



**2023-2024 Academic Year**  
**List of Courses Offered in Foreign Language**

**Institute of Science**  
***Fen Bilimleri Enstitüsü***

	Department <i>Bölüm</i>	Course Code <i>Ders Kodu</i>	ECTS <i>AKTS</i>	Course Title <i>Dersin Adı</i>	Semester <i>Dönem</i>	Course Content <i>Dersin İçeriği</i>	Academic Staff <i>Dersi Veren Öğretim Elemanı</i>	Online Available <i>Çevrimiçi</i>
1	Su Ürünleri Temel Bilimler <i>Basic Science Division</i>	ESBT	4	AQUATIC (BLUE) BIOTECHNOLOGY	Bahar <i>Spring</i>	<p>In this course students will learn and understand new knowledge of recent application of the science and technology in aquatic micro and macro organisms and their life habitat, biodiversity, genetic selection and bioengineering and their products that benefit us such as novel therapeutics, biofuels and pharmaceuticals.</p> <p>Course subjects are:</p> <p>History of aquatic biotechnology research</p> <p>Introduction of major areas of aquatic biotechnology</p> <p>Algae: Biofuels, food, Cosmetic products</p> <p>Use of marine bacteria to remediate oil spills (bioremediation) and toxic waste</p> <p>Macro and microorganisms as sources of antibiotics and pharmaceuticals</p> <p>Bioluminescence and aquatic green fluorescent proteins (GFP's)</p> <p>Proteomics and genomics studies in aquaculture</p> <p>Assessment: Includes practical and project works.</p>	Asoc. Prof. Dr. İ. Tülay ÇAĞATAY	✓
2	Su Ürünleri Temel Bilimler <i>Basic Science Division</i>	ESBT	4	ADVANCED MICROBIOLOGY	Bahar <i>Spring</i>	<p>In this course, student will learn; the classification of water microorganisms, prokaryotes (archaea, cyanobacteria and bacteria), eukaryotes (algae, protozoa, fungi) and viruses, bacterial physiology and metabolism, marine and fresh water microorganisms, agents of waterborne diseases, nutrient cycles of microorganisms, waste water microbiology, bioremediation and microbial mining.</p>	Asoc. Prof. Dr. İ. Tülay ÇAĞATAY	✓
3	Su Ürünleri Temel Bilimler <i>Basic Science Division</i>	ESBT	4	MOLECULAR BIOLOGICAL AND GENETICAL TECHNIQUES IN FISHERIES AND AQUATIC SCIENCES	Bahar <i>Spring</i>	<p>Application of molecular biological techniques in Fisheries and Aquatic sciences, introduction of laboratory instruments, purifications of DNA and RNA from different tissues, isolation of plasmids, recombinant DNA technologies, PCR, agarose gel electrophoresis, restriction endonucleases, cloning technologies, production of cDNAs, application of RFLP, Real time PCR, Western and Northern Blots, primer design, DNA sequencing, International database in molecular biology and their application.</p>	Asoc. Prof. Dr. İ. Tülay ÇAĞATAY	✓