

PLANT PROTECTION DEPARTMENT COURSE CONTENT AND BOOKS TO BE USED

1. SEMESTER

BOTANY-I

(3+0) 3

ECTS:5

Botanical Science, Cytology, Histology, Organography, Physiology, Genetics, Ecology and Systematics under the headings of Cell, Chemical Structure of the Cell and Ergastic Substances, Organic Composition of the Cell, Cell Division. Plant tissues, vegetative and generative organs of plants, nutrition and metabolic events in plants, growth, development, movement events, plant genetics, ecological characteristics of plants, naming of plants, plant parts, mosses, ferns, open-seeded plants, closed-seeded plants.

Textbook:

- Prof. Dr. Kamil Karamanoğlu General Botany Beyoğlu -Istanbul

Auxiliary Textbooks:

- Prof. Dr. Yıldırım Akman Botany, Palmiye Publications -Istanbul Linda E.Graham, James M.Graham, Lee W.Wilcox Plant Biology, Palmiye Publishing. Translation Editor Kani Isik

TURKISH LANGUAGE-I

(2+0) 2

ECTS:2

What is language? The place and importance of language in the life of a nation as a social institution; language-culture relationship, the place of Turkish language among the world languages, the development and historical periods of Turkish language, the current status of Turkish language and its spreading areas, sounds and classification in Turkish, sound features of Turkish and rules related to phonetics, syllable knowledge, spelling rules and application, punctuation marks and application, construction suffixes of Turkish language and application, noun and verb conjugations in Turkish, general information about composition, plans to be applied in composition writing.

Textbook:

- Turkish Language and Composition Information for Higher Education Students (KORKMAZ Z., ERCİLASUN A.B., ZULFİKAR H., AKALIN M., GULENSOY T. PARLATIR C., BİRİNCİ N.)

Auxiliary Textbooks:

- Applied Turkish Language and Composition Information, Prof.dr. Yakup KRASOY, Assist.Assoc.Prof. Dr. Orhan YAVUZ, Okt. Ahmet KAYASANDIK, Okt. Bekir DİREKÇİ.
- University Turkish Language and Composition Courses (YAVUZ K., YETİS K., BİRİNCİ N.)
- Turkish Language and Composition, Commission.

- Applied Turkish information, Osman GÖKER.
- Turkish Language and Composition Information, Fahri ÖZKAN.

PHYSICS

(3+0) 3

ECTS:5

Physics and Measurement, Motion in One Dimension, Vectors, Motion in Two Dimensions, Laws of Motion, Circular Motion and Other Applications of Newton's Laws, Work and Kinetic Energy.

Textbook:

- Physics for Science and Engineering I, Serway Beicher, Palme Publishing.

Auxiliary Textbooks:

- Fundamentals of Physics, Cengiz Yalçın
- Principles of Physics, Kemal Colakoglu

CLIMATE

SCIENCE (2+0) 2

ECTS:4

Definition, importance and development of climate information, Meteorology departments and application areas, Structure and properties of the atmosphere, Temperature, Air pressure, Wind, Humidity, Evaporation and clouds, Precipitation, Air masses and front systems, Meteorological observations, Observation park

Textbook:

- Climate Information and Climatic Measurement Technique, Prof. Dr. H. Hüseyin Öztürk, Birsen Publishing House

Auxiliary Textbooks:

- Moran, J.M., Morgan, D.M., Pauley, P.M. 1997. Meteorology: the atmosphere and the science of weather. Prentice Hall, New Jersey, USA .3. Türkeş, M. 2010. Climatology and Meteorology. Kriter publishing house, Istanbul.

CHEMISTRY

(3+0)

3AKTS: 5

Classification of Matter, Atomic Structure, Periodic Table and Properties, Chemical Bonding, Molecular Geometry, Chemical Reactions, Chemical Calculations, Gases, Solutions, Chemical Equilibrium, Equilibrium in Aqueous Solutions.

Textbook:

- General Chemistry (vol. I. and II.) Principles and Modern Applications (Tahsin Uyar) (6. Print)

Auxiliary Textbooks:

- Basic Chemistry (Volumes I and II) Molecular, Substances and Changes E. Kılıç, F. Köseoğlu, H. Yılmaz
- Modern Basic Chemistry (Volume I and II) (Mustafa Özcan)

ZOOLOGY

(3+0)

3AKTS: 4

General classification of animals, common characteristics of living things, structure and metabolism of animal cells, tissues, reproduction and development, protein synthesis, evolution theory, relationships of animals with their environment, the effects of living and non-living environment on animals.

Textbook:

- Lecture Notes.

MATHEMATICS

(3+0) 3AKTS

: 5

Numbers, Intervals, Inequalities, Plane and Subsets of Plane, Functions, Limits and Applications, Continuity, Derivative and Applications, Indefinite States and Limits.

Textbook:

- Lecture Notes.

Auxiliary Textbooks:

- General Mathematics, Ekrem Kadioğlu, Muhammet Kamali, 2005, Erzurum
- General Mathematics, M. Kemal Sağel, Mine Aktaş, Pegema Publishing, 2008, Ankara.
- General Mathematics, Volume I, Mustafa Balcı, Balcı Publications, 2006, Ankara.
- Basic and General Mathematics, Volume I, Hilmi Hacısalihoğlu, Mustafa Balcı, 1988, Ankara.
- Other Books titled Basic Mathematics, General Mathematics or Mathematical Analysis.

2. SEMESTER

GENETICS

(3+0)

3ACTS: 5

The applications mainly cover the improvement of yield potential and product quality of plants and animals of economic importance. In this way, it is to ensure that a wide range of knowledge in the field of genetics is taught at the theoretical level.

Textbook:

- Soysal, M.İ. (2006), Genetics "Soybean Seed Information" Lecture Notes, 4th Edition, Trakya Univ. Tekirdağ Faculty of Agriculture. Zootechnics Genetics A.B.D 2006, Tekirdag ISBN:9944-5405- 0-1

Auxiliary Resources:

- Klug, S.W., Cummings M.R. (2003) Genetic Concepts (Translation from Sixth Edition). Palme Publishing, September, 2003, ISBN:975-8624-21-0 Tamarin, R.H. (1999), Principles of Genetics.(Sixth Edition) University of Massachusetts Lowell, ISBN:0-697-35462-8

BIOCHEMISTRY

(3+0)

3AKTS: 5

The aim of this course is to teach the origin and classes of biomolecules in the structure of living things, the importance of water, the structure, classification, physical and chemical properties of carbohydrates, lipids, amino acids and proteins.

Textbook:

- Lecturer lecture note

BOTANY-II

(3+0)

3AKTS: 5

Structural science of organs: Anatomical and morphological structures of root-stem and leaf, metamorphosis. The growing environment of the corm and its adaptation to the environment with the way of life. Information about hydrophytes, hygrophytes, xerophytes and tropophytes. Parasitic and semi-parasitic plants. Reproduction in flowering plants: Vegetative and generative reproduction. Development of male and female organs. Flower states: Rasemus and Simous flower states. Flower diagrams and formulas. Fertilization and seed formation. Seed structure. Fruit structure and fruit types.

Textbook:

- Prof.Dr.Kamil Karamanoğlu General Botany Beyoğlu -Istanbul
- **Auxiliary Textbooks:** Prof.Dr. Yıldırım Akman Botany, Palmiye Publications - Istanbul Linda E.Graham, James M.Graham, Lee W.Wilcox Plant Biology, Palmiye Publishing. Translation Editor Kani Işık.

TURKISH LANGUAGE

II(2+0) 2

ECTS:2

Adverb prepositions and their use in Turkish, Sentence Information, Elements of the sentence, Sentence analysis and applications, Types and application of oral composition, speech plan, preparatory speeches, rules of good speech, unprepared speech types and applications, Forms and application of expression in composition, types and applications of written composition, Expression and sentence disorders and their correction, Rules to be applied in the preparation of scientific writings and research, Research and examination of scientific writing samples, Literature

and the development of the ability to speak and write correctly and beautifully with selected examples from the history of thought from the world of thought.

Textbook:

- Turkish Language and Composition Information for Higher Education Students (KORKMAZ Z., ERCİLASUN A.B., ZULFİKAR H., AKALIN M., GULENSOY T. PARLATIR C., BİRİNCİ N.)

Auxiliary Textbooks:

- Applied Turkish Language and Composition Information, Prof.Dr. Yakup KRASOY, Assist.Assoc.Dr. Orhan YAVUZ, Okt. Ahmet KAYASANDIK, Okt. Bekir DİREKÇİ.
- University Turkish Language and Composition Courses (YAVUZ K., YETİS K., BİRİNCİ N.)
- Turkish Language and Composition, Commission.
- Applied Turkish Information, Osman GÖKER.
- Turkish Language and Composition Information, Fahri ÖZKAN.

SOIL SCIENCE

(2+2

) 3ACTS: 4

Definition of soil, Phases of soil, Soil formation processes and factors, Soil classification, Physical, Chemical and Biological properties of soil, Plant nutrition, Fertilizers and fertilization, Soil conservation and Soils of Turkey.

Textbook:

- Principles of Soil Science, 1993. Prof. Dr. Abdüsselam Ergene, Atatürk Univ. Publication No: 586, Faculty of Agriculture Publication No: 267, Textbook Series No: 42. Erzurum.

Auxiliary Textbooks:

- Akalan, C. 1988. Soil Science. Ankara University, Faculty of Agriculture Publications: 1058, Textbook: 309, Ankara.
- Soil Science, Sağlam, T.M., Bahtiyar, M., Cangir, M.T., Tok, H.H. 1993. University, Tekirdağ Faculty of Agriculture, Department of Soil, Tekirdağ, 1993.

GENERAL ECONOMICS

(3+0)

3AKTS: 5

Economic Concepts, Economic Problem, Supply, Demand and Elasticity, Firms and Production, Production Costs, Utility, Preferences, Amenities and Consumption, Perfect Competition Market, Imperfect Competition Markets, Factor Markets, The Role of the Economist in Government, Macroeconomic Concepts, National Accounts, Financial Intermediaries, Monetary Policies.

Textbook:

- General Economics Lecture Notes, Editor: Fahri YAVUZ, 2008.

Auxiliary Textbooks:

- ABC of Economics, M İlker Parasız, Ezgi Kitabevi Yayınları
- Mikroiktisat, Muammer Yaylalı, Beta Basım yayım Dağıtım A.Ş. 2004, İstanbul.
- Macro Economics, Aziz Köklü, Sevinç Matbaası, 1984, Ankara.
- All Economics books on the market can be used as a supplementary textbook

STATISTICS**(3+0****) 3ACTS: 4**

Basic Concepts, Descriptive Statistics (Frequency tables, Figures and graphs), Location and Distribution Measures, Probabilities, Population Distributions, Sampling Plans and Sample Distributions, Confidence Limits, Hypothesis Tests, Non-Parametric Tests, Regression and Correlation.

Textbook:

- Introduction to Statistics, Necati YILDIZ, Ömer AKBULUT and Hüdaverdi BİRCAN, Aktif Publishing House, Erzurum, 2002.

Auxiliary Textbooks:

- Applied Statistics, Necati YILDIZ and Hüdaverdi BİRCAN, Atatürk University Faculty of Agriculture Offset Facility, Erzurum, 1994.

3. SEMESTER

GENERAL MICROBIOLOGY**(1+2) 2****ECTS:4**

Subject and sections of General Microbiology, classification and nomenclature of microorganisms, history of microbiology, microorganism groups, bacteria, rickettsia and chlamydia, eukaryotic microorganisms, fungi, algae, protozoa, viruses, bacteriophages, virus-like infectious agents, nutrition in microorganisms, environmental factors affecting reproduction, grouping of microorganisms according to nutritional status, anaerobic culture methods, production of viruses, genetics of microorganisms, control of microorganisms, physical methods, chemical methods, laboratory equipment and presentation in microbiology applications, microscope and its use, measurement of the size of microorganisms, preparation of media, measurement of PH, sterilization, preservation, isolation of microorganisms in the environment, obtaining pure culture and examination of their properties, microorganism counting methods, examination of yeasts and molds.

Textbook:

- Temiz,A. 1994. General Microbiology Application Techniques. Şafak Matbaacılık Ltd.Şti.
Ankara, 266 Pages.

Auxiliary Textbooks:

- Lecture notes of the lecturer

GENERAL ZOOTECHNICS**(2+2)****3AKTS: 5**

Basic and up-to-date information about animal breeding will be given.

Textbook:

- Animal Cultivation (Aquaculture), 2. Edition, Editor Mehmet ERTUĞRUL
Ankara, 1997.

Auxiliary Textbooks:

- Lecture notes of the lecturer

AGRICULTURAL ECOLOGY**(3+0) 3****ECTS:5**

Introduction to ecology, definition, light, temperature, soil factors, biotic factors, ecosystem, atmospheric

Events

Textbook: Eser, D., Geçit, H. 2010. Ecology Ankara University Faculty of Agriculture

Auxiliary Textbooks

- Gökmen, S., 2011. General Ecology. Nobel Publications.

FOREIGN LANGUAGE**I(2+0)****2AKTS: 2**

Personal pronouns, Verb "to be", Have/has got, There is/are, Present progressive tense, Adjectives Quantity, Simple present tense, Modals, Comparatives and superlatives.

Textbook:

- English With Us

Auxiliary Textbooks:

- Essential Grammar In Use

PHYTOPATHOLOGY**(2+2) 3****ECTS:5**

History, development, definition and classification of phytopathology and plant diseases. Non-parasitic (unfavorable meteorological factors, airborne waste materials, unfavorable soil factors) and parasitic (fungi, viruses, bacteria, weeds, phytoplasma, spiroplasma)

General information about disease agents. Control methods with these disease agents. Information about some diseases and some important weeds that are very important for our country.

Textbook:

- Döken, M.T., Demirci, E. and Zengin, H., 2005. Phytopathology. Atatürk University, Faculty of Agriculture, Erzurum.

Auxiliary Textbooks:

- Lecture notes of the lecturer

AGRICULTURAL ECONOMICS

(3+0)

3ACTS: 5

The Place and Importance of Agriculture in the Economy, Characteristics of Agricultural Production and Agricultural Products, Natural Resources and Environmental Economics, Environmental Economics, Administration and Financing of Agricultural Enterprises, Agricultural Cooperatives and Organization, Cooperatives and Principles, Marketing of Agricultural Products, Agricultural Policy and International Trade, European Union and Rural Development.

Textbook:

- Agricultural Economics Lecture Notes, Erzurum, 2008

Auxiliary Textbooks:

- Karagölge, C., Kızıloğlu, S. and Yavuz, O., Basic Principles of Agricultural Economics. Atatürk University Faculty of Agriculture Publications: 324.1995.

AGRICULTURAL STRUCTURES AND IRRIGATION

(3+0)

3ACTS

: 4

Introduction to cultural technique; Planning of rural settlement and business location; Environmental conditions in agricultural structures; Agricultural business structures and planning principles Importance and necessity of irrigation; Water-yield relations; Turkey's soil and water resources potential and sufficiency; Soil-water-plant relations; Infiltration; Evapotranspiration; Effective rainfall; Irrigation efficiencies; Irrigation interval and amount of irrigation water; Irrigation Methods

Textbook:

- Kültürteknik, Okuroğlu, M., Yağanoğlu, A. V., Şahin, Ü., 1998. Atatürk Univ., Faculty of Agriculture Textbooks Publication No: 213, Erzurum
- Kültürteknik (Solved problems), Okuroğlu, M., Yağanoğlu, A. V., Şahin, Ü., 1994. Atatürk Univ., Faculty of Agriculture Textbooks Publication No: 213, Erzurum,

Auxiliary Textbooks:

- Irrigation, Y. Güngör, A.Z. Erözel, O. Yıldırım, Ankara Uni. Faculty of Agriculture. Textbook No: 478, Ankara, 2002.
- Irrigation and Drainage Engineering, R. Kanber, R. Çakır, A.F. Tarı, Ministry of Agriculture and Rural Affairs, APK Daire Bşk. Publication No: 122, Ankara, 2002.
- Kültürteknik (Solved Problems), A.V. Yağanoğlu, M. Okuroğlu, Ü. Şahin, 2001, Atatürk Uni. Faculty of Agriculture. Course Publications No: 213, Erzurum, 2001.
- Irrigation, R. Kanber, Çukurova Uni. Textbooks No:A-52, Adana, 1999.
- Irrigation, L. Delibaş, Trakya Uni. Tekirdag Faculty of Agriculture. Lecture Note: 52, Tekirdag, 1989.

4. SEMESTER

FOREIGN LANGUAGE

II(2+0)

2AKTS: 2

Future tense, Future progressive tense, Was/were, Simple past tense, Present Perfect tense, Past Perfect Tense, Relative Clauses, Passive voice.

Textbook:

- English With Us

Auxiliary Textbooks:

- Essential Grammar In Use

HORTICULTURE

(2+2

) 3AKTS: 4

Classification of horticultural crops, the value of Turkey in terms of horticulture, biological characteristics of horticultural crops, ecological requirements of horticultural crops, physiological characteristics of horticultural crops, propagation of horticultural crops, fruit, vegetable garden and vineyard establishment, annual maintenance works.

Textbook:

- General Horticulture, Y.S. Ağaoğlu, H. Çelik, M. Çelik, Y. Fidan, Y. Gülşen, A. Günay, -N. Halloran, A.I. Köksal, R. Yanmaz, Ankara University Faculty of Agriculture Education, Research and Development Foundation Publications No: 4, 1995.

Auxiliary Textbooks:

- Lecture notes of the lecturer

PLANT

PHYSIOLOGY (3+0) 3

ECTS:5

Within the scope of the course, root systems in plants and factors affecting their distribution, water uptake, nutrient uptake, photosynthesis and daily gain (net photosynthesis), developmental stages in plants, germination physiology and dormancy, plant growth substances, general principles of resistance to diseases and adverse conditions will be explained by giving examples.

Textbook:

- Taiz, L and Zeiger, E. Plant Physiology. 2008. (Turkish translation ed:İsmail Türkan). Palme Publishing, Ankara.

Auxiliary Textbooks:

- Kadioglu, A. 1999. Plant Physiology

ENTOMOLOGY

(2+2)

3AKTS: 4

The main animal groups important in agriculture, external and internal structure systems of insects, development and diapause in insects, classification of insects, some important pests in our country and control methods used against them.

Textbook:

- Yildirim, E., 2007. General Entomology. 2nd Edition. Atatürk University Faculty of Agriculture Publications No: 234, Faculty of Agriculture Offset Facility, Erzurum, 218 pp.

Auxiliary Textbooks:

- Karaca, I. and R. Ay. Entomology (Plant Protection). Süleyman Demirel University, Faculty of Agriculture Publication No: 26.
- Kansu, A., 1994. General Entomology. Kıvanç Basımevi, 426 p.

FOOD SCIENCE AND

TECHNOLOGY (2+2

) 3AKTS: 5

It is aimed to gain general knowledge and skills about the composition of foods, packaging and storage of foods, cereal, milk, meat, fruit, vegetable and vegetable oil technology and some products.

Textbook:

- Zeki Ertugay, Ahmet Kurt, Adem Elgün and H. Yusuf Gökalp (1994). Food Science and Technology. Atatürk University, Faculty of Agriculture, Department of Food Engineering. ERZURUM

Auxiliary Resources:

- Adem Elgun and Zeki Etugay (1992). Grain Processing Technology. Atatürk University, Faculty of Agriculture Publications. ERZURUM.
- Meat and Meat Products Processing Engineering (1994). Hüsnü Yusuf Gökalp, Mükerrerem Kayay and Ömer Zorba. Atatürk University, Faculty of Agriculture Publications. ERZURUM. 3- Bekir Cemeroglu, Feryal Karadeniz and Mehmet Özkan (2003).
- Fruit and Vegetable Processing Technology. Ankara University, Faculty of Engineering, Department of Food Engineering. ANKARA
- Milk Technology (2007). Ankara University, Faculty of Agriculture, Publication No: 1560, Textbook: 513 (Editor: Prof. Dr. Atilla YETİŞEMİYE).

AGRICULTURAL MACHINERY**(2+2)****3AKTS: 5**

Definition, stages and objectives of agricultural mechanization, mechanization in agriculture, Turkey agriculture and mechanization status, selection and operation principles of agricultural machinery, energy sources and machinery in agriculture, internal combustion engines, agricultural tractors, tillage tools and machinery, sowing, planting, fertilizing and maintenance machinery, agricultural warfare machinery, harvesting and threshing machinery, barn and poultry house mechanization.

Textbook:

- Agricultural Mechanization, Rahmi Keskin, Doğan Erdoğan, Ankara University Faculty of Agriculture Publications No: 1254, Ankara, 1992.

Auxiliary Textbooks:

- Agricultural Tools and Machines, Emin Mutaf, Ege University Faculty of Agriculture Publications No: 218, Izmir, 1984
- Principles of Agricultural Machinery, Poyraz Ülger, Emin Güzel, Birol Kayışoğlu, Bülent Eker, Bahattin Akdemir, Yunus Pınar, Yılmaz Bayhan, Cihangir Sağlam, Fakülteler Matbaası, İstanbul, 2002.
- Agricultural Machinery, Doğan Erdoğan, Ankara University Faculty of Agriculture publications No: 1540, Ankara, 2005.
- Agricultural Tools and Machines, Erol Kasap, Bekir Engürülü, Özkan Çiftçi, K. Sedat Kılınç, Mesut Gölbaşı, Hakan Başaran, Mustafa Akkurt, Ministry of Agriculture and Rural Affairs DAGMEM, Ankara, 1998.
- Farm Power And Machinery Management ,Donnell HUNT, Eight Edition. The Iowa State University Press, 1983, Iowa, USA. .
- Agricultural Machinery, Bahri Gökçebay, Ankara University Faculty of Agriculture Publications No: 979, Ankara, 1986.
- Agricultural Machinery, Serdar Öztekin, Nobel Kitabevi, ISBN:975-8561-65-0, Adana, 2006.
- Agricultural Machinery, Fahri Deligönül, Cukurova University Faculty of Agriculture Textbook No: 4, Adana, 1988.
- Motor and Vehicle Information, İbrahim Hoşgören, TC. Ministry of Agriculture and Rural Affairs Çankırı Provincial Directorate Agricultural Vocational High School and Agricultural Mechanization Training Center Directorate, Çankırı, 1992.

FIELD CROPS**(2+2)****) 3AKTS: 5**

To put forward the general principles and principles of "Field Agriculture", to introduce the main field crops (Cereals, Edible Grain Legumes, Industrial Crops and Forage Crops), to learn the principles of cultivation, to indicate the contribution of our country and the world economy.

Textbook:

- Lecture notes

5. SEMESTER

VOCATIONAL ELECTIVES-I (LESSON 1) (This lesson 0700005001 lesson from the group N n n to be taken, see below).

VOCATIONAL ELECTIVES-I (LESSON 2) (This lesson 0700005001 lesson from the group N n n to be taken, see below).

VOCATIONAL ELECTIVES-I (LESSON 3) (This lesson 0700005001 lesson from the group N n n to be taken, see below).

ELECTIVE COURSE (COURSE 1) (This course will be taken from 0701105000 course group, see below.)

insect morphology and physiology (2+2) 3AKTS: 3

Defining and determining the place of Insecta class in Arthropoda branch, structure, shape and extensions of the body wall and molting, insect embryology, structure and extensions of the head, thorax and abdomen, structure and functions of sensory organs, respiratory, digestive, excretory, nervous systems, structure and function of blood, structure and function of hormones will be explained.

Textbook:

- Basic Rules of Life II. Ali Demirsoy 1995, General Entomology. I. Akif Kansu.

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Auxiliary Textbooks:

- The Insects, Structure and Function. Fourth edition R.F. C

MYCOLOGY (1+2) 2AKTS: 3

Introduction to the kingdom of fungi, basic concepts in mycology, cell structure in fungi, ecology of fungi, vegetative structure of fungi, propagation of fungi

Textbook:

- Mycology-I Prof. Dr. Mehmet ÖNER, Ege Univ. Publication, 180 pp.
- Mycology-II Prof. Dr. Mehmet ÖNER, Ege Univ. Publication, 136 pp.

Auxiliary Textbooks:

- Mushroom Science, Prof. Dr. Gıyasettin KAŞIK, Selçuk University, Konya, 432 pp.

GENERAL HERBOLOGY**(1+2) 2****ECTS:3**

Development of herbology, benefits and damages of weeds, biology and ecology of weeds, advantages of weeds over cultivated plants, general methods used in the control of weeds, classification of herbicides, basic information about the use of herbicides, introduction of weeds that cause problems in agricultural areas.

Textbook:

- Özer, Z. et al. 2001. Herbology (Weed Science) GOP University Agriculture Fak Yay. No: 20 TOKAT.

Auxiliary Textbooks:**PLANT VIRUS DISEASES****(3+0) 3****ECTS:4**

It consists of properties of viruses, classification, replication, symptoms, modes of transport, effects on plant metabolism, important virus diseases and control methods.

Textbook:

- Lecture notes of the lecturer

ATATURK'S PRINCIPLES, HISTORY OF TURKISH REVOLUTION**I(2+0****) 2AKTS: 2**

Concept Information, Ottoman Empire and its Collapse, Tanzimat and Constitutional Monarchy Periods, Intellectual Movements in the Last Period of the Ottoman State, Important Military and Political Events Leading to the Disintegration of the Ottoman State, World War I, Secret Sharing Projects during the First World War and Treaties Ending the War, Mondros Armistice and Occupations, The Birth of the National Struggle Movement and National Organizations, The Birth of the National Struggle Movement and National Organizations, National Struggle Period and Mustafa Kemal Atatürk's Life, Mustafa Kemal Pasha's Exit to Samsun, Amasya Declaration and Erzurum Congress, Sivas Congress and Mustafa Kemal Pasha's Arrival in Ankara, Opening of the Last Ottoman Parliament and the Declaration of Misak-ı Milli, Grand National Assembly Period, Uprisings in the National Struggle and Kuvay-ı Milli.

Textbook:

- Atatürk's Principles and History of Revolution-I, II, III. (Commission)

Auxiliary Textbooks:

- Atatürk-Nutuk I-II-III

6. SEMESTER

VOCATIONAL SELECTIVE COURSES-II (COURSE 1) (This course is available from 0700006001 course group to be taken, see below).

VOCATIONAL SELECTIVE COURSES-II (COURSE 2) (This course is available from 0700006001 course group to be taken, see below).

VOCATIONAL SELECTIVE COURSES-II (COURSE 3) (This course is available from 0700006001 course group to be taken, see below).

ELECTIVE COURSE (COURSE 1) (This course will be taken from 0701106000 course group, see below.)

PLANT ACAROLOGY (1+2) 2

ECTS:3

Identification, biology, damage and control of economically important mites in fruit, vineyard, grain, vegetable, forage and industrial crops

Textbook:

- Lecture notes of the lecturer

PLANT BACTERIAL DISEASES (2+2) 3

ECTS:4

Plant pathogenic bacteria that cause economic losses in the world, the role of environmental factors in disease development, methods used in the isolation and diagnosis of plant pathogenic bacteria, disease management, disease mechanisms of pathogens and plant resistance mechanisms.

Textbook:

Plant Bacterial Diseases (Saygılı, H., Şahin, F. And Aysan Y. 2008) 2-Introduction to Bacteriology. Ege University, Faculty of Science, Book Series No: 47, Izmir. Güner, M., 1989.

INSECT SYSTEMATICS (2+2) 3

ECTS:4

Introduction of insects at the order and family level, biological characteristics, their role in ecosystems, beneficial and harmful insect groups.

Textbook:

- Lecture notes of the lecturer

PLANT PEST CONTROL METHODS AND SPRAYING (2+2) 2

ECTS:4

Cultural, mechanical, physical, biological, biotechnical, physical, biological, biotechnical methods used in pest control, chemical and integrated control methods are given.

Textbook:

- Yıldırım, E., 2008. Agricultural Pest Control Methods and Drugs. 2nd Edition. Atatürk University Faculty of Agriculture Publications No: 219, Faculty of Agriculture Offset Facility, Erzurum, 350 pp.

Auxiliary Textbooks:

- Matsumura, F. 1985. Toxicology of Insecticides. Second Edition. Plenum Press, New York and London, 598 pp. Persley, G.
- J., 1996. Biotechnology and Integrated Pest Management. Cab International, Wallingford, 475 pp. Van Driesche, R. G. and T. S. Bellows, Jr., 1996. Biological Control. Chapman & Hall International Thomson Publishing Company, 539 pp.
- Yücer, M. M., 2009 Licensed Agricultural Medicines 2009 Hasad Publishing Ltd. Şti., Istanbul, 368.

INSECT ECOLOGY AND EPIDEMIOLOGY (3+0) 3

ECTS:4

Definitions of ecological terms, History of Ecology, Relationships of Ecology with Other Sciences, Sections of Ecology (Synecology = Community Ecology; Autecology = Individual Ecology), Insect Individual Ecology (=Autecology), Non-living (Abiotic) Factors (Climate: Temperature, Water, Humidity, Wind, Cooperation of Climate Factors), Effects of High and Low Temperatures on Insects, Development Threshold, Thermal Constant, Fertile Number Calculation, Light, Atmospheric Gases, Lunar Periods, Sunspots, Gravity, Atmospheric Pressure, Physicochemistry and Chemistry Factors, Soil (Effects of soil structure, temperature, wetness and chemical substances on insect populations), Living (=Biotic) Factors (Food: Classification of insects according to the type of food received), Ineffectiveness, Competition, Symbiosis, One-way Benefit, One-way Harm, Parasitism and Predation.

Textbook:

- Önder, F., 2004. Ecology and Epidemiology of Plant Pests. Meta Basım Matbaacılık Hizmetleri, Bornova-İzmir, 81 p.

Auxiliary Textbooks:

- Kansu, İ. A., 1988. Insect Ecology (Insect Ecology). Ankara University, Faculty of Agriculture Publications: 1045, Textbook: 302, Ankara, 274 p. Kansu, İ.A., 1991.

ATATURK PRINCIPLES HISTORY OF TURKISH REVOLUTION II (2+0)2 AKTS:2

Kuva-yı Milli, The Entente States' Projects of Sharing Turkey, I. İnönü War, II. İnönü War, Great Offensive, Mudanya Armistice, Turkish Revolution, Constitutional Movements, Political Parties after the National Struggle, Transition to Multi-Party Period, Reactions Against the Regime, Reforms in the Field of Law, Reforms in the Field of Education, Reforms in the Social Field, Atatürk's Foreign Policy, Turkish Foreign Policy in the Period 1930-1938, Atatürk's Principles and Reforms, Atatürk's Economic Policy, General Situation in the Period 1930-1938.

Textbook:

- Atatürk's Principles and History of Revolution-I, II, III. (Commission)

Auxiliary Textbooks:

- History of Atatürk and Turkish Republic, Hacettepe Univ. History of Atatürk's Principles and Revolution Institute.
- Atatürk's Principles and Revolution History, Gazi Univ. (Commission).

7. SEMESTER

INTERNSHIP0 (0+0)

AKTS: 4

Students receive practical training related to the courses they take.

V O C A T I O N A L ELECTIVES- (LESSO 1) (This lesso 0700007001 lesso from the
III N n n group

to be taken, see below).

V O C A T I O N A L ELECTIVES- (LESSO 2) (This lesso 0700007001 lesso from the
III N n n group

to be taken, see below).

V O C A T I O N A L (LESSO 3) (This lesso 0700007001 lesso from the
E L E C T I V E COURSES-III N n n group

to be taken, see below).

V O C A T I O N A L ELECTIVES- (LESSO 4) (This lesso 0700007001 lesso from the
III N n n group

to be taken, see below).

SOCIAL-CULTURAL COURSE (COURSE 1) (This course is available from 9900001062
course group

to be taken, see below).

FIELD CROPS AND VEGETABLE PESTS

(2+2)3

ECTS:4

To teach the definitions, biology, damages and control of economically important pests of cereals, vegetables, forage and industrial crops in our country.

Textbook:

- Özbek, H., and R. Hayat, 2003. Cereal, Vegetable, Forage and Industrial Plant Pests. Atatürk University Faculty of Agriculture Publications No: 340, Faculty of Agriculture Offset Facility, Erzurum, 320 pp.

Auxiliary Textbooks:

- Anonymous, 2008. Agricultural Control Technical Instructions, Volume 1. T. C. Ministry of Agriculture and Rural Affairs, General Directorate of Agricultural Research, Ankara, 283 pp.
- Anonymous, 2008. Agricultural Control Technical Instructions, Volume 2. T. C. Ministry of Agriculture and Rural Affairs, General Directorate of Agricultural Research, Ankara, 260 pp.

- Anonymous, 2008. Agricultural Control Technical Instructions, Volume 3. T. C. Ministry of Agriculture and Rural Affairs, General Directorate of Agricultural Research, Ankara, 332 pp.

- Anonymous, 2008. Agricultural Control Technical Instructions, Volume 6. T. C. Ministry of Agriculture and Rural Affairs, General Directorate of Agricultural Research, Ankara, 286 pp.
- Anonymous, 2009. Fauna Europaea Version 2.1, <http://www.faunaeur.org> Hill, D. S., 1994. Agricultural Entomology. Timber Press, Portland, Oregon, 634 pp.

PLANT FUNGAL DISEASES

(2+2) 3

ECTS:4

Teaching vegetable diseases, cereal diseases, industrial crops diseases, fruit diseases, citrus diseases, vineyard diseases

Textbook:

- Plant Fungal Diseases Lecture Note

PLANT PROTECTION PRACTICES - 3

I(0+2)1

ECTS:

Introduction to the Faculty of Agriculture and the Department of Plant Protection, specialization areas and main research topics of the Department of Plant Protection and general information about Professional Practices, visits to the production areas of Pharmaceutical Dealers and Greenhouses and producer interviews.

Textbook:

- Lecture notes of the lecturer

GRADUATION STUDY - I (Annual)

0(0+2)

ECTS: 2

The fourth year student prepares a graduation thesis in the form of an application or literature review under the supervision of a faculty member.

Textbook:

- Lecture notes of the lecturer

8. SEMESTER

V O C A T I O N A L ELECTIVES- (LESSO 1) (This lesson 0700008001 lesson from the
IV N n n group
to be taken, see below).

V O C A T I O N A L ELECTIVES- (LESSO 2) (This lesson 0700008001 lesson from the
IV N n n group
to be taken, see below).

V O C A T I O N A L ELECTIVES- (LESSO 3) (This lesson 0700008001 lesson from the
IV N n n group
to be taken, see below).

V O C A T I O N A L ELECTIVES- (LESSO 4) (This lesson 0700008001 lesson from the
IV N n n group
to be taken, see below).

SOCIAL CULTURAL COURSE (COURSE 1) (This course is available from 9900001154

course group
will be taken, see below.

FRUIT AND VINEYARD PESTS (2+2) 3 AKTS:4

Definitions, biology, damage and control of pests of economic importance in fruit, vineyard and ornamental plants are given.

Textbook:

- Özbek, H., Ş. Güçlü, R. Hayat and E. Yıldırım, 1998. Pests of Fruit, Vineyard and Some Ornamental Plants. 2nd Edition. Atatürk University Faculty of Agriculture Publications No: 72, Faculty of Agriculture Offset Facility, Erzurum, 357 pp.

Auxiliary Textbooks:

- Anonymous, 2008. Agricultural Control Technical Instructions, Volume 1. T. C. Ministry of Agriculture and Rural Affairs, General Directorate of Agricultural Research, Ankara, 283 pp.
- Anonymous, 2008. Agricultural Control Technical Instructions, Volume 2. T. C. Ministry of Agriculture and Rural Affairs, General Directorate of Agricultural Research, Ankara, 260 pp.
- Anonymous, 2008. Agricultural Control Technical Instructions, Volume 4. T. C. Ministry of Agriculture and Rural Affairs, General Directorate of Agricultural Research, Ankara, 388 pp.
- Anonymous, 2008. Agricultural Control Technical Instructions, Volume 5. T. C. Ministry of Agriculture and Rural Affairs, General Directorate of Agricultural Research, Ankara, 301 pp.
- Anonymous, 2008. Agricultural Control Technical Instructions, Volume 6. T. C. Ministry of Agriculture and Rural Affairs, General Directorate of Agricultural Research, Ankara, 286 pp.
- Anonymous, 2009. Fauna Europaea Version 2.1, <http://www.faunaeur.org> Hill, D. S., 1994. Agricultural Entomology. Timber Press, Portland, Oregon, 634pp.

PLANT PROTECTION MACHINERY (2+0) 2 AKTS:3

Turkey's general agricultural warfare mechanization situation, comparison with the world, definitions and scope of subject related to spraying and spraying equipment, main control methods used in pest and disease control, basic issues to be known in chemical control, economic comparisons and practical examples, chemical drugs and formulation forms, physical properties of spray liquids, drop formation and coverage rate, drug drift and effective factors. Methods to be applied in reducing pesticide drift, The importance of drop size in chemical control, pulverization characteristic drop diameters and calculation methods, Pulverization characteristics, Classification of plant protection machines, Pulverizers and their parts, pumps, flow adjustment systems, Different nozzle types and hydraulic nozzles, Basic calculations and sample problems related to adjustment, maintenance and operation in field work with sprayers, Rotary disc sprayers, pneumatic and garden sprayers, pollinators, microgranule applicators, Foggers, seed sprayers, fumigation technique, Electrostatic charging of liquids and electrostatic nozzles, Safety precautions in spraying.

Textbook:

- Lecture notes of the lecturer

WEEDS AND WEED CONTROL (2+2) 3 AKTS:4

To provide information about the biology, ecological requirements, economic values, herbicides, weeds in different crops and control methods of weeds.

Textbook:

- Özer, Z., Kadiođlu, İ., Önen, H., and Tursun, N., 2001. Herbology (Weed Science) Gaziosmanpaşa University Faculty of Agriculture Publications No:20 Book Series No:10, 3rd Edition, Tokat

Auxiliary Textbooks:

- Guncan, A., 2009. Weeds and Control Principles. Selçuk University, Faculty of Agriculture, 4th Edition, Konya

PLANT PROTECTION PRACTICES-II (0+2) 1 AKTS:3

Introduction to the Faculty of Agriculture and the Department of Plant Protection, specialization areas and main research topics of the Department of Plant Protection and general information about Professional Practices, visits to the production areas of Pharmaceutical Dealers and Greenhouses and producer interviews.

Textbook:

- Lecture notes of the lecturer

GRADUATION STUDY-II (0+2) 1 AKTS:2

Lecture on how to define the problem at hand, how to collect data and information, how to approach the topic and prepare the main topics of the thesis, Independent work to collect data and information, Discussing the topic and thesis topics with the supervisor, Independent work to narrow the topic, Collecting data and information, Discussing with the thesis supervisor how to analyze the data, Analyzing the data, Writing the results, Writing and developing the thesis.

Textbook:

- Lecture notes of the lecturer

0700005001 Coded Elective Courses

PLANT NEMATOLOGY (2+0) 2 ECTS:3

To give information about the taxonomy of nematodes, general characters used in the identification of nematodes, morphology and physiology of nematodes, relationships between nematodes and other soil microorganisms, biology, hosts and control methods of important nematode species in Turkey.

Textbook:

- Lecture notes of the lecturer

PESTS OF PARK AND ORNAMENTAL PLANTS (2+0) 2**ECTS:3**

It is aimed to teach the definitions, biology, damages and control of economically important pests of Park and Ornamental Plants in our country.

Textbook:

- Özbek, H., Ş. Güçlü, R. Hayat and E. Yıldırım, 1998. Pests of Fruit, Vineyard and Some Ornamental Plants. 2nd Edition. Atatürk University Faculty of Agriculture Publications No: 72, Faculty of Agriculture Offset Facility, Erzurum, 357 pp.

URBAN ENTOMOLOGY**(2+0) 2****ECTS:3**

It is aimed to teach the definitions, biology, damages and control of pests that are important for public health in our country.

Textbook:

- Yıldırım, E., 2009. Urban Entomology. 2nd Edition. Public Health and Pest Control Association Publications No: 1, Yavuzlar Matbaası, Istanbul, 106 pp.

Auxiliary Resources:

- Anonymous, 2009. Fauna Europaea Version 2.1, <http://www.faunaeur.org> WHO, 2006. Pesticides and their application for the control of vectors and pests of public health importance. Sixth Edition. Department of Control of Neglected Tropical Diseases, WHO Pesticide evaluation scheme (WHOPES). 114 pp

PLANT PATHOGEN EPIDEMIOLOGY (2+0) 2**ECTS:3**

Factors that play a role in epidemics of plant disease agents, types of epidemics, development and epidemic calculations, epidemic control are taught.

Textbook:

- Lecturer lecture notes

**PLANT DISEASE CONTROL METHODS AND
SPRAYING (2 + 0) 2 AKTS:3**

It is aimed to teach cultural, mechanical, physical, biological, biological, chemical and integrated control methods used in the control of plant diseases and the recommended drugs and doses against agricultural diseases in Turkey

Textbook:

- Lecturer lecture notes

ALTERNATIVE HERBOLOGY**(2+0) 2****ECTS:3**

To inform the status of weeds in human health and nutrition, cosmetics industry, ornamental plants, etc.

Textbook:

- Lecturer lecture notes

VOCATIONAL FOREIGN LANGUAGE**(2+0)****2ACTS: 3**

- The aim of this course is to translate texts from English to Turkish and vice versa in a way to improve the students' English at the professional level, including English vocational terms related to the subjects taught in the vocational courses taught in the department, to provide students with professional experience and to improve their vocational English.

Textbook:

- Lecture notes of the lecturer, recommended reference books

0700006001 Coded Elective Courses**FARM AND DOMESTIC ANIMAL PESTS (2+0)2 AKTS:3**

Important ectoparasitic tick and insect species, their biology, damage and control in farm and domestic animals in our country.

Textbook:

- Lecture notes of the lecturer

PLANT PROTECTION IN ORGANIC AGRICULTURE (2+0) 2 AKTS: 3

Cultural, mechanical, physical, biological, biotechnical, biotechnical, integrated control methods used in the fight against pests and diseases that are harmful to organically produced agricultural products, and the drugs and doses permitted for use in organic agriculture in Turkey.

Textbook:

- Çakmakçı, R., and Ü. Erdoğan, 2012. Organic Agriculture. 3rd Edition.
- Atatürk University Faculty of Agriculture Course Publications No: 236, Faculty of Agriculture Offset Tesisi, Erzurum, 367 pp.

ENVIRONMENTAL AWARENESS AND SOCIAL RESPONSIBILITY (2+0) 2 AKTS: 3

Basic Concepts, Importance and Historical Development of Social Responsibility Social Responsibility Approaches, Social Responsibility and Marketing Applications, Social Responsibility and Brand Image, Principles of Social Responsibility Campaigns, Social Responsibility Campaign Process, Social Responsibility Areas, Campaigns for Employees and Customers, Campaigns for Society, Sample Campaigns from the World, Sample Campaigns from Turkey, General Evaluation.

Textbook:

- Lecture notes of the lecturer

0700007001 Coded Elective Courses

PRESENTATION AND WRITING TECHNIQUES IN PLANT PROTECTION

(3+0)3

AKTS:4

To ensure that the correspondence to be made in professional life and the graduation thesis to be prepared are made in accordance with the spelling rules.

Textbook Lecturer lecture notes

GLOBAL CHANGE AND PLANT CONSERVATION

(3+0)3

ECTS:4

To inform about the changes in the biology, ecology and control of plant protection agents, measures to be taken and changes in the biology, ecology and control of plant protection agents according to the current and expected future situations of global change.

Textbook Lecturer lecture notes

MOLECULAR BIOLOGY

(3+0)3AKTS

: 4

Physical and chemical properties of DNA and RNA, replication, molecular properties and biosynthesis of proteins.

Textbook:

- A., Yıldırım, F., Bardakçı, M., Karataş, B., Tanyolaç, 2007. Molecular Biology, Nobel Publishing Distribution, 613s.

STORED PRODUCT PESTS

(3+0) 3ACTS

: 4

To gain the knowledge and skills to teach the definitions, biology, damages and control of pests that damage the stored products in our country.

Textbook:

- Yıldırım, E., Arslan, İ., 2007. Stored product pests. Atatürk University Publications, Erzurum.

0700008001 Coded Elective Courses

TRIAL AND EVALUATION TECHNIQUE IN PLANT PROTECTION (3+0) 3 AKTS:4

Theoretical Practice, Laboratory, General principles of planning experiments, Hypothesis testing, Analysis of variance, Coincidence plots experimental design, Multiple comparison tests: LSD, Multiple comparison tests: Duncan, Orthogonal comparisons, Coincidence blocks experimental design, Latin square experimental design, Factorial trials, Simple factorial trials: Coincidence plots, Simple factorial experiments: Coincidence blocks, Split plots.

Textbook:

- Lecture notes of the lecturer

BIOLOGICAL CONTROL (3+0) 3 AKTS:4

What is biological control, its history, biological control methods, factors used in biological control, parasitoids, predators, entomopathogens and their use in biological control, parasitoid-host, prey-predator relationships, mass production and release techniques of parasitoids, predators, entomopathogens. The importance of biological control in terms of human and environment.

Textbook:

- Lecture notes of the lecturer

STORED PRODUCT DISEASES (3+0) 3 AKTS:4

Diseases encountered in harvested products during storage and control methods

Textbook:

- Stored Product Diseases Lecture Note

INTEGRATED STRUGGLE (3+0) 3 AKTS:4

Definition of integrated pest management, basic theories and concepts, principles of integrated pest management, importance of integrated pest management in terms of sustainable agriculture, identification of agents (main pests and secondary pests), presentation and explanation of the subject, discussion, sampling of agents, establishment of prediction and warning system, functioning of prediction and warning system, general principles of integrated pest management and integration of methods, principles of integrated pest management, application of integrated pest management in annual crops, application of integrated pest management in perennial crops, application of integrated pest management in greenhouse crops, evaluation of integrated pest management.

Textbook:

- Lecture notes of the lecturer

0701105000 Coded Elective Courses

FORAGE CROPS

(2+2) 3

ECTS:3

General structural characteristics of forage crops, general characteristics of important forage crops genera, structural characteristics of some forage crops species will be covered.

Textbook:

- Forage Crops. R. Avciođlu, R. Hatipođlu and Y. Karadađ (Eds.), 3 Vol. Ministry of Agriculture and Rural Affairs, Ankara. 2009.

Auxiliary Textbooks:

- Cultivation of forage crops, Gençkan, M. S. 1981. Ege Uni. Faculty of Agriculture. Yay. No. 467. İzmir. 1981.
- Genetic Resources of Forage Plants. J. G. Mc Ivor and R. A. Bray (eds.) pp. 63-81. CSIRO. Vega Press Pty Ltd. Blackburn, Australia. 1983
- Forage Crops, Açıkgöz, E. Uludađ Uni. Güç. Foundation Yay. No. 182. Bursa. 2001.
- Legume and wheat forage crops. Elçi, Ş. Ministry of Agriculture and Rural Affairs. Mart Matbaası, İstanbul. 486 s. 2006.

MEADOW PASTURE MANAGEMENT

(3+2) 4

ECTS:3

The aim of this course is to teach meadow and pasture terms and meadow pasture management concepts correctly and to make students aware of the important differences between meadow and pasture management and to explain the functions, sustainable use and importance of meadows and pastures from natural vegetation in terms of animal production.

Textbook:

- Altın, M., Gökkuş, A. and Koç, A. 2011. Meadow and Pasture Management. Republic of Turkey Ministry of Agriculture and Rural Affairs General Directorate of Agricultural Production and Development. Ankara.
- Gökkuş, A., Koç, A. and B. Çomaklı, 2000. Meadow - Pasture Application Guide. Atatürk University Faculty of Agriculture Publications No: 142, 139 p., Erzurum. Recommended

Auxiliary Textbooks:

- Pasture Law Training and Implementation Manual, 1999. Meadow-Pasture Management and Reclamation, Department of Meadow, Pasture, Crops and Watershed Development, Ankara.
- Tükel, T. and R. Hatipođlu, 1997. Meadow - Pasture Management. Çukurova University Faculty of Agriculture General Publication No: 191, Textbooks Publication No: A-59, 152 p., Adana.
- Gökkuş, A. and Koç, A. 2001. Pasture and Grassland Management. Ataturk Univ. Faculty of Agriculture. Course Yay. No: 228, Erzurum.

OIL PLANTS

(1+2

) 2AKTS: 3

Introducing the botanical and herbal characteristics of some of the plants mentioned below as oil crops. To give the students the cultivation techniques applied for the production of these plants.

Textbook:

- Arıoğlu,H.,1999. Oil crops cultivation and breeding. Ç.Ü. Faculty of Agriculture. General publication No:220. Adana.

Auxiliary Textbooks:

- Özgüven, M.,1995.Oil Crops Volume: II, Ç.Ü. Zir.Fak. Textbook: No:47. Adana.
- Koç,H.,2001. Oil Crops.Gaziosmanpaşa Uni. Zir.Fak. Publications No:58, Textbooks series No:22, Tokat.

GENERAL VITICULTURE (1+2) 2ACTS : 3

Giving basic information to students about vine biology, physiology and anatomy.

Textbook:

- Çelik,H., Ağaoğlu,Y.S., Fidan Y., Marasalı,B., Söylemezoğlu, G.1998.General Viticulture Sunfidan Mesleki Kitaplar Serisi:1, 253 pp, Ankara.

Auxiliary Textbooks:

- Celik,S. 1998. Viticulture (Ampelology) Volume-1. 426 p, Tekirdag
- Ağaoğlu, Y.S. 1999 Scientific and Applied Viticulture. Kavaklıdere Education Publications. No: 1, 205 pp Ankara.

COOL CLIMATE VEGETABLES (2+2) 3AKTS: 3

Basic and general principles of cool climate vegetable species and their cultivation giving.

Textbook:

- Günay A. 2006. Vegetable growing 1 and 2. 2.Vural et al.2000. Culture Vegetables. E.Ü.Z.F. Department of Horticulture-İZMİR

Auxiliary Textbooks:

- Lecture notes of the lecturer

HORTICULTURAL PRODUCTION TECHNIQUE (2+2) 3AKTS: 3

Giving fruit, vegetable and vine production techniques to students

Textbook:

- Horticultural Technique, Authors: Hudson T. Hartman, Dale E. Kester, Translators: Nurettin Kaşka, Muhsin Yılmaz, Çukurova University Faculty of Agriculture Publications: 79, Textbook No: 2

Auxiliary Textbooks:

- General Fruit Growing, R.Gerçekçioğlu, Ş. Bilginer, A. Soylu. Nobel Publications, p.480.

ORNAMENTAL PLANTS CULTIVATION (1+2) 2AKTS: 3

Definition of outdoor ornamental plants and their importance in urban and rural landscapes; classification of plants according to different physical criteria (norm, form, texture, branching); physical and biological differences between leafy and coniferous plants; taxonomic, morphological, biological characteristics, ecological and cultural requirements, propagation methods, important cultivars and characteristics of important trees, shrubs, trees, shrubs and climbing-climbing species.

Textbook:

- Lecture notes of the lecturer

RURAL DEVELOPMENT

(2+0) 2

ECTS:3

Rural development and basic concepts, relations between rural development and other disciplines, definition of rural areas and basic characteristics of rural areas in Turkey and some countries, basic working areas and objectives in rural development practices, objectives, tools and methods applied in rural development studies, basic characteristics of rural development policies and practices, rural development policies and policy changes in the EU, Changes in rural development policies in the world, rural development policies in Turkey, evaluation of practices and results, evaluation of the results of rural development projects implemented and being implemented in Turkey, potential identification and inventory studies in rural development, problem analysis techniques in rural development studies, priority setting, risk analysis and solution approaches, Turkey-National Rural Development Strategy.

Textbook:

- Bakırcı, M., 2007. Rural Development in Turkey, Nobel Academic Publishing, 416 pp.

Auxiliary Textbooks:

- Lecture notes of the lecturer

AGRICULTURAL MANAGEMENT

(2+2

) 3AKTS:

3

The concept of agricultural business, classification of agricultural enterprises, characteristics, the purpose of business analysis and data collection, criteria used in the analysis of agricultural enterprises, the results of the activities of agricultural enterprises and the measurement of their success status, business planning definition, purpose and data used in planning, basic concepts and applications used in business planning, budgeting method; methods and applications, program planning method;

methods and applications, linear programming method; basic concepts and assumptions linear programming method; profit maximization, graphical solution, interpretation of results, linear programming method; model building, simplex solution interpretation of simplex solution results, sensitivity analysis, cost minimization, graphical and simplex solution, interpretation

Textbook:

- Rehber, E., Tipi, T., 2005. Agricultural Management and Planning. Uludag University, ISBN:975-6149-06-X.

Auxiliary Textbooks:

- Kay, R.D., W.M., Edwards, P.E. Duffy, 2004, Farm Management, 5th Edition, Mc Graw Com. Inc
- Castle, E.N., M.H. Becker, A.G.Nelson, 1987, Farm Business Management, The Decision Making Process, Macmillan Pub. Company.
- Erkuş, A., R. Demirci, 1996, Agricultural Management and Planning, A.Ü. Zir.Fak. Yay., Publication no: 1435, Textbook: 417, Ankara.
- Inan, İ.H., Agricultural Business Management and Planning Lecture Note, Tekirdag, 2008.

Agricultural Valuation and Expertise

(2+0) 2AKTS: 3

The nature of agricultural valuation, time value of money, objectives in valuation, criteria taken into account in valuation, valuation methods, valuation in agricultural lands, valuation in agricultural enterprises, valuation in orchards, valuation in lands covered with fruitless trees, valuation in structures, valuation in lands, valuation in agricultural credit applications, determination of pollution damages in agriculture, expert witness and expert report preparation.

Textbook:

- Gülten, Ş., 2000, Kıymet Takdiri, Atatürk Univ. Faculty of Agriculture. Publication No: 202, Erzurum.

Auxiliary Textbooks:

- Mülayim, Z.G., 2008, Agricultural Valuation and Expertise, Yetkin Publications, Ankara.
- Rehber, E., 2008, Agricultural Valuation and Expertise, Ekin Publications, Bursa

0701106000 Coded Elective Courses

LEGUMINOUS FORAGE CROPS (2+2) 3

ECTS:3

Importance, use, climate, soil and nutrient requirements, crop rotation, seedbed preparation, sowing, fertilization, irrigation, weed, disease and pest control, seed production, harvesting and storage of leguminous forage crops such as alfalfa, sainfoin, clover, clover, vetches and vetches

Textbook:

- Açıkgöz, E., Forage Crops.2001 Uludağ University, Faculty of Agriculture, Department of Field Crops. Uludag University Empowerment Foundation Publication No: 182.

Auxiliary Textbooks:

- Heath, M.E., Barnes, R.F., Metcalfe, D.S., 1985. Forages. The Science of Grassland Agriculture. Iowa State University Press.
- Elçi, Ş., 2005. Legume and Wheatgrass Forage Crops. T.C. Ministry of Agriculture and Rural Affairs Publications.
- Gençkan, M. S., 1983. Forage Crops Agriculture. Ege University, Faculty of Agriculture Publications No: 467.
- Manga, İ., Acar, Z., Ayan, İ., 1995. Legume Forage Crops. Ondokuz Mayıs University Faculty of Agriculture. Lecture Note: No, 7.

MEDICINAL AND AROMATIC PLANTS (3+2) 4 AKTS:3

To know and classify the main medicinal plants, to know the origin, distribution and botanical characteristics of the main medicinal plants, to learn the cultivation techniques and quality criteria of these plants, to realize the importance of harvesting and drying processes and storage in these plants, to examine medicinal plants according to their active ingredients, to examine secondary metabolites and their functions, to understand the importance of secondary metabolites, to understand the properties of active ingredients and their role in their usage areas, to be aware of the economic importance of this group of plants.

Textbook:

- Kamil İlisulu, 1992, Ankara University, Faculty of Agriculture, Publications, p. 302

Auxiliary Textbooks:

- Ceylan, A., 1995, Medicinal Plants I, (3rd Bsm.), E.Ü., Faculty of Agriculture. Publication No: 312
- Ceylan, A., 1996, Medicinal Plants II, (2nd Bsm.), E.Ü., Faculty of Agriculture. Publications No: 481
- Ceylan, A., 1994, Medicinal Plants III, (1st Bsm.), E.Ü., Faculty of Agriculture. Publication No: 509.

FRUIT GROWING TECHNIQUE (2+2) 2

ECTS:3

General and basic information about propagation methods and pruning that can be used in fruit species
provision of information.

Textbook:

- Lecture notes of the lecturer

ECOLOGY and PHYSIOLOGY OF HORTICULTURE PLANTS (1+2) 2

ECTS:3

Giving information about ecological and physiological characteristics of horticultural plants.

Textbook:

- Kacar, B., Katkat, V., Öztürk, Ş. 2002. Plant Physiology. Uludag Univ. Empowerment Foundation Publication. Bursa, S. 563.

Auxiliary Textbooks:

- Eriş, A., 2007. Physiology of Horticultural Plants. Uludağ University Faculty of Agriculture Lecture Notes No: 11, VI. Edition, Bursa, S. 152.

WARM CLIMATE VEGETABLES (1+2) 2

ECTS:3

With this course; It is aimed to give general characteristics of warm climate vegetables, to explain morphological characteristics of vegetable species such as pepper, okra, tomato, bean, cucumber, melon, watermelon, squash, eggplant, sweet corn and sweet potato, to explain climate and soil characteristics and to give information about cultivation techniques.

Textbook:

- Günay A. 2006. Vegetable growing 1 and 2. 2.Vural et al.2000. Culture Vegetables. E.Ü.Z.F. Department of Horticulture-İZMİR

Auxiliary Textbooks:

- Lecture notes of the lecturer

BERRIES (2+2) 2

ECTS:3

In this course, students will be informed about the cultivation of berry fruit species.

Textbook:

- Ağaoğlu, Y.S. 1986. Grape Fruits. A. U. Faculty of Agriculture. Publications. Textbook: 290, 377 s.

Auxiliary Textbooks:

- Lecture notes of the lecturer

ANALYSIS AND PLANNING OF AGRICULTURAL ENTERPRISES (2+2) 3 AKTS:3

It is aimed to improve their knowledge and skills in the decision-making process, to understand the meaning and importance of planning in agricultural business, to learn planning methods and to establish models with the data they will obtain from agricultural enterprises, to develop guiding suggestions for agricultural enterprises by interpreting the solutions of the models.

Textbook:

- Agricultural Management, Analysis and Planning of Agricultural Enterprises, KARAGÖLGE, C., 2001.

Auxiliary Textbooks:

- Business Economics and Management, Muammer Dođan. Agricultural Economics and Management, İ. Hakkı İNAN, 2006.

AGRICULTURAL ACCOUNTING (2+2) 3 AKTS:3

Development of accounting, basic concepts, basic financial statements, uniform chart of accounts in accounting, single and double sided record keeping technique, bookkeeping on balance sheet and business account basis, accounting systems applied in agriculture, agricultural business records (physical and financial records, analysis of accounting records, some sample applications on computer

Textbook:

- Agricultural Accounting (With Practical Examples), Prof. Dr. Bahattin ÇETİN and Assist. Assoc. Dr. Tolga TİPİ, Nobel Publications, Ankara, 2007.

Auxiliary Textbooks:

- Lecture notes of the lecturer

PRODUCTION ECONOMICS (2+2) 3 AKTS:3

Definition of production economics, its objectives and its relation with other sciences, characteristics of agricultural production, production and cost functions (law of diminishing returns, basic concepts, classical production function, cost function), factor-product analysis (optimum level of input use), factor-factor analysis (relations between inputs, co-product curves, lowest cost input combination), product-product analysis (relations between products, production possibilities curve, optimum product combination), economics of scale, technical progress and agriculture.

Textbook:

- Lecture notes of the lecturer

VOCATIONAL FOREIGN LANGUAGE II (2+0) 2 AKTS:3

The aim of foreign language teaching is to teach students the basic rules of the foreign language, to develop their foreign language vocabulary, to understand what they read in a foreign language and to express themselves orally or in writing.

Textbook:

- Lecture notes of the lecturer, recommended reference books

9900001062 Coded Elective Courses

PHYSICAL EDUCATION (3+0) 3 AKTS:4

To introduce the concepts, publications and professional fields of physical education and sports, the relations between human and physical education-sports, the relations of physical, physiological and psycho-social study areas with physical education science, physical education in the world and

The development and pioneers in Turkey, the status of physical education science in different countries, the relationship between performance and physical education science will be examined.

Textbook:

- Physical Activity Sciences, Editors: Bouchard, C., McPherson, B., Taylor, A.W., Human Kinetics Books, Champaign, 1991. Lumpkin, A., Physical Education and Sport A Contemporary Introduction, Second Edition, Times Mirror/Mosby College Publishing, St-Louis, 1991.

MUSIC (3+0) 3 AKTS:4

Gaining knowledge about basic music concepts related to music, gaining general knowledge about music science (musicology) and sub-branches of musicology such as music theory, music history, music psychology, music psychology, music therapy, etc. Examine music scientifically by doing interdisciplinary sample exercises.

Textbook:

- Lecture notes of the lecturer

FOLK DANCES

(3+0) 3

ECTS:4

To teach the teaching methods of folk dances of various regions and the way they are played and to inform about the folklore of the regions

Textbook:

- Lecturer lecture notes

THEATER

(3+0) 3

ECTS:4

It examines the views on the source, the importance of theater in Ancient Greece and Rome.

Textbook:

- Lecturer lecture notes

SIGN LANGUAGE (3+0) 3 AKTS:4

Definition of Turkish sign language (TİD), Hand and finger shapes, Position of the hands according to the body, Function of mimics, Single and double hand use, Relationship of signs with Turkish, Understanding the other party

Textbook:

- Lecture notes of the lecturer

OCCUPATIONAL HEALTH AND SAFETY (3+0) 3 AKTS:4

FIRST AID TRAINING 1.1. General first aid training rules 1.2. Rules of training for the evaluation of the scene 1.3. Rules of basic life support training 1.4. Rules of first aid training in bleeding 1.5. Rules of first aid training in injuries 1.6. Rules of first aid training in burns 1.7. Rules of first aid training in fractures, dislocations and sprains 1.8. Rules of first aid training in poisoning 2.FIRST AID MATERIALS 2.1.Types 2.2. Intended use.

Textbook:

- Lecture notes of the lecturer

PAINTING

(3+0) 3

ECTS:4

Color and Harmony, Pattern, Ways of Seeing, New Art History, Composition and Fiction, The Story of Art, The Story of Modern Art, Art and Illusion, The Story of Art, Basic Concepts of Art,

Textbook:

- Lecturer lecture notes

9900001154 Coded Elective Courses

PHYSICAL EDUCATION (3+0) 3 AKTS:4

To introduce the concepts, publications and professional fields of physical education and sports, the relationship between human and physical education and sports, the relationship between physical, physiological and psycho-social study areas with physical education science, the development of physical education in the world and in Turkey and the pioneers, the status of physical education science in different countries, the relationship between performance and physical education science will be examined.

Textbook:

- Physical Activity Sciences, Editors: Bouchard, C., McPherson, B., Taylor, A.W., Human Kinetics Books, Champaign, 1991. Lumpkin, A., Physical Education and Sport A Contemporary Introduction, Second Edition, Times Mirror/Mosby College Publishing, St-Louis, 1991.

MUSIC (3+0) 3 AKTS:4

Gaining knowledge about basic music concepts related to music, gaining general knowledge about music science (musicology) and musicology, which are the sub-branches of musicology.

theory, music history, music psychology, music psychology, music therapy, etc. to examine music scientifically by making interdisciplinary sample exercises.

Textbook:

- Lecture notes of the lecturer

FOLK DANCES

(3+0) 3

ECTS:4

To teach the teaching methods and forms of folk dances of various regions and to inform about the folklore of the regions

Textbook:

- Lecturer lecture notes

THEATER

(3+0) 3

ECTS:4

It examines the views on the source, the importance of theater in Ancient Greece and Rome.

Textbook:

- Lecturer lecture notes

SIGN LANGUAGE (3+0) 3 AKTS:4

Definition of Turkish sign language (TİD), Hand and finger shapes, Position of hands according to the body, Function of mimics, Single and double hand use, Relationship of signs with Turkish, Understanding the other party

Textbook:

- Lecture notes of the lecturer

OCCUPATIONAL HEALTH AND SAFETY (3+0) 3 AKTS:4

FIRST AID TRAINING 1.1. General first aid training rules 1.2. Rules of training for the evaluation of the scene 1.3. Rules of basic life support training 1.4. Rules of first aid training in bleeding 1.5. Rules of first aid training in injuries 1.6. Rules of first aid training in burns 1.7. Rules of first aid training in fractures, dislocations and sprains 1.8. Rules of first aid training in poisoning 2.FIRST AID MATERIALS 2.1.Types 2.2. Intended use.

Textbook:

- Lecture notes of the lecturer

PAINTING**(3+0) 3****ECTS:4**

Color and Harmony, Pattern, Ways of Seeing, New Art History, Composition and Fiction, The Story of Art, The Story of Modern Art, Art and Illusion, The Story of Art, Basic Concepts of Art,

Textbook:

- Lecturer lecture notes.