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| **COURSE IDENTIFICATION FORM** |
| **Course Code and Name:** SM-565 Laboratory principles and methods (MSc. Course) | **Department of :** **Fisheries** |
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| **Semester** |

 | **Theoretic Hour** | **Practice Hour** | **Total Hour** | **Credits** | **ECTS** | **Education Language** | **Type: Compulsory Elective** |
| Fall/Spring | 2 | 2 | 2+2 | 3 | 6 | Turkish | Elective |
| **Prerequisite (s)** |  |
| **Instructor** | Assoc. Dr. Engin ŞEKER | **Mail : enginseker@munzur.edu.tr** **Web :** |
| **Course Assistant** |  | **Mail :****Web :** |
| **Groups / Classes** |  |  |
| **Course Aim** | The aim of this course; To teach basic laboratory principles and general laboratory procedures. |
| **Course Goals** | It is aimed to train people who have knowledge and equipment about basic laboratory techniques, laboratory working safety and laboratory tools and equipment in performing the physical, chemical, instrumental and microbiological analyzes required for quality control of seafood products. |
| **Course Learning Outs and Proficiencie*s*** | •Will be able to understand the general hygiene and safety rules that must be followed in the laboratory, the principles of working in the laboratory, and the principles of basic laboratory devices and methods.• Will have acquired basic laboratory skills (example: weighing, buffer preparation, pH measurement, homogenization, centrifugation).• Will have acquired the ability to apply general laboratory procedures. |
| **Course Basic and Auxiliary Contexts** | • Laboratory Technique. Ismet Türker. Ankara University Faculty of Agriculture Publication No: 381,1969 • Laboratory Safety and Chemical Hygiene Plan. 2009. Ankara University, Faculty of Engineering, Department of Food Engineering. Nevzat Artı, Kadir Halkman, Aziz Tekin, Ayla Soyer, Özay Menteş• Aysel KÜÇÜK, “Laboratory Techniques and Basic Concepts”, Sakarya Bookstore |
| **Methods of Give a Lecture** | Face to face |

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| **Assessment Criteria** |  | **If Available, to Sign (x)** | **General Average Percentage (%) Rate** |
| **1. Quiz** | **X** | **40 %** |
| **2. Quiz** |  |  |
| **3. Quiz** |  |  |
| **4. Quiz** |  |  |
| **5. Quiz** |  |  |
| **Oral Examination** |  |  |
| **Practice Examination (Laboratory, Project etc.)** |  |  |
| **Final Examination** | **X** | **60 %** |
| **Semester Course Plan** |
| **Week** | **Subjects** |
| **1** | Laboratory rules and safety |
| **2** | Introduction of laboratory devices and glassware |
| **3** | Basic points to consider when performing experiments in the laboratory, weighing, glassware cleaning, preparation for sterilization |
| **4** | Physical analysis techniques, pH, water activity, temperature |
| **5** | Preparation of normal, molar and percentage solutions, preparation of solution from solution, preparation of indicator solution |
| **6** | General Laboratory Safety and Occupational Health |
| **7** | Points to consider in the microbiology laboratory, microscope introduction |
| **8** | Midterm |
| **9** | Microbiological staining methods |
| **10** | The importance of sterilization, use of autoclave and sterilizer, sterilization of glassware and other equipment |
| **11** | Classification of media and preparation of media |
| **12** | Microbiological cultivation techniques, sample preparation, sampling, homogenization |
| **13** | Evaluation, isolation and identification of colonies as a result of microbiological analysis |
| **14** | Destruction methods of microorganisms, rapid test methods in microbiology and chemical analysis |