Electronics	3	1	2	2	4
	Engine Technology	4	2	2	3	4
	Computer Programming Language	3	1	2	2	4
	Strength of Materials	2	2	0	2	2
	Hydraulic Pneumatic	3	1	2	2	3
	Material Technology	2	2	0	2	3
	TOTAL	28	18	10	23	32

Semester of Course	Name(s) of the Course(s)	Weekly Course Hour			Total Credits	ECTS Credit
		Total	Theory	Practice		
4th Semester	Democracy and Civil Society	2	2	0	2	2
	Military History	2	2	0	2	2
	Foreign Language -IV	4	4	0	4	4
	Common Military Issues-IV	3	3	0	3	3
	Microcontrollers	3	1	2	2	4
	Robotics	2	2	0	2	3
	Applications of Mechatronics Systems and Repairing	4	2	2	3	4
	Mechanical Elements	2	2	0	2	2
	Welding Techniques	3	1	2	2	3
	Automatic Control Circuits	3	2	1	3	3
	TOTAL	28	21	7	25	30

MECHATRONICS TECHNOLOGY DEPARTMENT COURSE DESCRIPTIONS

Measurement Techniques: In measurement techniques course, it is intended to teach students the definition of measurement and its importance, measurement techniques, measurement errors and also usage of measurement equipment. A good background is provided for developing themselves.

Measurement and Basic Electronics: This course covers precaution for electric shocks and grounding, current, voltage, period and frequency measurement, power and energy, calculations related to power and energy, measurement and measurement errors, types and structure of digital/analog measurement instruments, structure and features of digital/analog oscilloscope, types, structure and specifications of passive circuit components, types, structure and specifications of active circuit components, industrial electronic circuit components, pressure sensors.

Manufacturing Operations: This course aims to develop students' basic knowledge and skills about definition of manufacturing operations and technical manufacturing, using sets and tools, standard manufacturing technics, turning, milling, drilling and molding.

Technical Drawing: This course aims to develop students' basic knowledge and skills about definition of technical drawing, drawing sets and tools, standard lines and texts, geometrical drawings, projection methods, creating views, perspective drawings, sectioning views and dimensioning.

Computer Technology: In this course, students are expected to recognize computer hardware components, to understand general principles of computer operating systems and to utilize word processor, spreadsheet and presentation software.

Circuit Analysis: In this course it is aimed to develop students' knowledge and capability about basic concepts about electric, electric circuit substance, energy, work and power in electric, circuit solving methods, magnetism, basic elements in AC, the behaviors of resistive, capacitive and inductive substances in AC and circuit solving methods the characteristics and analysis of energy, work and power and three-phase systems.

Analog Electronics: In this course it is aimed to develop students' knowledge and capability of conducting diode applications and calculations; conducting applications and calculations of common based, common emittered and common collector circuits; conducting and calculating the circuits related with usage areas of op-amps.

Computer Aided Machine Tools: In this course, students will learn about turning, milling and CNC turning and milling techniques used in the production of machines and components.

Computer Aided Drawing: In this course it is provided that students improve their abilities and knowledge about interface of computer aided design (CAD), operating logic, commands of two dimensional drawing, commands of three dimensional drawing, assembly techniques and creating technical drawing of part and assembly.

Electrical Machines: In this course it is aimed to develop students' knowledge and capability about kinds, usage and starting methods of DC motors that they experience in their work-life, connection and basic calculation about usage of transformers, content, working, connection and usage of single and three - phase synchronous and induction motors.

Digital Electronics: In this course it is aimed to develop students' knowledge and capability to identify the analogue and digital signals, number systems, logic gates, to learn and use Boolean algebra and minterms and maxterms, to learn how to draw Karnaugh maps, and to identify counters, encoders and decoders.

Engine Technology: The content of this course is the introduction to engine types and their operations. Combustion in gasoline and diesel engines. Basics of Maintenance and Repair of the Internal Combustion Engine Systems.

Computer Programming Language: In this course, students are expected to understand fundamental principles of algorithms, reasons for using algorithms, to create algorithm for a given problem, to draw flowcharts for algorithms, to understand basic programming concepts, and to create applications using programming language.

Strength of Materials: In this course it is aimed to develop students' knowledge and capability to basic concepts of strength of materials.

Hydraulic Pneumatic: The object of course is to teach hydraulic - pneumatic systems and circuit elements properties of hydraulic / pneumatic and then to make a design hydraulic / pneumatic circuit.

Material Technology: The aim is to make students know the varieties of materials, the atomic form of materials and the destructive and non-destructive inspections that are implemented on materials.

Microcontrollers: In this course it is aimed to develop students' knowledge and capability to identify PIC microcontroller family and its general specifications, pin specifications of PIC16F84, compiler program, program interface of PIC programmer, commands of PicBasicPro, timer, counter, sensor and relay applications.

Robotics: In this course, students will learn about robotic system concepts and components, control systems, robotic systems, and robotic systems in the military field.

Application of Mechatronics Systems and Repairing: Aim of this course is the design of mechatronic system, production of circuit components and repairing the faults could be come across in systems.

Mechanichal Elements: In this course, it is aimed to provide scientific background for students in the subjects of basic concepts, connection components, motion transfer components and supplying components.

Welding Techniques: Aim of this course is to describe electric arc and oxygen- acetylene welding, machine, equipment that are used at advance welding, rules and security management while electric arc and oxygen-acetylene welding, different welding applications developing.

Automatic Control Circuits: In this course it is aimed to develop students' knowledge and capability about control components, control of electric motors. They can recognize electromechanical control input components.

COMMON COURSES

Atatürk's Principles and Reforms History – I: This course aims to raise prospective sergeants as fellows devoted to Ataturk's nationalism, adopting and protecting the national, moral and cultural values of Turkish Nation and homeland, aware of their duties and responsibilities towards the Turkish Republic that is a state of law, secular, social and democratic as well, based on human rights and the basic principles of the Constitution and made a behavior of them.

Atatürk's Principles and Reforms History – II: This course aims to teach the phase of foundation of The Turkish Republic, modern, based on national freedom; political, social and financial revolutions which came true in the early years of The Turkish Republic and Ataturk Period and after the period, Turkish Foreign Policy.

Democracy and Civil Society: Aim of the course is to introduce the concepts of democracy and civil society and to ensure that the students adopt them as an accepted value within the framework of the concepts and historical developments. It is aimed to improve institutional culture through presenting culture of democracy and the concept of respect to democracy.

Foreign Language – I: The aim of the course, within Natural Approach, is to improve Starter-level students' two basic language skills (Listening-Reading) through listening and reading chapters of Cambridge Interchange-Intro course book and to make them gain essential knowledge for further English level that is aimed to reach in the following term.

Foreign Language – II: The aim of the course, within Natural Approach, is to improve Starter-level students' two basic language skills (Listening-Reading) through listening and reading chapters of Cambridge Interchange-Intro course book and to make them gain essential knowledge for further English level that is aimed to reach in the following term.

Foreign Language – III: The aim of the course, within Natural Approach, is to improve A1-level students' two basic language skills (Listening-Reading) through listening and reading chapters of Cambridge Interchange-1 course book and to make them gain essential knowledge for further English level that is aimed to reach in the following term.

Foreign Language – IV: The aim of the course, within Natural Approach, is to improve A1-level students' two basic language skills (Listening-Reading) through listening and reading chapters of Cambridge Interchange-1 course book and to make them gain essential knowledge for A2 English level that is aimed to reach before graduation.

Introduction to Psychology: In this course, students will learn about psychology science, perception, motives and emotions, cognition and mental abilities, learning psychology, personality and stress.

Introduction to Sociology: The aim of the sociology course is to understand societies according to their place and time concepts within concrete and objective circumstances, to explain the effects of these societies progress throughout the history, to reach a commonsense by determining the similarities between different societies, to predict future events by examining current sociologic data etc.

Mathematics I – II: In lessons these issues are examined; basic operations on number sets, problems of first and second degree inequalities, properties of functions, graphs of line and parabola, properties of matrices and determinants and Euclidean system, examined; trigonometric identifies, basic properties of complex numbers, a given function is whether continuous or not at a certain point or in a certain range, derivative of a function, tangent and normal equations of a given function at a certain point, integration of a function and properties of definite integral.

Military History: This course aims to develop historical awareness, to make inferences by evaluating the battles in terms of current military doctrines, and to improve their decision-making abilities for the prospective sergeants.

Physics: The aim of this subject is, substance properties, motion, how the motion is being and the force which causes motion. Wave motion, how to wave and light propagate, nature and properties of light, wave properties, lights energy, light and colour, electromagnetic waves, electrostatic, electric current, magnetism, inducton. We teach general rules and information of this subjects.

Turkish Language-I: In this course, it is aimed to teach students the structure and the functional properties of native language. Students can express their thoughts according to the rules of written and oral forms of The Turkish language. Students can use their native language correctly, grammatically and well.

Turkish Language-II: It is aimed to raise students who know the structure of the Turkish language and its peculiarities, who express their ideas orally or in written forms in an effective way; who practice the writing rules of the Turkish language correctly, who can use Turkish as both written and oral instrument for expressing themselves and who can speak the Turkish language correctly and fluently.