PLANT PROTECTION PROGRAM COURSE CONTENTS

SEMESTER I

TURKISH LANGUAGE- I (2-0-2)2

Basic Concepts: Definition of Language. Language, Thinking, Speaking, Writing, Literature and Culture. Turkish Among The Languages; Turkish and Its Dialects. The structure, Syntax, and Semantics of Turkish.

PRINCIPLES OF ATATURK AND RECENT TURKISH HISTORY I (2-0-2)2

Basic Concepts. Causes of the Collapse of the Ottoman Empire. Turkish Modernization Movement. The First World War. Turkish National Struggle.

FOREIGN LANGUAGE –I (4-0-4)4

Vocabulary, Grammar, Skills (Reading-Listening-Speaking,Writing

GENERAL MICROBIOLOGY (2-2-3)4

The development of microbiology, prokaryotic and eukaryotic cells, classification of microorganisms, bacteria, viruses, fungi, the growing of microorganisms, the control of microorganisms.

GARDEN CROPS (2-2-3)4

Description, importance and historical development of horticulture growing

FIELD CROPS (2-2-4)4

Classification of field crops, basic morphological and agronomical characteristics of cereals, food legumes, fibre, starch, sugar and oil crops, medicinal crops, forage crops and their cultivation.

SOIL SCIENCE AND PLANT NUTRITION (3-0-3)3

Description of soils, their composition, formation, the physical, chemical and biological features of soils, and the relationship of these properties with soil fertility are to be taught in this course. Soil fertility and plant nutrition’s theories and laws and nitrogen, phosphorus, Potassium, calcium, magnesium, sulfur, iron, manganese, zinc, copper, boron, molybdenum in the soil. and general rules in plant nutrition.

AGRICULTURAL ECOLOGY (2-0-2)2

Ecological definitions and terms, natural and agricultural ecosystems, relationship between climate and agriculture, relationship between soil and agriculture, soil productivity and microorganisms, biotic and abiotic stress factors, global climatic change, environmental problems, Photosynthesis, transpiration, water use efficiency, drought, conventional and alternative farming systems, pollution, sustainability, erosion.

COMPUTER -I (1-1-1.5)2

Document Processing, Formatting Operations clutch, clutch Object Operations and Advanced Features, Macros, learning the slideshow settings, Print, learning the concepts of privatization and E-mail

TRANSITION INTO UNIVERSITY LIFE (1-0-1)1

The units of the university such as library, health center, sports, observatory, art and history museums, student clubs, art and science clubs, the national and international education opportunities at the university, the directions of the student affairs, the scientific and cultural activities organized on a monthly basis in İzmir

SEMESTER II

TURKISH LANGUAGE-II (2-0-2)2

The concept of speech. The methods of speech developing. The genres of speech. The general aspects of listening, speaking, reading and writing. The verbal speech and genres of verbal speech. The written speech and genres of written speech.

PRINCIPLES OF ATATURK AND RECENT TURKISH HISTORY II (2-0-2)2

Atatürk’s reforms. Turkish Foreign Policy in Atatürk’s period. Atatürk’s principles. Political developments in Turkey and the world after 1938.

FOREIGN LANGUAGE –II (4-0-4)4

Vocabulary, Grammar, Skills (Reading-Listening-Speaking,Writing

ENTOMOLOGY (3-0-3)4

General knowledge about Insecta classes, their damage and benefit Morphology, anatomy, physiology, reproduction and developmental stage of them Ecology of the insect, methods and rules for the collecting insects and preparing collection from them

PHYTOPATHOLOGY (3-0-3)4

The basic subjects of plant pathology, history of phytopathology science, economical improtance of the diseases, Disease symptoms, Disease etiology, Disease occurrence and pathogenesis, pathogen origin chemical substances, plant resistance, disease ecology, common control methods of the diseases.

VEGETABLE DISEASES (3-0-3)3

The definition and diagnostic methods of symptoms of fungal, bacterial and viral pathogens diseases in vegetables and their control methods.

VEGETABLE PESTS (3-0-3)3

Properties, identification, biology, injury, damage levels, and control methods of insects, nematodes and mites damaging the diseases in vegetables.

STORAGE DISEASES (2-0-2)2
Symptoms, diagnosis and control methods of plant diseases in the storage and packing house

STORAGE PESTS (2-0-2)2

The importance of pests in stored products, biology, and damage types. Loss for the product, they must be applied according to the type of stored product pest control methods in classification will be discussed.

COMPUTER –II (1-1-1.5)2

Making advanced applications related to Word, Excel and Powerpoint, Accessing Internet Usage and information resources on the Internet.

SEMESTER III

WEED CONTROL MANAGEMENT (3-0-3)2
The basis of herbology science, the biological characteristics of weeds, their relations with environmental factors, control methods of weeds, general characteristics of herbicides, classification and behaviors of herbicides.

FIELD CROPS DISEASES (2-0-2)2

Diseases and control methods of wheat, barley, rye, oats, rice, corn, beans, peas, edible beans, onions, sugar beet, potato, sunflower and tobacco

FIELD CROPS PESTS (2-0-2)2
Pests and control methods of wheat, barley, rye, oats, rice, corn, beans, peas, edible beans, onions, sugar beet, potato, sunflower and tobacco

FURIT-VINEYARD DISEASES (3-0-3)3

Symptoms, diagnosis and control methods of fungal, bacterial and viral agents causing fruits and vine diseases

FRUIT-VINEYARD PESTS (3-0-3)3

The recognition of animal organisms that damage fruit trees and vineyards, biology, damage and control methods of the shapes and general features, and the struggle for Fruit and Vineyard pests.

OCCUPATIONAL HEALTH AND SAFETY (2-0-2)2

Basic principles and concept of occupational safety, work enviromental conditions, ergonomics, occupational disease, standards and regulations related to occupational health and safety, hazards, personel protective equipments, occupational ethics and precautions of safety

AGRICULTURAL CONTROL METHODS (3-0-3)4

The methods used to control plant diseases and pesticides. Subjects to be considered prior to pest control. Pest control methods (Cultural practices, Mechanical control, Physical control, Quarantine practices, Biological control, Biotechnical methods, Chemical control and insecticides, Integrated pest management

PLANT PROTECTION IN ORGANIC FARMING (3-0-3)4

Consept of disease in plants; fungal, bacterial, viral and other diseases of plants, their symptoms, their identifications, their transmission and spread, their control methods.The description, history and current situation of organic (Ecological) farming in Turkey and in the world, The principles and objectives of plant protection in organic farming, The legal issues, control and certification in organic farming, Pest control methods in organic farming

INSECT ECOLOGY AND EPIDEMIOLOGY (2-0-2)2

Definition of ecology, base theories and concepts, subject and subdivision of ecology, autoecology, abiotic and biotic factors.

SEMESTER IV

FOREST AND ORNAMENTAL PLANTS DISEASES (3-0-3)3

The symptoms by cause abiotic and biotic factor (fungi, bacteria, virus, phytoplasma ect) on annual and perennial ornamental plants and the knowledge of their biology and control methods.

FOREST AND ORNAMENTAL PLANTS PESTS (3-0-3)3

Insects and other animal pests on forest, park and garden trees and indoors ornamental plants, damage types, their biology and control methods are presented.

AGRICULTURAL INSURANCE (2-0-2)2

Agricultural insurances, full rain insurances, animal insurances, fire insurance, greenhouse insurances, fattening hen, egg hen, poultry insurance, aquaculture insurance, glass greenhouse insurance and plastic greenhouse insurance

GOOD AGRICULTURAL PRACTICES (2-2-3)4

Food safety, traceability and sustainability Regulations, Certification, EUREP-GAP. Good agricultural practices in terms of plant protection. Advise and examples of good agricultural practices.

PROFESSIONAL ETHICS (1-0-1)1

Examine the concepts of ethics and morality. Comply with the principles of professional ethics.

ENTREPRENEURSHIP (2-0-2)2

In this course, the conceptual framework, approaches, functions, process, entrepreneurship culture of entrepreneurship, local and international context of entrepreneurship and ethics of entrepreneurship will be discussed.

PLANT PROTECTION OF PRODUCTS (3-0-3)4

Introduction, definitions, structure and classification of Plant Protection Products Formulation, registration, labeling, recipe system, dose, phytotoxicity Compatibility, precautions during storage and application, hazard of Plant Protection Products on human and environment Insecticides, general properties and mode of actions Fungicides, general properties and mode of actions Other Plant Protection Products (acaricides, nematicides, molluscicides, rodenticides) general properties and mode of actions Disinfectants, Plant Activators and Plant Growth Regulators etc.

PLANT PROTECTION MECHANISM (2-2-3)3

Pesticide application techniques, Learning some definition about plant protection, Affecting factors on amount of sprayed pesticide, Pump selective criterion on sprayers, Importance of sprayer nozzles, Adjustment of sprayer boom, To reduce the negative effect of pesticide drift, Importance of sprayer calibration and application techniques. Safety at pesticide application.

PROJECT (2-0-2)2

Preparing a project related to professional subjects

ELECTIVE LECTURES-I

GENERAL MATHEMATICS (2-0-2)2

Basic Mathematics knowledges; Number Sets and arithmetical operations on these Sets; Division - Divisible; Gcd and Lcm; Exponential and Rooted Numbers; Absolute value; Kinds of Equation; Be able to establish equation and methods of solving equation; Ratio – proportion and Mean calculations; Relation and Function

GENERAL CHEMISTRY (2-0-2)2

The subject and aim of chemistry. Properties of matter. Basic laws. Structure of atom. Classification of elements. Chemical connections, Naming of compounds. Chemical equalities and measurements. Solubility.

BOTANICS (2-0-2)2

Contains plant cell organelles (cell wall, cell membrane, protoplasm, mitochondria, endoplasmic redikulum, the Golgi apparatus, plastids, ribosomes, vacuole, nucleus); tissues (meristem and continuous textures); organs (root, hypocotyl, stem, leaf, flower, fruit, seed) topics.

ELECTIVE LECTURES -II

MYCOLOGY (2-0-2)2

The general characteristics of fungi, fungal nutrition, growth and reproduction, certain taxonomic categories that contain plant pathogenic fungi.

ACAROLOGY (2-0-2)3

Systematics of mites, important mite groups,morphology of mites, behaviours and habitats of mites,collecting of mites,preparations of mites, damages of mites, economical importance of mites, management of mites.

AGRICULTURAL METEOROLOGY (2-0-2)2

Importance and purpose of Agricultural Meteorology, structure of atmoshpere, atmospheric pollution and effects on cultivated plants, weather, climate and climate components, effects of climate components on crop and animal production, meteorological events which has negative effect on agricultural production, global climate changes and its effects on agriculture and water resources.

ELECTIVE LECTURES -III

BACTERIOLOGY (2-0-2)2
Classification of phytopathogenic bacteria, bacterial diseases of plants and control methods

NEMATOLOGY

Historical developments on Nematology, General information on plant parasitic nematodes, Methods in Nematology, Plant protection methods on the economically important plant parasitic nematodes, Some important nematode species destructive on cultivated plants

COMMUNITY SERVICE ACTIVITIES (2-0-2)2
Developing social awareness; to write project; To identify civil society organizations and work together; To present project; To do teamwork.

ELECTIVE LECTURES -IV

SIGN LANGUAGE (2-0-2)2

To teach sign language used by hearing-impaired individuals and to gain the necessary skills to use the language in social life.

SYSTEMATICS OF INSECTS (2-0-2)2

Phylogeny, taxonomical categories and general aspects of insects belonging to Apterygota, Exopterygota and Pterygota • The importance, determination, biology, useful and harmful effects of species belonging to Protura, Diplura, Collembola, Thysanura, Ephemeroptera, Odonata, Plecoptera, Grylloblattodea, Orthoptera, Phasmida, Dictyoptera, Dermaptera, Embioptera, Isoptera, Zoraptera, Psocoptera, Mallophaga, Siphunculata, Hemiptera, Thysanoptera, Neuroptera, Coleoptera, Strepsiptera, Mecoptera, Siphonaptera, Diptera, Lepidoptera, Trichoptera, Hymenoptera

VIROLOGY (2-0-2)2
Characteristics of plant viruses, classification, translocation, disease symptoms and control methods of viral plant diseases