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| **COURSE IDENTIFICATION FORM** |
| **Course Code and Name** **SM-6021Aquatic Primary Productivity** | **Department of :** |
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| **Semester** |

 | **Theoretic Hour** | **Practice Hour** | **Total Hour** | **Credits** | **ECTS** | **Education Language** | **Type: Compulsory Elective** |
| Fall | 3 | 0 | 3 | 3 | 6 | Turkish | Optional |
| **Prerequisite (s)** |  |
| **Instructor** | Prof. Dr. Banu KUTLU | **Mail :** **Web :** |
| **Course Assistant** |  | **Mail :****Web :** |
| **Groups / Classes** |  |  |
| **Course Aim** |  The student should have advanced knowledge and application skills about the measurements of Primary Productivity and the ability to understand and interpret what changes may occur with environmental parameters. |
| **Course Goals** | * Examining the factors affecting Primary Productivity (light, temperature, phosphate, silicate, nitrate, ammonium, metals, hydrocarbons) and explaining measurement techniques (14C method, oxygen method and dilution technique) in detail.
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| **Course Learning Outs and Proficiencie*s*** | * The student acquires the ability to evaluate and comment on the effects of light, temperature, nutrients, metals and hydrocarbons on factors such as phytoplankton productivity and species diversity.
* • The student can perceive bottom-up and top-down control of primary production.
* • Acquire the ability to measure primary productivity in the aquatic environment with various techniques and evaluate the results.
* • Being able to access and benefit from resources related to Primary Productivity
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| **Course Basic and Auxiliary Contexts** | • Manual on methods for measuring primary production in aquatic environments (Eds:R.A.Vollenweider , J.F.Talling, D.F.Westlake.), IBP Handbook No:12, Burges and Son (abingdon ) Limited,213p. , SBN 632 05700 9 J.E.G:RAYMONT ,Plankton and Productivity in the Oceans ,Vol 1:Phytoplankton ,PergamonPress,Oxford,489p. ISBN 0-08-021552-1 hardcover, ISBN 0-08-021551-3flexicover T.R.Parsons,M.Takahashi and B.Hargrave. Biological Oceanographic processes,Pergamon Press,1977,332p |
| **Methods of Give a Lecture** | Lecture, Question-answer, Discussion, Brainstorming, Individual study |

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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** | Autotrophic processes in the seas |
| **2** | Factors affecting Primary Productivity, I: Light |
| **3** | Factors affecting Primary Productivity, II: Temperature |
| **4** | Factors affecting Primary Productivity, III: NutrientsReactive Phosphate |
| **5** | Factors affecting Primary Productivity, III: Nutrients: Reactive Silicate |
| **6** | Factors affecting Primary Productivity, III: Nutrients: Nitrate |
| **7** | Factors affecting Primary Productivity, III: Nutrients: Ammonium |
| **8** | Midterm |
| **9** | Measuring Primary Productivity |
| **10** | 14C method and basic radiological methodology |
| **11** | Relationship between assimilation number and Phytoplankton growth rateDetermination of Primary Productivity with dilution technique |
| **12** | Factors affecting Primary Productivity, IV: Metals, complexation and Chelation |
| **13** | Week: factors affecting primary productivity, V: Blocking and stinging |
| **14** | Final exam |