



## CUMHURİYET UNIVERSITY ENGINEERING FACULTY

Environmental Engineering Department Course Information Form

| Department                          | Environmer   | ntal Engineerin   | g   |
|-------------------------------------|--|---|---|
| Semestr/Year                        |  | 1   |   |
| Name of Course                      | Advanced Envi  | ronmental Scien   | ice l   |
| Level of Course                     | Post   | tgratuate   |   |
| Mandatory /<br>Selective of Course  | Se   | lective   |   |
| Language of<br>Course               | Т  | urkish  |   |
| Code                                | En   | v. 6623   |   |
| (T+P) hours                         |  | 3+0   |   |
| Credit                              |  | 3   |   |
| ECTS                                |  | 7.5   |   |
| Prerequest<br>Courses               |  | none  |   |
| Category of Course                  | Environm   | ental Science   |   |
| Course<br>Coordinator               | Prof. Dr. Ali YILMAZ   | e-mail:ayilmaz  | Phone: 1298   |
| Course Lecturer                     | Prof. Dr. Ali YILMAZ   |   |   |
| Other<br>Supplementary<br>Lecturers |  |   |   |
| Course Objectives                   | Comprehending main basics<br>Environm  | and developmer<br>ental Science   | nts of Advanced   |
| Course Content                      | Fundamental concepts of E<br>concept and holistic appro-<br>biodiversity, Relationships I<br>Ecosystems and Biogeo<br>Biogeochemical Cycles o<br>Relationships between na<br>environment, Sustainable do<br>Environmental poli | Environmental Sc<br>bach, Balance of a<br>between environr<br>ochemical Cycles<br>on the Environme<br>tural resources, e<br>evelopment, Lanc<br>cies and manage | ience, System<br>a system and<br>nent and man,<br>, Effects of<br>ental Health,<br>economy and<br>d-use planning,<br>ement. |

| Education | System |
|-----------|--------|
|-----------|--------|

|        | WEEKLY BASED COURSE  | CONTENTS   |
|--------|--|--|
| Week   | Detailed Content   | Suggested preliminary<br>preperation (name, page no, etc)  |
| Week 1 | Fundamental concepts of environmental science,                       | McKinney, M. L., Schoch, R. M., and<br>Yonavjak, L., 2007, <b>Environmental</b><br><b>Science</b> , Jones and Bartlett Publishers,<br>London W6 7PA, UK, 642p.                     |
| Week 2 | System concept and holistic approach,                                | Smithson, P., Addison, K., and Atkinson, K.,<br>2002, Fundamentals of the Physical<br>Environment, Routhledge 11 New Fetter Lane,<br>Third Edition, London EC4P4EE, England, 627s. |
| Week 3 | Balance of a system and biodiversity,                                | http://www.routledge.com/textbooks/fundamentals  |
| Week 4 | Relationships between environment and man,                           |  |
| Week 5 | Ecosystems and biogeochemical cycles,                                |  |
| Week 6 | Effects of biogeochemical cycles on the environmental health,        |  |
| Week 7 | Relationships between natural resources,<br>economy and environment, |  |
| Week 8 | Sustainable development,   |  |
| Week 9 | Land-use planning,   |  |
| Week10 | Global climate change,   |  |
| Week11 | Environmental economics,   |  |
| Week12 | Historical and cultural aspects,                                     |  |
| Week13 | Hazardeous wastes and environmental pollution,                       |  |
| Week14 | Environmental policies and management,                               |  |

| SHA   | RING EDUCATION MATERIAL AND ADVANCED SOURCES                           |
|---|--|
| Education<br>Materials<br>and Course<br>Notes | Homeworks and seminars are encouraged to improve student interactions. |

| Advanced<br>Sources     | McKinney, M. L., Schoch, R. M., and Yonavjak, L., 2007, <b>Environmental</b><br><b>Science</b> , Jones and Bartlett Publishers, London W6 7PA, UK, 642p.<br>Botkin, D.B. ve Keller, E.A., 1995. <b>Enviromental Science</b> , Earth As a Living<br>Planet: John Willey and Sons Inc., Newyork, s.550-571, 627s. |
|-------------------------|---|
| 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<br>Learning<br>Outcomes* | Knowledge and Skills earned  | CPLOC | MEM |
|----------------------------------|--|-------|-----|
| LO-1                             |  |       |     |
| LO-2                             |  |       |     |
| LO-3                             |  |       |     |
| LO-4                             |  |       |     |
| LO-5                             |  |       |     |
| LO-6                             |  |       |     |
| LO-7                             |  |       |     |
| LO: Learning<br>CPLOC: Co        | or Outcomes of Course<br>de of Program Learning Outcome that contributed |       |     |

*MEM: Measurement and Evaluation Method* \* Learing Outcomes of Course (LO) shouldn't exceed 10

|    | CONTRIBUTION LEVEL OF COURSE TO PROGRAM OU | JTCO | OME        | S             |           |   |
|----|--|------|------------|---------------|-----------|---|
| No | Program Learning Outcomes *                | (    | Cont<br>le | ribu<br>vel * | tion<br>* |   |
| NO |  | 1    | 2          | 3             | 4         | 5 |
| P1 |  |      |            |               |           |   |
| P2 |  |      |            |               |           |   |
| P3 |  |      |            |               |           |   |

| P4  |  |  |  |
|-----|--|--|--|
| P5  |  |  |  |
| P6  |  |  |  |
| P7  |  |  |  |
| P8  |  |  |  |
| P9  |  |  |  |
| P10 |  |  |  |
| P11 |  |  |  |

\* IProgram 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 LOA | D TABLE     |                           |
|---|----------------|-------------|---------------------------|
| Efforts required fort the course  | Number         | Time (hour) | Total work load<br>(hour) |
| Lecture hours (Including<br>exam week.i.e., 16x total<br>lecture hours) |                |             |                           |
| Study hours of student<br>out of lecture hours                          |                |             |                           |
| Short exams   |                |             |                           |
| Preperation for midterm   |                |             |                           |
| Midterm   |                |             |                           |
| Preperation for final<br>exam   |                |             |                           |
| Final exam  |                |             |                           |

| <br>Total work load         |
|-----------------------------|
| <br>Total work load /30 (h) |
| <br>ECTS credit of course   |
|                             |