

TOKAT GAZİOSMANPAŞA UNIVERSITY

TOKAT HEALTH CARE SERVICES VOCATIONAL SCHOOL

DEPARTMENT OF PHARMACY SERVICES

PHARMACY SERVICES PROGRAM – NEW

(4-SEMESTER COURSE PLAN)

1st Semester (Fall Semester) Course Plan

Course Code	Course Title	C/E	Theory	Practice	ECTS
ALT101	Atatürk's Principles and History of Turkish Revolution I	Compulsory	2	0	2
TD101	Turkish Language I	Compulsory	2	0	2
SEÇ103	Elective Foreign Language I (English I)	Compulsory	3	0	3
ENF100	Information Technologies and Office Software	Compulsory	2	0	3
SEÇ101	Elective Course: History of Pharmacy and Deontology	Elective	2	0	2
ANA101	Anatomy	Compulsory	2	0	3
FİZ101	Physiology	Compulsory	2	0	4
TRM101	Medical Terminology	Compulsory	2	0	4
ECZ101	Basic Biology	Compulsory	2	0	3
ECZ103	Introduction to Pharmacy Services	Compulsory	2	2	4
	TOTAL		21	2	30

2nd Semester (Spring Semester) Course Plan

Course Code	Course Title	C/E	Theory	Practice	ECTS
ALT102	Atatürk's Principles and History of Turkish Revolution II	Compulsory	2	0	2
TD102	Turkish Language II	Compulsory	2	0	2
SEÇ104	Elective Foreign Language II (English II)	Compulsory	3	0	3
SEÇ102	University Elective Courses	Elective	2	0	2
MLK101	Microbiology	Compulsory	2	0	3
PLT109	General Chemistry	Compulsory	2	0	4
ECZ126	Basic Calculations in Pharmacy	Compulsory	2	2	3
ECZ128	Practical Drug Knowledge I	Compulsory	3	0	5
ECZ106	Basic Knowledge of Diseases	Compulsory	2	0	4
KRY102	Career Planning	Compulsory	1	0	2
	TOTAL		21	2	30

3rd Semester (Fall Semester) Course Plan

Course Code	Course Title	C/E	Theory	Practice	ECTS
ECZ215	Professional Practice I	Compulsory	0	8	12
ECZ209	Basic Biochemistry	Compulsory	2	0	3
ECZ205	Public Health	Compulsory	2	0	3
ECZ213	Dosage Forms and Medical Supplies I	Compulsory	2	0	3
ECZ217	Practical Drug Knowledge II	Compulsory	3	0	4
ECZ219	Professional Ethics	Compulsory	2	0	3
İLK203	First Aid	Compulsory	1	1	2
	TOTAL		12	9	30

4th Semester (Spring Semester) Course Plan

Course Code	Course Title	C/E	Theory	Practice	ECTS
ECZ216	Professional Practice II	Compulsory	0	8	14
ECZ204	Herbal Therapeutic Products	Compulsory	2	0	3
ECZ206	Drug Toxicology and Poison Information	Compulsory	2	0	3
ECZ214	Dosage Forms and Medical Supplies II	Compulsory	2	0	3
ECZ218	Dermatological and Cosmetic Products	Compulsory	2	0	3
ECZ220	Drug Administration Skills	Compulsory	2	0	4
	TOTAL		10	8	30

Elective Courses

Course Code	Course Title	C/E	Theory	Practice	ECTS
SEÇ101	Behavioral Sciences	Elective	2	0	2
SEÇ101	Drug Use in Special Cases	Elective	2	0	2
SEÇ101	History of Pharmacy and Deontology	Elective	2	0	2
SEÇ101	Drug–Food Interaction	Elective	2	0	2
SEÇ101	Aromatherapy	Elective	2	0	2

COURSE CONTENTS

ANA101	ANATOMY	Compulsory	2	0	3
Introduction to anatomy, general concepts and terms (anatomical parts, regions and cavities of the human body). Skeletal system (appendicular and axial skeleton). Joint system (upper and lower extremity joints, head-neck, trunk and vertebral joints). Muscular system (functional classification of muscles; muscles of the head, neck, trunk, upper and lower extremities). Circulatory system (anatomy of the heart, vessels, arterial and venous circulation, lymphatic system). Respiratory system (nose, pharynx, trachea, bronchi, lungs, mediastinum). Nervous system (central nervous system; spinal cord, brain; peripheral nervous system; spinal and cranial nerves; autonomic nervous system). Digestive system (anatomy of the digestive tract and accessory organs, peritoneum, overview of the abdominal region). Urinary system (kidneys, ureters, urinary bladder, urethra). Reproductive systems (female and male reproductive organs). Endocrine system (topographic anatomy of endocrine structures). Sense organs (skin, olfactory organ, taste organ, eye, ear).					
FİZ101	PHYSIOLOGY	Compulsory	2	0	3
Introduction to physiology, general concepts and terms. Cell and membrane physiology. Musculoskeletal-system physiology. Circulatory-system and blood physiology. Respiratory-system physiology. Nervous-system physiology. Digestive-system physiology. Urinary-system physiology. Endocrine-system physiology. Reproductive physiology. Sensory physiology.					
TRM101	MEDICAL TERMINOLOGY	Compulsory	2	0	3
Introduction to medical terminology. Pronunciation rules. Basic structure of words. Roots, prefixes and suffixes. Eponym and acronym terms. Specialty classifications. Abbreviations of medical terms. Anatomical position, parts of the human body and basic terms related to movement. Basic medical terms concerning the locomotor, cardiovascular, respiratory, nervous, digestive, urogenital and endocrine systems; sense organs; pharmacology, radiology and nuclear medicine; public health and diseases.					
MİK101	MICROBIOLOGY	Compulsory	2	0	3
Introduction to microbiology. Classification and general characteristics of microorganisms. Normal flora; basic concepts related to infectious diseases; infection chain and stages. Hospital-acquired infections and their importance. Blood- and blood-product-borne infections and causative agents. Respiratory, food- and water-borne, and sexually transmitted infections and their causative agents. Immunity and immune response. Immunological characteristics of the host: antigen-antibody relationship. Vaccines and immune sera. Definitions and applications of disinfection, antiseptics and sterilization. Standard protective methods and hand hygiene.					
ECZ101	BASIC BIOLOGY	Compulsory	2	0	3
Biology and life; cell chemistry; inorganic compounds; organic compounds: carbohydrates, proteins, lipids and nucleic acids; general characteristics of prokaryotic and eukaryotic cells; cell membrane and its function; cell organelles; cell division; Mendelian genetics; plant tissues; plant organs; photosynthesis; reproduction in plants; fundamentals of plant nomenclature and classification.					
AİT101	ATATÜRK'S PRINCIPLES AND HISTORY OF TURKISH REVOLUTION I	Compulsory	2	0	2
Basic concepts related to Atatürk's Principles and History of Revolution and the Principle of Reformism. Internal and external causes of the decline of the Ottoman Empire. Basic concepts of the contemporary world. Modernization movements in the Ottoman Empire. Intellectual movements in the late Ottoman period. Collapse of the Ottoman Empire. National Struggle.					
TD101	TURKISH LANGUAGE I	Compulsory	2	0	2
The concept of language and the place of Turkish among world languages. Languages in terms of structure and origin. Language-culture relationship and the place of language in social life. Punctuation. Spelling rules. Meaning at word and sentence level. Expression techniques. Official correspondence. Auxiliary and basic elements of the sentence. Language errors at word and sentence level.					
SEÇ103	ELECTIVE FOREIGN LANGUAGE I (ENGLISH I)	Compulsory	3	0	3
Verb to be; subject pronouns; possessive adjectives; object pronouns; asking and telling the time; Simple Present Tense I (I/you/we/they); Wh- questions; jobs and related verbs; there is/there are; this/that/these/those; quantifiers; numbers and prices; can/can't; was/were; Simple Past Tense (affirmative sentences).					
ENF100	INFORMATION TECHNOLOGIES AND OFFICE SOFTWARE	Compulsory	2	0	3
Computer hardware structure and units. Shortcuts, general Windows operations, internet and e-mail operations. MS Office Word: Home, Insert, Page Layout, References and Review tabs; scientific writing rules; general practice.					
ECZ103	INTRODUCTION TO PHARMACY SERVICES	Compulsory	2	2	4
Recognition of the pharmacy technician profession; learning professional definitions and gaining knowledge about the duties and responsibilities of the profession.					
ECZ128	PRACTICAL DRUG KNOWLEDGE I	Compulsory	3	0	5
Matter, its properties and measurements; atom; chemical compounds; chemical reactions; reactions in aqueous solutions; gases; thermodynamics; atomic structure; periodic table; atomic properties; chemical bonds (Lewis theory, covalent bonding, resonance, VBT, VSEPR, bond energy, hybridization, molecular orbital theory); liquids, solids and intermolecular forces; properties of solutions; chemical kinetics; chemical equilibrium; acids and bases; aqueous solutions; electrochemistry; chemistry of elements; transition metals; coordination chemistry; nuclear chemistry.					
FAR104	PHARMACOLOGY AND RATIONAL DRUG USE	Compulsory	2	0	3
Introduction to pharmacology and basic concepts (pharmaceutical dosage forms, routes of administration, absorption, distribution, metabolism and excretion of drugs, drug interactions). Principles of rational drug use; rational drug use in Türkiye and worldwide; consequences of irrational drug use; proposed solutions; purpose and stages of evidence-based medicine; barriers encountered in evidence-based medicine; prescription types and general principles of prescribing; examples of incorrect prescriptions; rational drug use in older adults, pregnant women and children.					
ECZ106	BASIC KNOWLEDGE OF DISEASES	Compulsory	2	0	4
Providing students with basic knowledge of body systems and diseases affecting these systems.					

Alt102	ATATÜRK'S PRINCIPLES AND HISTORY OF TURKISH REVOLUTION II	Compulsory	2	0	2
National Struggle. Establishment of the Republic of Türkiye. Democratization of the Republic. Secularization of the Republic. Principle of Nationalism. Principle of Statism. Reactions to reforms. Constitutions in Turkish history and their characteristics. Educational reform. Reforms in the social sphere. Foreign policy of the Republic of Türkiye.					
TD102	TURKISH LANGUAGE II	Compulsory	2	0	2
Phonetics. Sentence types according to meaning and structure. Word classes: nouns and noun phrases, pronouns, adjectives and adjective phrases, adverbs, verbs, auxiliary/copular verbs, verbals, prepositions and conjunctions. Types of written and oral expression.					
SEÇ104	ELECTIVE FOREIGN LANGUAGE II (ENGLISH II)	Compulsory	3	0	3
Simple Past Tense. Polite requests. Linking words and writing. Count and uncount nouns. Social and shopping expressions. Have got/has got. Comparative and superlative adjectives. Prepositions of place. Relative pronouns. Present Continuous Tense. Present Perfect Tense.					
ECZ215	PROFESSIONAL PRACTICE I	Compulsory	0	24	20
Practical pharmacy activities: stock and expiry-date control, shelf arrangement, use of computer programs, prescription information and applications, recognition and storage conditions of medicinal and non-medicinal products, patient approach and official procedures.					
PLT109	GENERAL CHEMISTRY	Compulsory	2	0	3
Measurement systems, concentration expressions, required checks related to solubility, measuring instruments and their use, dilutions and alcohol conversion, simple chemical equations and dose calculations.					
İLK203	FIRST AID	Compulsory	1	1	3
Basic concepts in first aid and emergency health services. First aid worldwide and in Türkiye. Emergency health services in disasters. Communication in first aid and emergency health services. Basic principles of first aid. Assessment of patients and injured persons. Cardiopulmonary resuscitation in adults, children and newborns. Special approaches in airway obstruction, full-stomach patients, hypoxia, pediatric patients and allergic reactions. First aid in penetrating injuries, heat and cold exposure, drowning, burns, trauma, intoxication and bleeding. First aid for older adults, premature infants, newborns and children. Patient and injured-person transport techniques.					
ECZ209	BASIC BIOCHEMISTRY	Compulsory	2	0	3
Structure, classification and functions of cell components; lipids, carbohydrates, amino acids and proteins; energetics, cellular energy production and glycolysis; citric acid (TCA) cycle, its regulation and energy balance.					
ECZ213	DOSAGE FORMS AND MEDICAL SUPPLIES I	Compulsory	2	0	3
The aim of this course is to recognize health problems in society, understand the environmental, social and behavioral factors affecting them, adopt the principles of preventive medicine, and gain the knowledge and skills to use this information in ensuring coordination in health-management practices.					
İLK203	FIRST AID	Compulsory	1	1	2
Ability to interpret concepts of pharmacology and drugs; define prescription and non-prescription drugs in Türkiye; learn general concepts concerning drug licensing and sale; interpret pharmacodynamics, pharmacokinetics, drug mechanisms, drug interactions, routes of administration, drug safety, pharmacogenetics and drug-therapy management; classify antibiotics, antifungal and antiviral drugs; recognize general concepts of the central nervous system and related diseases; classify general and local anesthetics, CNS stimulants, drugs used in pain management and alcoholism treatment, antipsychotics, antiepileptics, antidepressants, sedative-hypnotics, anxiolytics, and drugs used for Parkinson's disease and dementia; classify drugs used in respiratory, renal and gastrointestinal diseases; and interpret the harms of smoking and smoking-cessation treatments.					
ECZ216	PROFESSIONAL PRACTICE II	Compulsory	0	8	14
Practical training in a hospital pharmacy and gaining knowledge and skills regarding the duties of a pharmacy technician in a hospital pharmacy.					
MES219	PROFESSIONAL ETHICS	Compulsory	2	0	3
Concepts of ethics and morality; relationship between ethics and morality; moral values; professional ethics; professional ethical principles; commitment to the profession; ethical and unethical issues in working life; ethical principles in business life; ethical and unethical behaviors in management; moral decision-making; analysis and prevention of unethical workplace behavior; influence of organizational culture on ethical behavior; creating an ethical climate; working in an environment consistent with professional ethics; effects of ethical business conditions on work and the workplace; ethical principles and patient rights.					
ECZ124	CAREER PLANNING	Compulsory	1	0	2
Career concept; discovering personal interests, abilities and values; individual career-development opportunities; expectations of the business world from graduates; CV preparation and sample practice; job interviews and sample simulation; career-planning process and career development; lifelong career planning; introduction to exchange programs and student-sector meetings.					
ECZ204	HERBAL THERAPEUTIC PRODUCTS	Compulsory	2	0	3
Nomenclature and classification of herbal drugs; basic concepts used in herbal products; storage of drugs; macroscopic and microscopic analyses; plants used in the preparation of herbal products and herbal teas.					
ECZ206	DRUG TOXICOLOGY AND POISON INFORMATION	Compulsory	2	0	3
Introduction to toxicology; basic concepts and principles; definition and classification of toxic effects; factors affecting toxicity; drug allergy; drug toxicity; toxicological consequences of drug-drug, drug-disease, drug-food and drug-herbal-product interactions.					
ECZ217	PRACTICAL DRUG	Compulsory	3	0	4

	KNOWLEDGE II				
Autonomic nervous system drugs; cardiovascular system; antiarrhythmic drugs; antianginal drugs; congestive heart failure and cardiac glycosides; hypolipidemic drugs; antiplatelet drugs; vascular system: blood pressure and antihypertensive drugs; musculoskeletal system, inflammation and NSAIDs; endocrine-system drugs; drugs used in bone diseases; diabetes mellitus and antidiabetic drugs; drugs used in skin, eye and ear diseases; drugs used in cancer treatment; vitamins; OTC support products; drug therapy in special patient groups.					
ECZ218	DERMATOLOGICAL AND COSMETIC PRODUCTS	Compulsory	2	0	3
Definition of cosmetics; cosmetic carrier systems; anti-aging products; baby cosmetics; cellulite products; sunscreens; soaps, antiperspirants and deodorants; color cosmetics; hair dyes and care products; shampoos; shaving products; foot-care and bath products; adverse effects and microbiological characteristics of cosmetics; stability and storage of cosmetics; labeling, packaging and legal regulations.					
ECZ220	DRUG ADMINISTRATION SKILLS	Compulsory	2	0	4
Basic concepts related to drugs; applications, stability and examples concerning liquid and semi-solid dosage forms.					

Source note: The English version preserves the course codes, status, hours, ECTS values and course-content associations as they appear in the source PDF. Where the source itself contains inconsistencies between the semester plan and the course-content pages, these have not been silently reconciled.