

## ENVIRONMENTAL HEALTH PROGRAM

### 2024-2025 COURSE CONTENTS

#### SEMESTER I

##### **ATA103 - Principles of Atatürk and History of Revolutions I**

**(2+0), ECTS:2**

Concepts, definitions, course methods and definition of resources, Industrial Revolution and French Revolution, Dissolution of the Ottoman Empire (19th Century), Tanzimat and Islahat Edict, I. and II. Constitutional Monarchy, I. World, Tripoli and Balkan Wars, Mondros Armistice, Wilson Principles, Paris Conference, M. Kemal's Arrival in Samsun and the Situation in Anatolia, Amasya Circular, National Congresses, Opening of the Assembly of Deputies, Establishment of the TBMM and Internal Revolts, Fundamental Organization Law, Establishment of the Regular Army, I. II. İnönü, Kütahya-Eskişehir and Sakarya Field Battles and the Great Offensive, Treaties during the War of Independence, Lausanne Peace Treaty, Abolition of the Sultanate

##### **CEV109 - Environmental Policies and Legislation**

**(2+0), ECTS:4**

This course examines the causes of environmental problems and prevention policies, national and international environmental protection policies, sustainable development, and environmental issues. It also examines the reasons for the emergence of environmental concerns, the historical development of environmental law, the concept of environmental law, Turkish Environmental Legislation, Laws, Regulations, International Agreements, EU Environmental Policies, and implementation proposals for EU Environmental Directives.

##### **CEV121 - Environmental Microbiology**

**(3+0), ECTS:4**

Introduction to tools and equipment used in the laboratory, general information about microorganisms, cell and chemical structure, microbiological diversity of the cell, microbial metabolism, microbial growth and reproduction kinetics, algae, fungi, protozoa, vectors, and arthropods. Includes water, wastewater, and solid waste microbiology and diseases and microbiology topics.

##### **GKM101 - General Chemistry**

**(2+0), ECTS:3**

Matter, Elements, Compounds, Mixtures, Measurements and Mole Concept, Finding Chemical Formulas, Redox Reactions, Calculations Based on Chemical Reactions, Atom: Atomic Models, Proton, Neutron, Electron, Electromagnetic Radiation, Bohr Atomic Theory, Periodic Table, Quantum Numbers, Atomic Radius, Ionization Energy, Electron Affinity, Electronegativity, Structure of the Atomic Nucleus, Chemical Bonds: Ionic and Covalent Bonds, Exceptions to the Octet Rule, Chemical Bonding Theories, Acid-Base Concept, Solutions, Buffer Solutions, Food Calorie Calculation

##### **INGU103 - English I**

**(2+0), ECTS:2**

This course is designed for beginners in English and aims to develop basic language skills. It helps learners to acquire listening, reading and writing skills through different teaching techniques and practice studies. Learners learn basic grammar patterns and words using dialogues and texts used in real-life situations. At the end of this course, learners are prepared to advance from beginner to intermediate level of English.

**LBT103 - General Biology****(2+0), ECTS:4**

It includes the subjects of the living world, the main chemical substances that make up the structure of living things, cell information and metabolism, protein synthesis and the physiological state of the cell, reproduction in the cell.

**MYO101 - Basic Anatomy and Physiology****(3+0), ECTS:4**

Introduction to Anatomy and Physiology, Cell Theory, Cell Organelles, Substance Exchange, Cell Metabolism, Locomotor System Anatomy and Bone, Joint and Muscle Physiology, Respiratory System Anatomy and Physiology, Circulatory System Anatomy and Physiology, Digestive System, Urinary System, Genital System, Endocrine System, Nervous System, Anatomy and Physiology of Sense Organs.

**TURK103 - Turkish Language I****(2+0), ECTS:2**

Language awareness, reading taste and habits, correct use of basic spelling and punctuation rules, a wider vocabulary.

**RKUL103 - University Culture I (USEC)****(0+2), ECTS:4**

Each semester includes seminars, conferences, panels, workshops and talks to be held for 14 weeks within the framework of a program consisting of the suggestions of the academic units, student council and student clubs at the university.

**SEMESTER II****ATA104 - Principles of Atatürk and History of Revolutions II****(2+0), ECTS:2**

Events, ideas, and principles in the birth and development process of modern Turkey; Turkish Foreign Policy during the Atatürk Period, Atatürk's Revolutions, Atatürk's Principles.

**CEV100 - Environmental Chemistry****(3+0), ECTS:5**

Introduction to Environmental Chemistry, Analytical Chemistry, Analytical Chemistry Applications in Environmental Health, Physical Pollution Parameters, pH - Acidity/Alkalinity, Dissolved Ions in Water (Chloride, Sulfate and Hardness), Solids, Dissolved Oxygen and Its Importance, Biochemical Oxygen Demand (BOD) and Chemical Oxygen Demand (COD), Nitrogen, its types and importance, Phosphorus, its types and importance.

**CEV120 - Air Pollution and Control****(3+0), ECTS:5**

Introduction to air pollution, definitions and atmospheric structure, Air pollutant sources and classification of pollutants, Formation processes of air pollutants and their effects on the environment, Pollution transformations in the atmosphere and hazardous air pollutants, Air pollution chemistry, Toxic gases and their effects on environmental health, Indoor air pollutants and their effects on health, on-site control of air pollutants, Legal regulations on air pollution. General definitions related to precipitation, measurement and expression of precipitation, characteristics of precipitation, geographical distribution of precipitation. Isobar and characteristics of isobar, Definition of meteorology and its relationship with other sciences, meteorological parameters, concepts of heat and temperature, distribution of temperature on earth

**CEV124 - Environmental Impact Assessment****(2+0), ECTS:4**

Definition of Environmental Impact Assessment (EIA), concept and history of EIA, Wastewater and Water Pollution, Air Pollutants and Pollution, Solid Waste and Soil Pollution, Hazardous Waste, Noise Pollution, Radioactive Pollution, Environmental Impact Assessment Process, Environmental Impact Assessment Regulation, Environmental Impact Assessment Components, Environmental Legislation.

**CEV128 - Environmental Toxicology****(2+0), ECTS:4**

Includes the living world, main chemical substances that form the structure of living things, cell information and metabolism, protein synthesis and physiological state of the cell, reproduction in the cell.

**INGU104 - English II****(2+0), ECTS:2**

This course is designed for learners who are new to English and aims to develop basic language skills. It helps learners acquire listening, reading and writing skills through different teaching techniques and practice studies. Students learn basic grammar patterns and words using dialogues and texts used in real-life situations. At the end of this course, students are prepared to advance from beginner to intermediate level of English.

**TURK104 - Turkish Language II****(2+0), ECTS:2**

Language awareness, reading taste and habit, correct use of basic spelling and punctuation rules, a wider vocabulary.

**RKUL104 - University Culture II (USEC)****(0+2), ECTS:4**

Each term includes seminars, conferences, panels, workshops and talks to be held for 14 weeks within the framework of a program consisting of the suggestions of the academic units, student council and student clubs at the university.

**RPSI209 - Positive Psychology and Communication Skills (USEC)****(2+0), ECTS:3**

Definition of positive psychology, basic concepts, theoretical foundations and applications, examining the brain behavior systems of emotional experience and behavior, knowing oneself and others, psycho-social life skills and problem-solving skills, motivation and planning, anger, aggression, violence, relationship management, healthy decision-making, perseverance and compromise.

**SEMESTER III****CEV221 - Solid Wastes****(2+0), ECTS:5**

Definition and classification of solid waste, Solid waste characteristics, physical and chemical compositions, Accumulation, collection and disposal methods of urban wastes, Solid waste management, Solid waste disposal methods, Definition and classification of hazardous wastes, Hazardous waste criteria and lists, Hazardous waste management - collection, transportation and disposal methods, Solid wastes and legal regulations in our country regarding hazardous wastes

**CEV225 - Water Quality and Treatment****(3+0), ECTS:7**

Physical Chemical Biological and Advanced Treatment Principles, Surface and Groundwater Treatment Principles, Aeration Systems, Coagulation-Flocculation Sedimentation Sand Filters in Water Treatment, Water Quality Improvement Methods. It includes information such as Water Quality Criteria and Standards, Hydrological cycle, basin concept, pollutants in surface and groundwater environments, types and sources of water pollution, water quality classification, stream pollution, lake pollution, status of water resources in Turkey, Water Quality Legislation and EU Water Framework Directive.

**CEV227 - Laboratory Applications in Environmental Health****(0+2), ECTS:6**

Laboratory General and Personal Safety Measures, Used Materials and Devices, Cleaning of Materials, Measurement Methods, Sampling, Preparation of Samples for Analysis, General Analysis Methods, Calculation and Preparation of Solutions, General Tools-Devices and Microscopes Used in Microbiology; Classification and general characteristics of microorganisms; Structure of bacteria, Paints and painting methods

**CEV999 - Summer Internship****(0+0), ECTS:9**

Practice with theoretical knowledge

**OSG111 - Occupational Health and Safety****(2+0), ECTS:3**

Definition, importance and purpose of occupational safety, basic principles of occupational safety, danger and exposure to danger, occupational safety psychology, occupational safety organization, occupational accidents and occupational diseases.

**MET101 - Professional Ethics (BSEC)****(2+0), ECTS:2**

Definition of Ethics, Moral Concepts and Introduction to Professional Ethics, Examining the concepts of ethics and morality, Ethical theories, Principles of Professional Ethics, Justice, Virtue, Honesty, Human Rights, Respect for Others, Privacy, Unethical Behaviors, Professional corruption and consequences of unethical behaviors in professional life

**SEMESTER IV****CEV208 - Biotechnology****(2+0), ECTS:5**

Definition and history of biotechnology, Importance of biotechnology in the world, Developments in biotechnology, Application areas of biotechnology, Methods used in biotechnology (tissue cultures), Methods used in biotechnology (molecular), Enzymes, Vectors, Genetically modified organisms and their areas of use in agriculture, Benefits and risks of genetically modified organisms in terms of environment and production and legal dimensions.

**CEV230 - Ecology****(3+0), ECTS:5**

Ecology, Basic Ecological Concepts, Ecosystem and Its Features, Examination of Ecosystems, Matter and Energy Cycles in Ecosystems, Food Chains and Food Webs, Environmental Pollution and Its Effects on Ecosystems

**CEV232 - Soil Information and Pollution (BSEC)****(2+0), ECTS:6**

Soil terminology, soil formation, content, physical, chemical and biological properties, polluting agents on soil, effects of air and water pollution on soil pollution and methods of improving soil pollution

**EFH102 - Infectious Diseases (BSEC)****(2+0), ECTS:3**

Terminology in infectious diseases, Chain of infection, Microorganisms and their types, Infection signs and symptoms, Concepts related to infectious diseases, General characteristics of infectious diseases, Protection from infection and immunization, Hospital infections and protection methods, Hospital infection control committee, Infections in intensive care units, Treatment methods of infectious diseases, Diseases transmitted through respiratory tract, Diseases transmitted through digestive tract, Diseases transmitted through blood, Diseases transmitted through skin and mucosa, Central nervous system infections, Sexually transmitted diseases, Isolation methods, quarantine practices.

**GTE116 - Food Hygiene and Sanitation (BSEC)****(2+0), ECTS:4**

The relationship between microorganisms and food hygiene, food contamination sources, Personal hygiene, Cleaning agents and disinfectants, food sanitation practices

**ILK101 - First Aid (BSEC)****(2+0), ECTS:3**

General First Aid Information, Human Body, Patient/Injured and Crime Scene Assessment, Basic Life Support, Respiratory Tract Obstructions, Bleeding and Shock, Injuries, Burns, Frostbites, Heat Stroke, Consciousness Disorders (Loss of Consciousness, Convulsions, Low Blood Sugar, Chest Pain), Poisoning, Animal Bites, Foreign Objects in the Eyes-Ears-Nose, Drownings, Fractures, Dislocations, Sprains, Carrying Techniques.

**MYO015 - Social Responsibility Project (MYOSEC)****(2+0), ECTS:2**

Introduction to the course, basic concepts, general overview of the concept of social responsibility and social responsibility campaigns, determination of project topics (children, elderly, women, environmental problems, those with education and learning problems, patients and health problems, etc.), project preparation and presentation, getting to know civil society organizations and their work.