

MEDICAL AND AROMATIC PLANTS PROGRAMME

2024-2025 COURSE CONTENTS

SEMESTER I

TAB 123 General Chemistry (2+2 3 ECTS 5)

Matter, Elements, Compounds, Mixtures, Measurements and Mol Concept, Finding Chemical Formulas, Redox Reactions, Calculations Based on Chemical Reactions, Atom: Atom models, Proton, Neutron, Electron, Electromagnetic Radiation, Bohr Atomic Theory, Periodic Table, Quantum Numbers, Atom Radius, Ionization Energy, Electron Affinity, Electronegativity, Atomic Nucleus Structure, Chemical bonds: Ionic and Covalent Bonds, Exceptions of the Octet Rule, Chemical bonding theories, Asi-Base Concept, Solutions, Buffer solutions, Nutrient calorie calculation

TAB 121 Agricultural Botany (3+0 3 ECTS 4)

Basic concepts of plant science, principles of classification in plants, relationship between botanical science and multidisciplinary sciences such as anatomy, morphology, physiology and taxonomy, metabolism activities, connections with cultivation, characteristics of agricultural production and genetic structure.

TAB 111 Medicinal and Aromatic Plants Systematics (BSEÇ) (2+0 2 ECTS 3)

The introduction of the plants used in both modern medicine and traditional medicine, their effective substances, grouping, naming the plants in Latin and Turkish, local names, the places where they grow, their morphology.

TAB 107 Basic Mathematics (2+0 2 ECTS 3)

Numbers (Natural and integers, rational numbers, real numbers, exponential expressions, radical expressions), ratio and proportion, problems (age problems, worker and pool problems, movement problems, percentage-interest-profit-loss problems, mixing problems, clock problems), Area and volume calculations, first and second order equations.

TAB119 Environment and Organic Agriculture (2+0 2 ECTS 3)

Environmental agriculture relations, the factors that cause environmental pollution and their elimination. Definition and purpose of organic agriculture, organic production systems. Plant nutrition in organic farming. Plant protection methods in organic agriculture. Collection, packaging, labeling, marketing of organic products.

RPSI209 Positive Psychology and Communication Skills (ÜSEÇ) (2+0 2 ECTS 3)

1-Definition of positive psychology, basic concepts, theoretical foundations and applications 2-Examining the brain behavior systems of emotional experience and behavior 3-knowing yourself and others 4-psychosocial life skills and problem solving skills 5-motivation and planning 6-anger, aggression, violence 7-relationship management, healthy decision making 8-persistence and compromise.

INGU 103 English I (2+0 2 ECTS 2)

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.

TURK 103 Turkish Language I (2+0 2 ECTS 2)

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.

ATA 103 Atatürk's Principles And Revolutions I (2+0 2 ECTS 2)

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; Evaluation of Kemalism in Ideological Perspective

RKUL 103 University Culture (ÜSEÇ) (0+2 1 ECTS 4)

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

SEMESTER II

BIK 101 Biochemistry (2+0 2 ECTS 2)

Definition and subject of biochemistry. Plant biochemistry, photosynthesis event, main components of living organism, carbohydrates, lipids, amino acids, proteins, vitamins, plant hormones. The formation, classification, functions, metabolism, diagnosis etc. of these compounds in the plant. quantification. The chemistry of the cell.

TAB 100 Medicinal and Aromatic Plants Anatomy (2+0 2 ECTS 3)

To give information about leaf, flower and fruit shapes of flowering plants with medicinal and aromatic importance and to introduce these plants with microscope applications. To teach the general characters of plants, (In the cell; cell wall, passages, crystals, , feathers in the leaf, transmission systems; roots; monocotyl, dicotyl root etc.).

TAB 124 Plant Physiology (2+0 2 ECTS 3)

Physicochemical events occurring in plants, photosynthesis, pollination, fertilization and reproductive physiology, water transmission in the plant, root pressure, diffusion, osmosis, turgor and swelling, movement physiology, plant growth, development and aging.

TAB 118 Soil Science and Plant Ecology (BSEÇ) (3+0 3 ECTS 5)

Soil main material, soil formation, effective conditions in soil formation, decomposition materials, soil profile, soil classification, physical, chemical and biological properties of soil, plant nutrients in soil, soil colloids, soil reaction, soil water, microorganisms and their effects, soil air and soil temperature.

Definition of ecology, structure, ecosystems, energy flow in ecosystems, food chain and food living in the chain, germination, germination conditions, environmental conditions suitable for plant development, climate events, nutrient and ground competition in plants.

TAB 114 Herbarium Techniques (2+0 2 ECTS 4)

Herbarium definition. Arrangement of samples in herbarium. Explaining the concepts of locality and habitat with examples. Field studies and tools and devices to be used, sample collection and matters to be considered at that time, Taking students to the field and making plant collection trials, Procedures after sample collection.

TAB 126 Plant Protection (2+0 2 AKTS 2)

Students will be informed about the history and importance of plant disease science, disease symptoms and causes, disease types, disease epidemics and basic control principles for the control of plant diseases will be taught. In addition, common plant diseases in Turkey will be introduced.

INGU 104 English II (2+0 2 ECTS 2)

Tenses: Present tense, Wide tense, Past tense, Future tense structures; Modes: Might, Could, Can, Must, May; Envelopes: Place, Direction, Purpose, State envelopes; Adjectives: Order of adjectives, Comparison, Structures which show superiority; Passive Structure: Present, Wide, Past, Passive structure in the future; Conditional Clauses; Adjective clauses; Transfer Sentences; Verb Structures: TO, -ING; Noun Clauses; Envelope Clauses; Comparative Structures.

TURK 104 Turkish Language II (2+0 2 ECTS 2)

To gain the skill of using mother tongue correctly; In the course where students who have come to the university by acquiring this skill are also essential to produce their thoughts and write their thoughts in order to develop their skills in this field, punctuation marks, spelling rules, composition rules, writing types are discussed with examples and writing studies are carried out. In addition, various novels, poetry books and theater works are read and studied. By making a reading theater in the classroom, applied emphasis and intonation lessons are performed with various diction techniques.

ATA 104 Atatürk's Principles And Revolutions II (2+0 2 ECTS 2)

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; Evaluation of Kemalism in Ideological Perspective.

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SEMESTER III

TAB 215 Drug Preparation Technique (BSEÇ) (2+0 2 ECTS 3)

Definition of drugs and the introduction of herbal drugs. Herbal drugs, drugs from whole or part of the plant; naming and classification of root, rhizome, tuber, wood, bark, leaf, flower, fruit, seed, herba, drugs. Drug standards according to Turkey and EU. To teach the acquisition of drugs, drying, storage, marketing and purity examinations. Preparation of the preparation; making infusions, decoctions, tinctures, ointments.

TAB 233 Organic Chemistry (2+0 2 ECTS 4)

Chemical bonds, alkanes, alkenes, alkynes, alcohols, nomenclature of organic compounds, aldehydes, ketones, the concept of aromaticity, phenols, teaching aromatic compounds.

TAB 217 Dye and Perfume Plants Evaluation Technology (2+2 3 ECTS 6)

Introducing plants containing dyestuffs from the past to the present. Giving information about upbringing. Mordant dyeing, demonstration of direct dyeing methods.

Introduction of aromatic plants containing essential oil and their use in perfumery. Essential oil extraction methods (distillation, extraction). Teaching how to make alcohol-based, oil-based and solid perfumes practically.

TAB 219 Pharmaceutical and Medicinal Plants Evaluation Technology (BSEÇ) (3+0 3 ECTS 6)

Cinnamon, thyme, black pepper, cumin, etc. introduction of some important spice plants and active ingredients (such as alkaloids, glycosides) in flax, poppy, hemp, coffee, tea, hops and anise. Teaching and using methods of obtaining. Understanding the use technologies of medicinal and aromatic plants and their cooperation with industry.

TAB 235 Phytotherapy (3+0 3 ECTS 7)

Definition, importance and history of phytotherapy; place of herbal medicine in modern medicine, active ingredients of medicinal plants; therapeutic use and side effects; herbal cure; folk remedies and treatments used in power in Turkey. Secondary substances in the plant; carbohydrates, glycosides, alkaloids, etheric oils, fixed oils, tannins, musilages, organic acids, waxes. Extraction of these substances from plants and extraction methods, diagnosis and quantification.

TAB 231 Plant Nutrition (2+0 2 ECTS 3)

Definition of plant nutrition, transportation of plant nutrients, production of organic matter in plant nutrition, teaching the factors affecting plant growth in nutrition. Giving basic information about the uptake of nutrients by root and root systems, the structure and types of transmission pipes in nutrient uptake, passive transport and active transport, plant nutrition and the acquisition of nutrients to the soil.

TAB 229 Fertilizers and Fertilization Technique (2+0 2 AKTS 2)

The importance, historical development and classification of fertilizers. Chemical fertilizer production and consumption in Turkey and in the world. Application methods of chemical fertilizers, fertilization of field and garden crops. Organic farming and fertilizers applied in organic farming.

SEMESTER IV**TAB 218 Medicinal and Aromatic Plant Growing Technique (BSEÇ) (2+0 2 ECTS 4)**

To know the history and cultures of medicinal and aromatic plants, to learn botanical features, to learn growing techniques, to have knowledge about consumption and trade. Teaching seed, seedling and sapling concepts and growing techniques and showing seed production planning.

TAB 222 Evaluation of Spices and Pleasure Plants (2+0 2 ECTS 2)

To have information about natural plants used as spices. To be able to learn which parts of spice plants are used as spice. To learn the issues to be considered in the cultivation of spice plants. To learn the methods of using spices. To learn the methods that can be used in the processing and storage of spices.

Cultivation of the pleasure and stimulating plants grown in our country, especially tobacco, their benefiting situations and their medical effects.

TAB 208 Medicinal and Aromatic Plants Conservation and Marketing (2+0 2 ECTS 3)

Special preservation techniques in medicinal and aromatic plants, storage conditions in cold storages and transportation conditions by species. Teaching the harvest time criteria of medicinal and aromatic plants, the ways of harvesting, packaging, post-harvest loss prevention and marketing methods and systems.

TAB 200 Aromatherapy (2+2 3 ECTS 7)

Definition, importance and history of aromatherapy. Aromatic plants and their properties. Essential oils and their methods of obtaining. Massage oils and their preparation. Aromatherapy methods and simple applications. Special cases and issues to be aware of in aromatherapy applications.

TAB 216 Combating Medicinal and Aromatic Plants Diseases and Pests (BSEÇ) (2+0 2 ECTS 4)

It includes living and inanimate disease factors, formation of diseases, relationships between disease factors and plants, pests, prevention and treatment methods.

TAB999 Summer internship (20 Working Days ECTS 9)

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