

AKSARAY UNIVERSITY
AKSARAY VOCATIONAL SCHOOL OF TECHNICAL SCIENCES
CHEMISTRY TECHNOLOGIES PROGRAM
SHORT COURSE CONTENTS

I. SEMESTER

AIT-191 ATATURK'S PRINCIPLES AND REVOLUTION HISTORY-I 2+0 ECTS:2

CONTENT OF THE LESSON: The objective of the course is to give correct information about Turkish Independence War, the principles and the revolutions of Atatürk, Kemalist ideology, the history of Turkish Republic and to educate Turkish Youth as an inseparable whole with their country, nation and state on the principles and the Revolutions of Atatürk.

TDI-195 TURKISH LANGUAGE-I 2+0 ECTS:2

CONTENT OF THE LESSON: The aims of the Turkish language lecture are to make higher education students comprehend the structure and function of the mother tongue according to higher education act and to get them the ability of using Turkish correctly and smoothly by means of both written and oral expression, to obtain a unifying and supplemental language in education, to strengthen their mother tongue awareness by presenting beautiful and precious examples of Turkish literature.

ING-185 FOREIGN LANGUAGE I 2+0 ECTS:2

CONTENT OF THE LESSON: The objective of the course is to bring the students from A1 to B1 level in terms of CEF (Common European Framework of Reference for Languages)

MAT 177 MATHEMATICS 2+0 ECTS:2

CONTENT OF THE LESSON: The objective of the course is to teach the basic concepts of mathematics, give an ability to apply knowledge of mathematics on his/her job.

KIM 113 SCIENTIFIC PRINCIPLES OF TECHNOLOGY 2+0 ECTS:2

CONTENT OF THE LESSON: Physics courses provide understanding in detail the basics of. Provide information about the principles and methods of physics is necessary in order to have students' problem-solving skills. Particle physics, condensed matter physics, atomic, molecular and optical physics topics provide information on.

KIM 101 GENERAL CHEMISTRY-I 4+0 ECTS:4

CONTENT OF THE LESSON: Provide information about the basic principles and concepts of chemistry to students. The characteristics and measurements, atoms and atomic theory, the electronic

structure of atoms, the periodic table and some atomic properties, chemical compounds and reactions, chemical bonding theory, gases, liquids and solids, systematic and comprehensive to theoretical knowledge about solutions and develop the ability to think about the basic concepts of chemistry of students.

KIM 103 GENERAL CHEMISTRY LABORATORY-I 0+2 ECTS:3

CONTENT OF THE LESSON: Learning basic laboratory techniques, gaining the ability to make experiments

KIM 105 INTRODUCTION TO CHEMISTRY TECHNOLOGIES 3+0 ECTS:3

CONTENT OF THE LESSON: Production processes to provide general information about. Some important properties of inorganic substances and to teach industrial areas. Process design in the field of chemical technology, control and instrumentation to provide information about the importance of.

KIM 109 BASIC COMPUTER SCIENCES 1+1 ECTS: 2

CONTENT OF THE LESSON: To enhance basic computer skills

KIM 111 INORGANIC CHEMISTRY 3+0 ECTS: 4

CONTENT OF THE LESSON: Inorganic Chemistry, Atoms and Atomic models, Molecular structure and interactions between particles and the effects of recognition grip, Acids and bases and solvents recognition features, Understand the attributes of transition metals and coordination compounds, Recognition of chemical bonding in coordination compounds, To provide basic information about the features and elements of the periodic table.

KIM 223 ENVIRONMENTAL CHEMISTRY 3+0 ECTS: 3

CONTENT OF THE LESSON: Identification of differences between general chemistry and environmental chemistry, basic environmental analytical chemistry subjects, the basic issues, especially water chemistry and teaching of determination methods

II. SEMESTER

AIT-192 ATATURK'S PRINCIPLES AND REVOLUTION HISTORY-II 2+0 ECTS:2

CONTENT OF THE LESSON: The objective of the course is to give correct information about Turkish Independence War, the principles and the revolutions of Atatürk, Kemalist ideology, the history of Turkish Republic and to educate Turkish Youth as an inseparable whole with their country, nation and state on the principles and the Revolutions of Atatürk.

TDI-196 TURKISH LANGUAGE-II 2+0 ECTS:2

CONTENT OF THE LESSON: The aims of the turkish language lecture are to make higher education students comprehend the structure and function of the mother tongue according to higher education act and to get them the ability of using turkish correctly and smooth by means of both written and oral expression, to obtain a unifying and supplemental language in education, to strengthen their mother tongue awareness by presenting beautiful and precious examples of turkish literature

ING-186 FOREIGN LANGUAGE II 2+0 ECTS: 2

CONTENT OF THE LESSON: The objective of the course is to bring the students from A1 to B1 level in terms of CEF (Common European Framework of Reference for Languages)

KIM 102 GENERAL CHEMISTRY-II 4+0 ECTS: 4

CONTENT OF THE LESSON: General chemistry, chemical equilibrium, chemical kinetics concepts and acid base properties of compound.

KIM 104 GENERAL CHEMISTRY LABORATORY-II 0+2 ECTS: 3

CONTENT OF THE LESSON: Learning basic laboratory techniques, gaining the ability to make experiments

KIM 106 BIOCHEMISTRY 3+0 ECTS: 4

CONTENT OF THE LESSON: The aim of biochemistry is to understand and explain operations of living systems through their chemical, molecular and macromolecular levels and graduate the students who can work in biotechnology, medicine applications, biochemistry and industry.

KIM 112 PHYSICAL CHEMISTRY 3+0 ECTS: 4

CONTENT OF THE LESSON: Bulk properties of matter and energy transformation in the relationship between observations and the laws describing the laws of thermodynamics to understand the teaching of basic concepts of Physical chemistry.

KIM 120 DRUG CHEMISTRY 2+0 ECTS: 3

CONTENT OF THE LESSON: Providing general information about the production and quality control of drugs and about drugs,

KIM 122 OCCUPATIONAL HEALTH AND SAFETY 2+0 ECTS: 3

CONTENT OF THE LESSON: To teach Factors affecting health in the workplace, industrial safety, industrial accidents and needs to be done in these cases, occupational safety legislation, risks of chemical processes and risk analysis.

KIM 124INSTRUMENTAL ANALYSIS2+0 ECTS: 3

CONTENT OF THE LESSON:The experimental setup of the design to take measurements, interpreting data, About basic tool of analysis and instrumental analysis methods have information.

KIM 126CHEMICAL MODELING TECHNIQUES2+0 ECTS: 3

CONTENT OF THE LESSON:Understanding modeling techniques and programs used in the chemistry

KIM 128SCIENCE AND ETHICS2+0 ECTS: 3

CONTENT OF THE LESSON:Development of scientific studies, the ethical principles of scientific research and publishing process.

KIM 130CHEMICAL ANALYSIS METHOD SELECTION 2+0 ECTS: 3

CONTENT OF THE LESSON:To explaining the importance of chemical analysis and to teach the applied methods in the design of chemical analysis

KIM 132NANOTECHNOLOGY 2+0 ECTS: 3

CONTENT OF THE LESSON:To examine issues related to the important and current developments in nanotechnology

III. SEMESTER

KIM 201ORGANIC CHEMISTRY-I4+0 ECTS: 4

CONTENT OF THE LESSON:To learn the organic compounds and their reactivity and their reactions

KIM 203ORGANIC CHEMISTRYLABORATORY-I0+2 ECTS: 2

CONTENT OF THE LESSON:To gain experimental skills in organic chemistry using principal laboratory techniques at the organic chemistry laboratory

KIM 205ANALYTICALCHEMISTRY-I 4+0 ECTS: 4

CONTENT OF THE LESSON:To teach basic concepts of analytical chemistry and to gain skills that will make the qualitative analysis of samples.

KIM 207ANALYTICAL CHEMISTRY LABORATORY-I 0+2 ECTS: 2

CONTENT OF THE LESSON:To gain experimental skills in qualitative analysis of anions and cations

KIM 211GUIDED STUDY-I0+2 ECTS: 2

CONTENT OF THE LESSON:student, in-depth research on a topic related to the profession to do, work on the subject of self-development, in accordance with the terms and conditions previously reported to do his work and the effective presentation of them

KIM 213INTERNSHIP EVALUATION-I0+2 ECTS: 3

CONTENT OF THE LESSON:Preparing students of applied fields to business life and teaching them the necessary qualifications demanded by the market and enabling them to gain requisite skills, behaviors, and practical knowledge.

KIM 209INDUSTRIALCHEMISTRY 4+0 ECTS: 4

CONTENT OF THE LESSON:Identification of industrial production, investigation and evaluation of chemical applications.

KIM 221BIOTECHNOLOGY2+0 ECTS: 3

CONTENT OF THE LESSON:To live in better conditions and to create a better world of people; biological systems, using living organisms or their products, to try to achieve results for the benefit of the human being and his environment and the training of qualified personnel equipped with this information

KIM 225SIGN LANGUAGE2+0 ECTS: 3

CONTENT OF THE LESSON:The objective of the course is intended to gain the competency to conduct research.

KIM 227SECTOR APPLICATIONS-I 2+4 ECTS: 6

CONTENT OF THE LESSON:The theoretical training of students, sector organizations working in the implementation and be ready to work and the main objective is to gain experience about the working conditions.

KIM 229WASTE WATER TREATMENT2+0 ECTS: 3

CONTENT OF THE LESSON:The students understand the basic principles of wastewater treatment and design the wastewater treatment systems.

KIM 235 ENZYME SCIENCE 2+0 ECTS: 3

CONTENT OF THE LESSON: To provide information about the importance of enzymes, chemical structure, classification, enzyme activity and kinetics, the production of enzymes in industrial and application in chemical technologies.

KIM 231 CHROMATOGRAPHIC METHODS 2+0 ECTS: 3

CONTENT OF THE LESSON: Understanding the fundamentals of chromatography, examination of chromatographic methods and applications. Chromatographic Methods and Applications

KIM 233 HETEROCYCLIC CHEMISTRY 2+0 ECTS: 3

CONTENT OF THE LESSON: Giving information about the specific heterocyclic compounds and design of the synthesis of heterocyclic compounds.

IV. SEMESTER

KIM 202 ORGANIC CHEMISTRY-II 4+0 ECTS: 4

CONTENT OF THE LESSON: Aromatic and Aliphatic Compounds classify, with carbonyl compounds (aldehydes, ketones, and carboxylic acid) and coupling reactions,

KIM 204 ORGANIC CHEMISTRY LABORATORY-II 0+2 ECTS: 2

CONTENT OF THE LESSON: To gain experimental skills in organic chemistry using principal laboratory techniques at the organic chemistry laboratory

KIM 206 ANALYTICAL CHEMISTRY-II 4+0 ECTS: 4

CONTENT OF THE LESSON: To be gain of basic principles and application principles of volumetric analysis

KIM 208 ANALYTICAL CHEMISTRY LABORATORY-II 0+2 ECTS: 2

CONTENT OF THE LESSON: To gain the ability to do quantitative analysis

KIM 234 ENTREPRENEURSHIP 3+1 ECTS: 4

CONTENT OF THE LESSON: Between the developing and changing world, who increasingly important theoretical and practical work, making entrepreneurship in students a sense of entrepreneurship to place.

KIM 212GUIDED STUDY-I0+2 ECTS: 2

CONTENT OF THE LESSON:student, in-depth research on a topic related to the profession to do, work on the subject of self-development, in accordance with the terms and conditions previously reported to do his work and the effective presentation of them

KIM 214 ELECTROCHEMISTRY2+0 ECTS: 3

CONTENT OF THE LESSON:Grasp the basic of electrochemistry and principles of electrochemical reactions,grip principles related to electrochemistry applications in industry and finding their functions

KIM 220WATER CHEMISTRY2+0 ECTS: 3

CONTENT OF THE LESSON:Has great significance in our lives will have information about the water

KIM 222FOOD CHEMISTRY2+0 ECTS: 3

CONTENT OF THE LESSON:To train qualified professional staff capable of producing the industry's needs and appropriate food legislation

KIM 224DYE CHEMISTRY2+0 ECTS: 3

CONTENT OF THE LESSON:Provide information about the raw materials and staining methods required for the synthesis and production of dyes

KIM 226POLYMER CHEMISTRY2+0 ECTS: 3

CONTENT OF THE LESSON:Introducing the concept of polymers and polymeric materials. Teaching of new trends and applications in polymer chemistry. Understanding and application of thermodynamic properties of polymers. Selection and characterization of a polymeric material.

KIM 228QUALITY MANAGEMENT SYSTEM2+0 ECTS: 3

CONTENT OF THE LESSON:To be able to understand issues such as principles of quality management and control systems, design and development of quality systems in manufacturing and service sectors, quality improvement programs and quality information systems.

KIM 230SECTOR APPLICATIONS-II 2+4 ECTS: 6

CONTENT OF THE LESSON:The theoretical training of students, sector organizations working in the implementation and be ready to work and the main objective is to gain experience about the working conditions.

KIM 232BIO-SEPARATION TECHNIQUES2+0 ECTS: 3

CONTENT OF THE LESSON:Basic concepts of bioseparation technical and industrial applications.

KIM 236ORGANIC STRUCTRUS ANALYSES 2+0 ECTS: 3

CONTENT OF THE LESSON:To identify the structure of organic compounds making use of all spectral techniques