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| **COURSE IDENTIFICATION FORM** |
| **Course Code and Name:** SM 5085 OSMOREGULATION PHYSIOLOGY IN FISH | **Department of :** Fisheries and Aquaculture |
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| **Semester** |

 | **Theoretic Hour** | **Practice Hour** | **Total Hour** | **Credits** | **ECTS** | **Education Language** | **Type: Compulsory Elective** |
| Fall | 3 | 0 | 3 | 3 | 5 | Turkish | Optional |
| **Prerequisite (s)** | - |
| **Instructor** | Prof. Dr. Volkan KIZAK | **Mail :** volkan.kizak@munzur.edu.tr**Web :** |
| **Course Assistant** | - | **Mail :****Web :** |
| **Groups / Classes** | Master  |  |
| **Course Aim** |  Description of the osmoregulation physiology in fish, understanding of the mechanism of osmoregulation physiology and comprehension of importance in terms of aquaculture. |
| **Course Goals** |  Ability to understand osmoregulation physiology in fish and comprehend the importance of osmoregulation in terms of aquaculture. |
| **Course Learning Outs and Proficiencie*s*** | To be able to describe osmoregulation physiology in fish and its functions, explain its importance, apply in adaptation studies of aqauculture. |
| **Course Basic and Auxiliary Contexts** | 1. Fish Osmoregulation (2007) Eds.; Baldisserotto B., Mancera J.M. and Kapoor B.G., p.527, Science Publishers, USA.2. Encyclopedia of Aquaculture (2000), Ed.; Stickney R.R., p.1063, John Wiley & Sons, USA.3. Nitrogen Excretion (2001), Eds.; Wright P. and Anderson P., p.358, Academic Pres, USA. |
| **Methods of Give a Lecture** | Theoretical |

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| **Assessment Criteria** |  | **If Available, to Sign (x)** | **General Average Percentage (%) Rate** |
| **1. Quiz** | **X** |  |
| **2. Quiz** |  |  |
| **3. Quiz** |  |  |
| **4. Quiz** |  |  |
| **5. Quiz** |  |  |
| **Oral Examination** |  |  |
| **Practice Examination (Laboratory, Project etc.)** |  |  |
| **Final Examination** | **X** |  |
| **Semester Course Plan** |
| **Week** | **Subjects** |
| **1** | Fish anatomy |
| **2** | Fish physiology |
| **3** | Fish systematics |
| **4** | Physiology of osmoregulation in fish |
| **5** | Function of osmoregulation in adaptation to salt water |
| **6** | Effects of physicochemical properties of water on fish |
| **7** | Anadromous and catadromous fish |
| **8** | Smoltification |
| **9** | Euryhaline species |
| **10** | Aquaculture of euryhaline species |
| **11** | Energy metabolism and osmotic adaptation in fish |
| **12** | Ion transfer in cells |
| **13** | The role of hormones in osmoregulation |
| **14** | The importance of osmoregulation physiology in aquaculture |