

## **I. SEMESTER**

### **GTE111: GENERAL CHEMISTRY IN FOOD TECHNOLOGY**

History of Chemistry, Significant Numbers, System of Matter, Structure of Matter, State of Matter, Classification of Matter, Distinctive Properties of Matter, Atom, Element, Compound, Molecule, Bonds, Mol, Molarity, Normality, Molality, Solutions, Acid and Bases, Solubility

### **GTE 113: FOOD PROCESSING PRINCIPLES**

In this course, basic properties of foods and principles used in production, raw materials and processing; raw material cleaning, sorting and classification, size reduction processes of solid foods, sieving, mixing and emulsification, filtration and membrane separation, centrifugation, equipment used in transporting fluids and transport principles.

### **BIK 101: BIOCHEMISTRY**

In this course, the subject of biochemistry, biomolecules and cell structure, subject of biochemistry, biomolecules and cell structure, properties of water and aqueous solutions, amino acids, peptides and proteins, enzymes, enzyme inhibition and regulation of enzyme activity, enzyme inhibition and regulation of enzyme activity, carbohydrates Theoretical information is given about lipids, nucleic acids and vitamins.

### **MIK 101: BASIC MICROBIOLOGY**

Introduction to Medical Microbiology, Medical Bacteriology and Morphological Properties of Bacteria, Bacterial Metabolism and Reproduction, Bacterial Genetics, Bacterial Virulence Factors, Antimicrobial Substances, Medical Bacteriology, Medical Virology, Medical Parasitology, Medical Mycology, Relationships Between Microorganisms and Microorganism, Human Relations, Microorganism Disinfection and Antisepsis, Basic Immunology, General Principles of Laboratory Diagnosis

### **MAT 101: BASIC MATHEMATICS**

Numbers; Classification of Numbers, Exponential Expressions and rooted expressions, Rational expressions, Factorial, Ratio-Proportion, Equations (First Order Equations), Second Order Equations, Inequalities, Functions, Angles and Trigonometry, Trigonometric Ratios, Complex Numbers.

### **PSI010: INTRODUCTION TO POSITIVE PSYCHOLOGY**

Introduction to Sociology and its Method; The emergence of sociology and theoretical approaches; Society and social structure; The socialization; Social groups; Family institution; crime theoretical approaches and crime types; Technology and Environment; Introduction to Psychology Sciences and Method; Method of Psychology; Lifelong developmental psychology; Sense and perception; Learning; Personality psychology, Personality theories; Mental health and

harmony; Social effects on behavior, Attitudes; Practice areas of psychology and some measurement tools used in psychology, General behavioral sciences, Psychology science, departments of psychology, Psychology in health care, areas of expertise in contemporary psychology, Organism and environment relationship, Mental health and behavior disorders, Rules of relationship with people in behaviors, Sociology science, Socialization and culture, human resources, psychological resources of the earthquake and ways to cope

### **ATA101: ATATÜRK'S PRINCIPLES AND REVOLUTIONS I**

Ottoman Social and State Order Delay and Reform Movements; Disintegration of the Ottoman State and the Start of the National Struggle; Organization of the National Struggle in Mustafa Kemal Pasha in Anatolia; Opening of the First T.B.M.M.; Military and Political Developments Between 1920-1922; Revolutions and Counter-Reactions; Establishment of Constitutional System; Domestic and Foreign Politics in the Republican Era; Basic Features of Turkish Revolution and Thought Movements that are Affected; Innovations in Law, Education, Economy and Social Life; Atatürk's Principles and General Qualifications of These Principles; Evaluating Atatürk's Despicable Ideologically.

### **TURK101: TURKISH LANGUAGE I**

What is Language: Theories about the birth of language, Language-culture-nation relationship; Language Revolution: Turkish Language Institution and its works; World Languages: Language families, the place of Turkish among world languages; Features of Turkey Turkish: Voice properties, Format properties, Sentence properties; Writing rules; Punctuation; Correspondence: CV, Petition, Letter, Business letter, Telegram.

### **İNGU101: ENGLISH I**

Markers; Preliminary Prepositions: Place, Time, Movement; Singular and Plural Names: Countable and Uncountable nouns; Times: Wide time, Present time, Past time structures; Modes: Will, Should, Should not, Must, Must not, Can; Comparative structures; Fairings: Personal titles, Possessive titles; Adjectives; Positive sentence, Negative sentence and Question sentences; Conjunctions: And, But, While-While, Because.

### **RKUL101: UNIVERSITY CULTURE**

It is realized by participating in seminars and conferences within the our university.

## **II. SEMESTER**

### **GTE114: FOOD ADDITIVES**

Theoretical information about the Ingenies, Enzymes, Vitamins And Amino Acids, Antimicrobials, Antioxidants, Acids, Chelates, Stabilizers, Starch, Emulsifiers, Polyols, Flavor Ingredients, Flavor Enhancers, Flavors, Color Ingredients, Phosphates are given.

### **GTE122: FOOD HEALTH RELIABILITY AND FOOD LEGISLATION**

General quality criteria in food, History of food control, aims of food control, The importance of food control, food control institutions, Food law, food regulations and communiqués, food standards, circulars, Protection of consumer rights, Quality and color-appearance relationship, Various foods (juices , canned foods, fat, dairy products, cereal products and meat products) basic quality control criteria, critical control points, food contaminants and additives, information on food hygiene is given.

### **GTE116: FOOD HYGIENE AND SANITATION**

Definition of Sanitation and Hygiene and Its Role in Food Industry, Sanitation, Hygiene, Food Sanitation, Hygienic and Healthy Food, Microorganisms and Sanitation, Control of Microorganisms, Food Contamination Sources, HACCP (Hazard Analysis and Critical Control Points), Factors Affecting Sanitation in Food Businesses, Information on Cleaning and Disinfection in Businesses, Fruit-Vegetable Processing, Sanitation Applications in Meat and Dairy Enterprises

### **GTE110: ORGANIC AGRICULTURE AND BAKERY PRODUCTS TECHNOLOGY**

To have knowledge about the chemical composition of grain products such as Wheat, Rye, Barley, To have knowledge about the stages of cleaning, storage, annealing, grinding and sieving in grain processing technology and to know the technology of bread production, biscuit production and pasta production.

### **BES101: NUTRITIONAL PRINCIPLES**

It includes health and nutrition, nutritional problems and causes in the society, nutrients, food groups, beverages and their features, functional foods, adequate and balanced nutrition principles, energy requirement, ideal height and weight measurements, nutritional principles in special cases.

### **GTE112 FOOD MICROBIOLOGY**

General biology (Classification, cell structure and functions), General Biology (Nucleic acids and energy conversions), Basic microbiology and Sterilization, Disinfection, Antisepsis, Introduction to food microbiology, Classification of microorganisms in foods, General properties of bacteria and fungi, Important Bacteria in Foods and Fungi, Microbial Contamination Sources in Foods and Factors Affecting Microbial Growth, Microbial Degradation of Foods - Microbial Degradation of

Foods - Indicator Microorganisms in Foods, Foodborne Infectious Diseases, Foodborne Toxicoinfections and Intoxications, Microbiology of Fermented Foods, Control of Microorganisms in Foods

### **TURK 102: TURKISH I**

What is tongue; world languages, the place and historical development of Turkish among them; The problems of Turkish today in the light of current texts; Writing of “de”, “ki” and “mi” in the context of current texts; Problems related to the writing of Turkish words accompanied by compiled texts (combined); Text review: Review of a scientific article; Applications of spelling rules and punctuation marks; Text review: review of a columnist; Expression disorders, language mistakes and applications; Turkish as the language of science in the light of sample texts; Oral presentation studies

### **INGU102: ENGLISH II**

Demonstrative Pronouns; Possessive Pronouns; Reading and vocabulary (Simple Past Tense & Past Continuous Tense); Preposition of Time and Place; Present Perfect Tense; Possessive “s”, Adverbs of manner; Past Continuous Tense; Future Tense; Gerunds - Infinitives; Making Suggestions & Requests; Modals (must, should, have to, don’t have to, may

### **ATA102: ATATÜRK'S PRINCIPLES AND REVOLUTION HISTORY II**

Lausanne Peace Treaty and Its Evaluation; Transition to Multiparty Political Life Trials; Revolutions in the Field of Law; Revolutions in the Social Field; Revolutions in Education and Economy; Turkish Foreign Policy Between 1923-1938; Turkish Foreign Policy Between 1938-1950; Democratic Party Power and Adnan Menderes Period (1950 - 1960); Political Developments in 1960 and After the Coup; Domestic Politics of Turkey 1980-2002 period; Basic Principles of Turkish Revolution (Atatürk's Principles and Complementary Principles); Atatürk Revolutions, Rationalism and Scientific Thought; Republicanism and Populism; Nationalism and Etatism; Secularism and Revolutionism

### **RKUL102: UNIVERSITY CULTURE II**

Participation in seminars and conferences held in the our university

### **III. SEMESTER**

#### **GTE231 FOOD STORAGE AND PACKAGING TECHNIQUES**

Packaging, properties and benefits of packaging material, types of packaging, functions of packaging, food packaging methods, materials used in packaging: glass packaging material, paper packaging material, metal packaging material, composite packaging material and their advantages, disadvantages, food spoilage (physical spoilage, chemical spoilage) , Physiological and Biological Deterioration, Microbiological Deterioration, FUNDAMENTAL PRINCIPLES IN FOOD STORAGE (Prevention of contamination (Asepsis); Removal of microorganisms: Washing, Sorting, Centrifugation, Filtration; Inhibition of microbial growth: Preservation of foods with chemical preservatives, Low temperature preservation (cold preservation) Reducing water activity (drying, concentration), Preservation in a controlled and modified atmosphere, Utilizing antagonistic relationships between microorganisms; Killing microorganisms: Heat treatments (Pasteurization, sterilization), Radiation applications (ionized radiation ten, microwave rays, and UV radiation), Sterilant gases, High pressure applications, Combined methods)

#### **GTE223 FRUIT AND VEGETABLE BUSINESS TECHNOLOGIES**

General principles and pretreatments in processing fruits and vegetables. Canning of fruits and vegetables, drying, freezing, storage of fruit and vegetables and tomato paste production, production of fruit and vegetable juices, jam marmalade, jelly production.

#### **GTE-217 FOOD TECHNOLOGIES APPLICATIONS I**

Production Techniques: (Milk and Dairy Production Technology) Pasteurized milk, yogurt and fruit yogurt, cheese and cheese types, Oil production stages, butter oil, cream production and production technologies

Production Techniques: (Flour and Bakery Products Production Technology) Bread, Bagel, Pastry, Pizza, Cake, Cookie, Biscuit, Chocolate, Pasta production stages.

#### **GTE-233 MEAT PRODUCTS TECHNOLOGY**

Definition of meat and its place in human nutrition. The structure of the meat, its components and features of the components. Slaughtering and slaughtering of slaughtered animals. Changes occurring after cutting the body of meat. Quality qualities and breakdown of body meats. Definition and properties of red meats; obtaining, preservation methods of meat, preparation of fresh meat and meat mixtures, obtaining meat products and preservation methods. Sausage, salami and sausage, bacon, roasting production technology. Technology for processing seafood and poultry.

#### **GTE-229 READY TO EAT SYSTEMS AND SPECIAL FOOD TECHNOLOGY**

An overview of the food industry, menu planning. Production and processing stages: purchasing, preliminary preparation stage, cooking stage of food, service stage of dishes, dish cleaning stage,

hygiene and food safety systems in food industry and HACCP applications. Kitchen organization, kitchen design and equipment. Legislation on mass nutrition systems.

### **GTE-221 FOOD ANALYSIS APPLICATIONS I**

Evaluation of the course and rules to be followed during the course, laboratory rules, introduction of laboratory materials to be used in each experiment, basic operations in the laboratory: measurement and weighing operations, mass measurement, weighing rules, volume measurements, pH measurements, titration methods, extraction methods, distillation methods, Crystallization Techniques,

Experiments:

- 1.) Solutions and Solution Preparation,
- 2.) Physical and Chemical Analysis in Sausage,
- 3.) Specific Weight Determination in Milk and Dairy Products,
- 4.) Acid Amount in Milk and Dairy Products,
- 5.) In Wheat Determination of Grain Weight,
- 6.) Ash Determination in Flour,
- 7.) Physical Analysis of Red Meat,
- 8.) Analysis of Vinegar

## **IV. SEMESTER**

### **GTE-228 FOOD TECHNOLOGIES APPLICATIONS II**

Production techniques: (Meat and Meat Products Production Technology) Sausage, salami, roasting, bacon, smoked turkey, smoked chicken, nugget, ham

Production techniques: (Fruit and Vegetable Products Production Technology) peach, pear, strawberry, pepper stuffed, and canned peas, tomato paste, vinegar, pickle production stages.

### **GTE-220 VEGETABLE OIL TECHNOLOGY**

The importance of fats in our diet. Essential fatty acids, phospholipids, definition and basic composition of oil as human food. Storage and cleaning of oil raw materials. Pretreatments applied to oil seeds and fruits for crude oil production. Oil extraction by pressing and extraction methods. Refining and refining stages of crude oil. Obtaining animal fat, Olive oil production, Hydrogenation of oils and production of margarine, Degradation and preservation of oils.

### **GTE-222 MILK PRODUCTS TECHNOLOGY**

Definition of milk, physical and chemical properties, microflora and nutritional value. Preparation of milk for processing. Drinking milk (pasteurized and sterilized milk), fermented milk products (yogurt, buttermilk, kefir, kizi), cream and butter, cheese, durable dairy products (thickened milk and milk powder), ice cream production technology. Evaluation of dairy wastes.

### **GTE-224 FOOD ANALYSIS APPLICATIONS II**

Evaluation of the course and rules to be followed during the lesson, laboratory rules, introduction of laboratory materials to be used in each experiment, basic operations in the laboratory: measurement and weighing operations, mass measurement, weighing rules, volume measurements, sampling, preparation of samples for analysis, determination of pH and titration acidity, Microbiological Analyzes

Experiments:

- 1.) Total Dry Matter and Moisture Determination,
- 2.) Fat Determination in Milk,
- 3.) Staining (Gram Staining) on Solid Media
- 4.) Culture (Bacteria) Count,
- 5.) Protein (Gluten) Determination,
- 6.) Total Sugar Determination,
- 7.) Pickle Production

**MET101 PROFESSIONAL ETHICS (BZSEÇ)**

Ethics and Moral Concepts; Social Corruption; Professional Ethics Principles; Business Ethics and Principles; Violence Against Women; consumer rights; Ethics Committees in Businesses; Business Team and Team Work; Case study.

**GTE999 SUMMER INTERNSHIP**

It covers the working day for students to realize their professional practices.