

AKDENİZ ÜNİVERSİTESİ
FEN FAKÜLTESİ
BİYOLOJİ BÖLÜMÜNDE
2017-2018 EĞİTİM-ÖĞRETİM YILINDA YABANCI DİLDE AÇILACAK DERSLER

V.YARIYIL

DERSİN KODU	DERSİN ADI	DERS DURUMU	KURAMSAL SAATİ	UYGULAMA SAATİ	TOPLAM SAAT	KREDİSİ (AKTS)	DERS İÇERİKLERİ
BİY 317	LABORATORY SAFETY	S	2	0	2	3	Labware and general lab equipment will be presented along with laboratory working principles needs to be followed (precautions and measures), by which the personal working in the lab environment could be protected against potential hazards.
BİY 319	BACTERIOLOGY	S	2	0	2	3	Microbial Evolution, Phylogeny of Prokaryotes, General Properties of Bacteria, Proteobacteria, Purple Phototrophic Bacteria, Sulfur and Iron Oxidizing Bacteria, Nitrogen Cycle and Bacterial Nitrogen Fixation, Hydrogen Oxidizing Bacteria, Methanotrophs and Methylotrophs, Gram Positive Bacteria, Archaea.
BİY 343	ENVIRONMENTAL BIOLOGY	S	2	0	2	3	

BİY 359	PLANT PHYSIOLOGY	S	3	0	3	6	Topics include the capture of light energy for growth and metabolism, water relations, plant nutrition, transport processes, plant development & phytohormones, and responses to environmental stresses.
BİY 363	MICROBIAL ECOLOGY	S	2	0	2	3	General microbiological terms, microorganism interactions with their biological and physico-chemical environment, biotransformations of organic pollutants and specific elements, like S, Fe and Mn in natural and man-made ecosystems, freshwater, soil and marine microbial ecosystems, nutrient cycles and bioremediation, microbial symbioses.
BİY 365	INTRODUCTION TO MOLECULAR BIOLOGY	S	3	0	3	6	<ul style="list-style-type: none"> -Biological elements and their functions -Biological function of water, -Classifications of macromolecules which are carbohydrates, proteins, lipids and nucleic acid, -Structure of macromolecules -Functions of macromolecules in the cells -Macromolecules which are present in the cell membrane, -Cell the basic unit of life (prokaryotes, eukaryotic cells, plant cells), - Origin of eukaryotic organelles and endosymbiotic theory

BİY 367	PRINCIPLES OF BIOCHEMISTRY	S	3	0	3	6	-Introduction to metabolism; oxidation-reduction reactions, mechanisms regulating metabolism -Principle of bioenergetics -Catalysis; general nature of enzymes, nomenclature and classification of enzymes, regulation of enzyme activity -Biological oxidation; oxidative enzymes, coenzymes and carriers -Carbohydrate metabolism; glycolysis, gluconeogenesis, glycogen metabolism, photosynthesis -Lipid metabolism; fatty acid metabolism, regulation of lipid metabolism, plasma lipoproteins and lipid transport, -Protein metabolism; Fixation of nitrogen, ammonia and sulfur, urea cycle amino acids synthesis, transport of amino acids, amino acid decarboxylation, synthesis of oligopeptides. -Nucleic acid metabolism; synthesis and degradation of purin and pyrimidin, formation of deoxyribonucleotides, synthesis of oligonucleotides.
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VI.YARIYIL

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BİY 360	MEDICAL MICROBIOLOGY	S	2	0	2	3	General microbiological terms, beneficial microbial interactions with humans, harmful microbial interactions with humans, virulence, virulence factors and toxins, essentials of immunology, airborne diseases, direct contact transmission diseases, sexually transmitted infections, soilborne diseases, waterborne diseases.

BİY 362	FLOWERING PLANTS	S	3	0	3	6	This lesson includes the following subjects. Basic principles of systematic, systematic categories, general characteristics of various families of Gymnospermae and Angiospermae which are distributed in Turkey and genera which belong to these families, general and diagnostic characters of these families and their morphological characters.
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VII.YARIYIL

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BİY 461	ANIMAL CELL CULTURE	S	2	0	2	4	Historical development of animal cell culture, application area of cell culture, preparation of primer and secondary cell culture, kinds of cell culture medium and its preparation, breeding, proliferation, passages, collecting and freezing-storage of the cells, trypsinization, cell counting techniques, sterilization techniques used in the cell culture, sources of contamination, cell fractionations techniques, stem cells and application areas, cancer cells and healthy cells.

VIII.YARIYIL

DERSİN KODU	DERSİN ADI	DERS DURUMU	KURAMSAL SAATİ	UYGULAMA SAATİ	TOPLAM SAAT	KREDİSİ (AKTS)	DERS İÇERİKLERİ
BİY 416	EVOLUTIONARY ECOLOGY	S	2	0	2	4	Causes of variation (at organism, population and community levels). Evolutionary significance of variation. Phenotypic plasticity. Natural selection and adaptation. Genetic structure of populations. Ecological specialization and generalization. Inbreeding and outbreeding. Evolution under anthropogenic changes and global warming. Interspecies interactions and evolution. Conservation Biology and evolution.
BİY 420	NATURE CONSERVATION	S	2	0	2	4	Introduction, concepts and terms for nature conservation, threat to natural environments, criteria of classifying threatened species, class of threatened species, red data books, area and population based conservation plans and activities
BİY 468	PLANT BIOTECHNOLOGY	S	2	0	2	3	This course describes the role of biotechnology in agricultural production, explains the development of transgenic plants, their approval procedure, and discusses the public perception of transgenic plants and future of plant biotechnology
BİY 470	GENETIC ENGINEERING	S	2	0	2	4	History of Recombinant DNA technology, Vehicles for Gene Cloning, Purification of DNA from Cells, Transformation of Recombinant DNA, Cloning Vectors for E. coli, Cloning Vectors for Eukaryotes, How to Obtain a Clone of a Specific Gene, Genome Projects.
BİY 476	MOLECULAR CELL BIOLOGY	S	3	0	3	6	An overview of cells and cell research, the chemistry of cells, fundamentals of molecular biology, the organization of cellular genomes, replication, maintenance, and rearrangements of genomic DNA, RNA synthesis and processing,

							protein synthesis, processing, and regulation, cell structure and function, protein sorting and transport, bioenergetics and metabolism - mitochondria, chloroplasts, and peroxisomes, the cytoskeleton and cell movement, the cell surface, cell regulation, the cell cycle, applications of molecular biology to cancer prevention and treatment
BIY488	MOLECULAR GENETICS	S	3	0	3	6	Historical development of molecular genetics, synthesis of purine and pyrimidine, structure of nucleotides and nucleic acid, replication, transcription, translation, regulation of gene expression, mutations and DNA repair mechanisms, technology of recombinant DNA, genes and cancer.