EK-3

**CUMHURİYET UNIVERSITY ENGINEERING FACULTY**

**Environmental Engineering Department Course Information Form**

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| **Department** | **Environmental Engineering** | | |
| **Semestr/Year** | **2** | | |
| **Name of Course** | **Evaporites and Environment** | | |
| **Level of Course** | **Postgratuate** | | |
| **Mandatory / Selective of Course** | **Selective** | | |
| **Language of Course** | **Turkish** | | |
| **Code** | **Env. 5537** | | |
| **(T+P) hours** | **3+0** | | |
| **Credit** | **3** | | |
| **ECTS** | **7.5** | | |
| **Prerequest Courses** | **none** | | |
| **Category of Course** | **Environmental Science** | | |
| **Course Coordinator** | Prof. Dr. Ali YILMAZ | e-mail:ayilmaz | Phone:1298 |
| **Course Lecturer** | Prof. Dr. Ali YILMAZ | | |
| **Other Supplementary Lecturers** | none | | |
| **Course Objectives** | This course aims to introduce evaporites and to teach main impacts of evaporites on environment | | |
| **Course Content** | Definitions and classifications of evaporites, Occurance of evaporites in sedimantary basins, Characteristic features of continental and marine evaporites and their effects on environmental pollution, Relationships amoung anhidrate, gypsum and salt domes. Rising and falling impacts of salt domes and evaporites on human structures and environment, | | |

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| | Characteristic features related to composition and dissolving of evaporites and their impacts on environmental pollution. |
| **Education System** | |

| **WEEKLY BASED COURSE CONTENTS** | | |
|---|---|---|
| **Week** | **Detailed Content** | **Suggested preliminary preperation** (name, page no, etc) |
| **Week 1** | Definitions and classifications of evaporites, | Yılmaz, A., Evaporitler ve Çevre Ders Notları, CÜ, Çevre Mühendisliği Bölümü, Sivas, 206s. |
| **Week 2** | Occurance of evaporites in sedimantary basins, | |
| **Week 3** | Characteristic features of continental and marine evaporites | |
| **Week 4** | Relationships amoung anhidrate, gypsum and salt domes | |
| **Week 5** | Gypsum and Anhidrate | |
| **Week 6** | Bor and Borates | |
| **Week 7** | Trona | |
| **Week 8** | Midterm exam | |
| **Week 9** | Characteristic features related to composition and dissolving of evaporites and their impacts on environmental pollution. | |
| **Week10** | Evaporites and their impacts on environmental pollution, | |
| **Week11** | Salt Tectonics I, | |
| **Week12** | Salt Tectonics II, | |
| **Week13** | Rising and falling impacts of salt domes and evaporites on human structures and environment, | |
| **Week14** | Using areas of evaporites in the environmental | |

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| | engineering. | |

| SHARING EDUCATION MATERIAL AND ADVANCED SOURCES | |
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| **Education Materials and Course Notes** | Homeworks and seminars are encouraged to improve student interactions. |
| **Advanced Sources** | JMO, 2004. Evaporitler Tuzlar Semineri: 19 -23 Ocak 2004, MTA Genel Müdürlüğü: TMMOB Jeoloji Mühendisleri Odası Yayınları, No.81, Ankara, 368s.<br><br>Özdemir, O.,1975. Evaporitler-1, TPAO Arama Grubu Yayını, Nuray Matbaası, Ankara, 282s.<br><br>Talbot C.J. ve Jackson, M.P.A., 1987. Salt Tectonics, (Tuz Tektoniği, çev. Hikmet Karatosun, 20/241, TUBİTAK yayını), Scientific American, V.257, N.2, s.58-67. |
| **Solution of Examination** | Evaluation is done on the basis of final exam. Students must score minimum 75 over 100. |

| LEARNING OUTCOMES OF THE COURSE AND CONTRIBUTION OF PROGRAM LEARNING OUTCOMES | | | |
|---|---|---|---|
| **Program Learning Outcomes*** | **Knowledge and Skills earned** | **CPLOC** | **MEM** |
| **LO-1** | | | |
| **LO-2** | | | |
| **LO-3** | | | |
| **LO-4** | | | |
| **LO-5** | | | |
| **LO-6** | | | |
| **LO-7** | | | |
| ***LO**: Learning Outcomes of Course*<br>***CPLOC**: Code of Program Learning Outcome that contributed*<br>***MEM**: Measurement and Evaluation Method* | | | |

* Learing Outcomes of Course (LO) shouldn't exceed 10

| CONTRIBUTION LEVEL OF COURSE TO PROGRAM OUTCOMES |
|---|

| No | Program Learning Outcomes * | Contribution level ** | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| P1 | | | | | | |
| P2 | | | | | | |
| P3 | | | | | | |
| P4 | | | | | | |
| P5 | | | | | | |
| P6 | | | | | | |
| P7 | | | | | | |
| P8 | | | | | | |
| P9 | | | | | | |
| P10 | | | | | | |
| P11 | | | | | | |

* ıProgram outcomes must be in the range of 8 – 14. ** at least=1

| METHODS OF MEASUREMENT AND EVALUATION | | | |
|---|---|---|---|
| **Method** | **Number** | **Date** | **Contribution ratio** |
| **Midterm** | | | |
| **Short exam** | | | |
| **Final Exam** | | | |
| **Homework** | | | |

| ECTS/ WORK LOAD TABLE | | | |
|---|---|---|---|
| **Efforts required fort the course** | **Number** | **Time (hour)** | **Total work load (hour)** |
| **Lecture hours** (Including exam week.i.e., 16x total lecture hours) | | | |
| **Study hours of student out of lecture hours** | | | |

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| **Short exams** | | | |
| **Preperation for midterm** | | | |
| **Midterm** | | | |
| **Preperation for final exam** | | | |
| **Final exam** | | | |
| | | **Total work load** | |
| | | **Total work load /30 (h)** | |
| | | **ECTS credit of course** | |