2023-2024 Academic Year
List of Courses Offered in Foreign Language
Institute of Science
Fen Bilimleri Enstitüsü

	Department *Bölüm*	Course Code *Ders Kodu*	ECTS *AKTS*	Course Title *Dersin Adı*	Semester *Dönem*	Course Content *Dersin İçeriği*	Academic Staff *Dersi Veren Öğretim Elemanı*	Online Available *Çevrimiçi*
1	Tarımsal Biyoteknoloji *Agricultural Biotechnology*	TBİ5007	6	PLANT PHYSIOLOGY	Güz *Fall*	Photosynthesis in plants, Secondary metabolites and plant defense mechanisms, signal transduction and plant development, plant cell walls, growth and development, control of plant growth through phytochrome and light, morphogenesis, control of flowering through common hormones and brosssinoids and response to abiotic stress factors	Prof. Dr. Songül Sever Mutlu	
2	Tarımsal Biyoteknoloji *Agricultural Biotechnology*	TBİ5009	6	PLANT GENETICS	Güz *Fall*	Plant molecular genetics, chromosome biology, molecular markers, chloroplast and mitochondrial genomics, plant genetic engineering	Prof. Dr. Nedim Mutlu	
3	Tarımsal Biyoteknoloji *Agricultural Biotechnology*	TBİ5023	6	DUS TEST TECHNIQUES	Güz *Fall*	DUS tests are carried out to ensure that a new variety is Distinct from existing varieties, that its characteristics are Uniform, and that the variety is Stable with consistent phenotypic characteristics. This course will teach all aspects of plant cultivar registration and DUS tests.	Prof. Dr. Faik Kantar	
4	Tarımsal Biyoteknoloji *Agricultural Biotechnology*	TBİ5002	6	ADVANCED CELLULAR BIOLOGY	Bahar *Spring*	Cellular structure and organelles, extracellular structures, cell membrane and transport across membranes, membrane lipids and proteins, microscopy, intracellular trafficking, cell signalling mechanisms.	Assist. Prof. Münevver Aksoy	
5	Tarımsal Biyoteknoloji *Agricultural Biotechnology*	TBİ5008	6	MOLECULAR PLANT BREEDING	Bahar *Spring*	Molecular markers, use of dominant and codominant markers in different segregating populations, marker assisted backcross program, foreground and background selections	Prof. Dr. Nedim Mutlu	
6	Biyoteknoloji *Biotechnology*	BTİ7025	8	TRENDS IN BIOTECHNOLOGY	Güz *Fall*	Genome editing techniques, e.g. CRISPR-Cas9 system, synthetic biology, bioengineering, plant acclimation responses to nutrient deficiency and regulation of gene expression, photosynthesis and improving photosynthetic activities of plants, functional genomics, microscopy nad proein localization techniques.	Assist. Prof. Münevver Aksoy	
7	Biyoteknoloji *Biotechnology*	BTİ7033	8	SCIENTIFIC LITERATURE ANALYSIS IN BIOTECHNOLOGY	Güz *Fall*	Discussion and analysis of research articles on the latest biotechnology related subjects such as; functional genomics and mutant analyses, gene expression analyses, techniques used in biotechnology (RT-PCR, qPCR, western blot, immunoprecipitation etc.), genetics and dominance recessive relationship of genes, microRNAs, enzymes which have importance in biotechnology, e.g., phosphatases and phytases.	Assist. Prof. Münevver Aksoy	
8	Biyoteknoloji *Biotechnology*	BTİ7006	8	PLANT BREEDING FOR STRESS	Bahar *Spring*		Prof. Dr. Faik Kantar	
9	Biyoteknoloji *Biotechnology*	BTİ7008	8	BIOTECHNOLOGY AND PLANT GENETIC ENGINEERING	Bahar *Spring*	Biotechnology, transcription, translation eukaryotic gene organization, RE, vectors,genomic and cDNA libraries, library screening,other molecular techniques: blotting, sequencing, regeneration systems for transformation, gene transfer by agrobacterium, gene transfer by particle bombardment, molecular markers in plant breeding, gene silencing techniques Environmental issues associated with plant genetic engineering.	Assoc. Prof. Hatice İkten	
10	Biyoteknoloji *Biotechnology*	BTİ7014	8	SEED BIOTECHNOLOGY	Bahar *Spring*	This course will aim to give theoretical and practical information to Master of Science students about the basic aspects of seed physiology such as seed formation, growth and development, seed structure, seed dormancy, seed germination, chemistry of seeds, viability, vigor, longevity, seed storage, aging and deterioration, enhancement and priming, handling, testing, seed pathology and R&D aspects of seeds.	Prof. Dr. Faik Kantar	
11	Biyoteknoloji *Biotechnology*	BTİ7024	8	ALGAL BIOTECHNOLOGY	Bahar *Spring*	Phylogeny, habitats, growth cycles of algae; photosynthesis; genetic engineering of algae; biosynthetic pathways of algal products such as beta-carotene and astaxanthin; indoor and outdoor growth of algae and bioreactors; algae as renewable energy source; bio-fertilizers; heterologous protein expression in algae; use of algae in sewage treatment etc. will be covered.	Assist. Prof. Münevver Aksoy	
12	Biyoteknoloji *Biotechnology*	BTİ7032	8	MASS SPECTROMETRIC APPLICATIONS IN BIOTECHNOLOGICAL ANALYSIS	Bahar *Spring*	In the context of the lecture, basic information about mass spectrometry, theory, instrumentation, method validations and applications of mass spectrometric methods in some selected analysis are included.	Prof. Dr. Mehmet Fatih Cengiz	
13	Biyoteknoloji *Biotechnology*	BTİ7029	8	MICROBIAL METOBOLISM	Güz *Fall*	Nutrition, aerobic and anaerobic glucose metabolism of bacteria. The mechanism of carbohydrates other than glucose. Metabolic diversity and activity of aerobic heterotrophics. Microbial fermentation. Lipid and nitrogen metabolism. Patway of Microbial metabolisms. Regulation of metabolism and operons.	Assoc. Prof. Aysun Özçelik	