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|  **COURSE DETAILS** |
| **Course Name** | Carbonate Platforms and Reefs |

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| **Language of Instruction** | Turkish |

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| **Level of Instruction** | Associate | Undergraduate  | MA(X) | Ph.D. () |

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| **Education System** |
| Formal Education (X) | Distance Education () | Other |

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| **Type of Course** | **Course Area Code** | **Course Optical Code** |
| Comp () | Elective (x) |  |  |

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| **Theory** | **Practice Time** | **Total Hours** | **Semester** | **National Credit** | **ECTS Credits** |
| 3 | 0 | 3 | Fall | 3 | 6 |

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| **Course Aim** |

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|  | Definition, classification and recognition of carbonate platforms and reefs in stratigraphic column, Diagenesis and porosity and economical potential of carbonate platforms and reefs in the exploration of petroleum. |

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| **Course Content** |

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|  | This course is designed to give basic information about the carbonate platforms and the sedimentology and stratigraphy of reefs and the parameters controlling the development and evolution of these systems and also to understand the details of the role of carbonate platforms and reefs in oil exploration. |

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| **Prerequisites**  | • The carbonate platforms and reefs of development, and distribution in • Europe and Turkey• Ecological conditions of reef fauna and flora• Climate changes• Sea level changes• Economic potential of reefs |

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| **Course Instructor** | Assistant Professor Derya SİNANOĞLU |

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| **Assistant Instructor** |   |

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| **Text Book / Recommended Reading** | * RESİFLER: GENEL KARAKTERLERİ, FASİYESLERİ, EVRİMİ VE EKONOMİK ÖNEMİ, MTA Yayınları
* Nichols, G. (2009) Sedimentology and Stratigraphy. Wiley-Blackwell, 419 pp.
* Toomey, D.F. (ed.) (1981) European fossil reef models. Soc. Econ. Paleont. Mineral., Spec. Publ. 30, 546 pp
* Tucker, M.E., Wilson, J.L., Crevello, P.D., Sarg J.R. and Read, J.F. (eds) (1990) Carbonate platforms: facies, sequence and evolution. Intern. Assoc. Sedimentologists, Spec. Publ. 9, 328 pp.
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| **Grading Evaluation System** |
| (X) Direct Conversion System |   | () Curve |
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|  | **Tools** | **Number** | **Rate** |
|  | Attendance and Participation | 15 | 5 |
|  | Research homework | 1 | 15 |
|  | Quiz | 4 | 16 |
| **Measurement and Evaluation** | Presentations | 1 | 10 |
|  | Literature | 1 | 4 |
|  | Semester Exam | 1 | 50 |
|  | **Total** |  | **100%** |

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| **Subjects by Week** |
| **Week** | **Topics** | **Teaching Methods** |
| 1 | Geology of carbonate platforms and reefs | Lecture, discussion, sampling. |
| 2 | Formation and development of carbonate platforms and reefs in geological process | Lecture, discussion, sampling. |
| 3 | Carbonate platforms and living conditions of reefs and their change over time | Lecture, discussion, sampling. |
| 4 | How carbonate platforms and reef-forming organisms change in geological processes | Lecture, discussion, sampling. |
| 5 | Diagenesis and porosity and economic potential of platforms and reefs in terms of oil and natural gas, | Lecture, discussion, sampling. |
| 6 | Permian Carbonate platforms and reefs | Lecture, discussion, sampling. |
| 7 | Triassic Carbonate platforms and reefs | Lecture, discussion, sampling. |
| 8 | Jurassic Carbonate platforms and reefs | Lecture, discussion, sampling. |
| 9 | Cretaceous Carbonate platforms and reefs | Lecture, discussion, sampling. |
| 10 | Cretaceous Carbonate platforms and reefs | Lecture, discussion, sampling. |
| 11 | Tertiary Carbonate platforms and reefs | Lecture, discussion, sampling. |
| 12 | Field trip | Lecture, discussion, sampling. |
| 13 | Economical potential of reefs and carbonate platforms | Lecture, discussion, sampling. |
| 14.  | Economical potential of reefs and carbonate platforms | Lecture, discussion, sampling. |
| 15 | General Evaluation | Lecture, discussion, sampling. |
| 16 | General Evaluation | Lecture, discussion, sampling. |
| 17 | Final  | Written exam |

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| **Program Outcomes** | 01 | 02 | 03 | 04 |
| PO 01  | Evaluate the definition and economic dimension of carbonate platforms and reefs | 5 | 4 | 4 | 5 |
| PO 02 | Formation and development of carbonate platforms and reefs, their distribution in Europe and Turkey | 4 | 5 | 5 | 4 |
| PO 03 | Evolution of reef-building fauna and flora in time | 5 | 4 | 4 | 5 |
| PO 04 | Understands the principles of biological evolution | 5 | 5 | 5 | 5 |
| PO 05 | Sea-level changes | 5 | 5 | 5 | 5 |
| PO 06 | Paleoceanography | 4 | 5 | 5 | 4 |
| PO 07 | Economic potential of reefs and carbonate platforms and reefs importance in oil exploration | 5 | 5 | 5 | 5 |

\* 1: Very Low 2: Low 3: Medium 4: High 5: Very high

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| **Student workload / ECTS account**  |
| **Activities** | **Number** | **Preparation** | **Duration of Activity** | **Total Workload** |
| Hours for off the classroom studies | 15 | - | 4 | 60 |
| Assignments | 10 | - | 5 | 50 |
| Presentation | 4 | - | 10 | 40 |
| Mid-terms | 0 | - | 0 | 0 |
| Projects | 0 | - | 0 | 0 |
| Final Examination | 0 | - | 0 | 0 |
| Hours for off the classroom studies | 1 | - | 30 | 30 |
| Total Workload (Hour) |  |  |  | 180 |
| Roll [Total Workload (hours) / week work load (30)] = ECTS Credit | 180/30=6 |