



**T.C.**  
**Akdeniz University**  
**Faculty Of Fisheries**  
**Department Of Aquaculture Engineering Department**  
**Course Contents**

**4.CLASS FALL**

<b>Lesson Code</b> : SUM 441	<b>Lesson Name</b> : Fish Breeding	<b>T+U</b> : 2+0	<b>Credit</b> : 2	<b>ECTS</b> : 3
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**Content of the Course :**

Introduction, basic information related to breeding and genetics, genetic basis of gender differentiation in fish and sex chromosomes, genetic variation and sources of variation, genotype, phenotype and environment relationship, selection methods, quantitative traits for selective breeding, making a selective breeding program, heritability, hybridization

<b>Lesson Code</b> : SUM 429	<b>Lesson Name</b> : Fisheries Legislation	<b>T+U</b> : 2+0	<b>Credit</b> : 2	<b>ECTS</b> : 2
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**Content of the Course :**

No. 1380 fisheries law, environmental law, coastal law, the regulation of fisheries, fishing ports regulation, water pollution control regulations, sampling and analysis methods, regulation on the protection of wetlands,

<b>Lesson Code</b> : SÜM 423	<b>Lesson Name</b> : Hatchery Technology and Management	<b>T+U</b> : 2+0	<b>Credit</b> : 2	<b>ECTS</b> : 3
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**Content of the Course :**

Cultured fish species and biology. Design and Construction of hatchery-hatchery size calculation, Location Selection Criteria, Environmental Factors- Hatchery Management - Broodstock, broodstock selection and management- Hatchery Management-ovulation, fertilization and incubation. Hatchery Management - larval rearing. Larval Development of Feed-Natural Foods- Larval Development of Feed-Commercial Feed - Support Units, and equipment. Broodstock, eggs, larvae, fish fry and theirs transfer. Rules of the hatchery. Hatchery and economic analysis of investment costs

<b>Lesson Code</b> : SUM 491	<b>Lesson Name</b> : Stowage	<b>T+U</b> : 2+0	<b>Credit</b> : 2	<b>ECTS</b> : 2
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**Content of the Course :**

Properties of ports and harbors, port profile, cargo ships-cargo, load protection, principles and planning, types of loads, ship balance, stack planning, capacity plan, cargo plan, stowage factor, stack and stability calculations, loading-unloading vehicles, ship cargo equipment and properties, timber, grain, mine and containers, tankers, liquefied gas Transportation of LPG-LNG, frozen and chilled loads, the protection of the health of shipmen and loading and unloading workers, IMO rules.

<b>Lesson Code</b> : SUM 489	<b>Lesson Name</b> : Maritime Law	<b>T+U</b> : 2+0	<b>Credit</b> : 2	<b>ECTS</b> : 2
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**Content of the Course :**

To learn the basic concepts of maritime law, classify types of maritime transport and their contents

<b>Lesson Code</b> : SÜM 449	<b>Lesson Name</b> : Fish Nutrition and Feed Technology	<b>T+U</b> : 3+2	<b>Credit</b> : 4	<b>ECTS</b> : 3
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**Content of the Course :**

Introduction, metabolism and gastrointestinal system in fish, description of nutrient materials and chemical analysis, description of ingredients for aquaculture feeds and analysis of nutritional qualities (chemical composition such as crude protein, crude fat, ash, crude fibers, carbohydrate, moisture and dry matter and apparent digestibility coefficients); methods of ration preparing, ration preparing for fresh water and marine fish, feed technology, planning of feeding experiments, calculation of feeding parameters, relation feed and environment.

<b>Lesson Code</b> : SÜM 422	<b>Lesson Name</b> : Geographic Information Systems in Fisheries	<b>T+U</b> : 2+0	<b>Credit</b> : 2	<b>ECTS</b> : 3
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**Content of the Course :**

Introduction to remote sensing, terms used in remote sensing, sensor systems, types of detection, remote sensing platforms, types and properties of images, interpretation of images, introduction to geographic information systems (gis), basic concepts, gis technology, data acquisition methods, data display and symbology, topology, inquiry and reporting

<b>Lesson Code</b> : SÜM 407	<b>Lesson Name</b> : Fisheries Biology and Population Dynamics	<b>T+U</b> : 2+2	<b>Credit</b> : 3	<b>ECTS</b> : 4
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**Content of the Course :**

The concept of unit stock, Stock affecting the biotic and abiotic factors. Growth in fish-feeding, reproduction, mortality and migration, and interaction with each other, mathematical formulas and applications, monitoring of stocks, growth stocks, stocks decline, the balance in stock, the estimated stock size and arrangement of the stocks

<b>Lesson Code</b> : SUM 405	<b>Lesson Name</b> : Sportive Fishing	<b>T+U</b> : 2+0	<b>Credit</b> : 2	<b>ECTS</b> : 3
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**Content of the Course :**

the course is the concept of the recreational fishing in sea and freshwaters, the ability to understand the ethics; the recognition of the hunting tools, to distinguish the target species of the amateur fisherman, recreational fishing can be obtained

<b>Lesson Code</b> : SÜM 403	<b>Lesson Name</b> : Seafood Processing Technology II	<b>T+U</b> : 2+2	<b>Credit</b> : 3	<b>ECTS</b> : 3
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**Content of the Course :**

The chemical and physical structure of aquatic products and their changes after Rigor Mortis, freshness, transporting, curing technology, fish smoking technology, conservation technology, fish paste technology, packaging technology, aquatic product industry and technologies used in making ornaments, With and without economic value of the product by taking a lot of aquatic product which will be processed with the technology are described.

<b>Lesson Code</b> : SÜM 419	<b>Lesson Name</b> : Aquatic Molecular Biology and Biotechnology	<b>T+U</b> : 2+0	<b>Credit</b> : 2	<b>ECTS</b> : 3
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**Content of the Course :**

What is Molecular Biology ?, Molecular Biology Basic Topics, (DNA, Chromosome, Replication, Transcription, Translation), Molecular Biological Techniques and Their Application to Aquaculture, What is Aquatic Biotechnology? Application of genetic technologies and biotechnology to aquatic organisms and fish farming, species development in aquaculture, cloning, genetically modified organisms, environmental applications of aquatic biotechnology.

<b>Lesson Code</b> : SUM 415	<b>Lesson Name</b> : Tuna Fishing and Technology	<b>T+U</b> : 2+0	<b>Credit</b> : 2	<b>ECTS</b> : 3
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**Content of the Course :**

What is a tuna fish? What are the species of tuna fish? Morphological properties of tuna fishes, Fishing methods and technical features of fishing devices. Tuna fish breeding, net cage systems, their technical properties, Feeding, harvesting and processing methods.

<b>Lesson Code</b> : SUM 413	<b>Lesson Name</b> : Graduation Project I	<b>T+U</b> : 0+2	<b>Credit</b> : 1	<b>ECTS</b> : 5
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**Content of the Course :**

Student counselor makes a source review about the subject and know how to use and apply them