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| **COURSE IDENTIFICATION FORM** | | | | | | | |
| **Course Code and Name:** SM 5080 ANAESTHETIC AGENTS APPLICATIONS IN AQUACULTURE | | | | **Department of :** Fisheries and Aquaculture | | | |
| |  | | --- | | **Semester** | | **Theoretic Hour** | **Practice Hour** | **Total Hour** | **Credits** | **ECTS** | **Education Language** | **Type: Compulsory Elective** |
| Fall | 2 | 2 | 4 | 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 anaesthetic agents and applications, determination of the optimal anaesthetic agent, concentration and duration according to species, comprehension of importance in terms of fish welfare. | | | | | |
| **Course Goals** | | Ability to understand the properties of anaesthetic agents, apply optimal concentration and duration, comprehend the importance of anaesthetic methods in terms of fish welfare and aquacultural operations. | | | | | |
| **Course Learning Outs and Proficiencie*s*** | | To be able to describe anaesthetic agents and applications, carry out optimal anaesthetic agent, concentration and duration according to species, operate some aquacultural activities easily i.e. fish transport, vaccination, biometrical monitoring etc. | | | | | |
| **Course Basic and Auxiliary Contexts** | | * Anaesthetic and Sedative Techniques for Aquatic Animals (2008), Eds.; Ross L.G. and Ross B., p.222, Blackwell Publishing, UK. * Encyclopedia of Aquaculture (2000), Ed.; Stickney R.R., p.1063, John Wiley & Sons, USA. | | | | | |
| **Methods of Give a Lecture** | | Theoretical and practice | | | | | |

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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** | Importance of anesthesia in aquaculture | | | |
| **2** | Fish anatomy and physiology | | | |
| **3** | Fish welfare | | | |
| **4** | Physiologic effects of stress | | | |
| **5** | Anesthetics | | | |
| **6** | Anesthetic agents and properties | | | |
| **7** | Optimal concentration and duration | | | |
| **8** | Induction and recovery | | | |
| **9** | Application techniques of anesthetic agents | | | |
| **10** | Conditions affecting anesthesia | | | |
| **11** | Non-chemical methods | | | |
| **12** | Essential oils with anesthetic properties | | | |
| **13** | Anesthetizing aquatic invertebrates and amphibians | | | |
| **14** | Sedation in fish transportation | | | |