

COURSE OUTLINE

(1) GENERAL

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| SCHOOL | ENGINEERING | | |
| ACADEMIC UNIT | DEPARTMENT OF MINERAL RESOURCES ENGINEERING | | |
| LEVEL OF STUDIES | UNDERGRADUATE | | |
| COURSE CODE | MRE931 | SEMESTER | 9 /3 rd orientation |
| COURSE TITLE | Environmental Impact Assessment for Mining and Geotechnical Projects | | |
| INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i> | | WEEKLY TEACHING HOURS | CREDITS |
| | Lectures | 3 | 4 |
| | Labs | 1 | 1 |
| | Total | 4 | 5 |
| <i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i> | | | |
| COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i> | special background | | |
| PREREQUISITE COURSES: | There are no prerequisite courses | | |
| LANGUAGE OF INSTRUCTION and EXAMINATIONS: | Greek | | |
| IS THE COURSE OFFERED TO ERASMUS STUDENTS | | | |
| COURSE WEBSITE (URL) | https://mre.uowm.gr/wp-content/uploads/sites/6/2019/07/%CE%9C%CE%9F%CE%A0931.pdf | | |

(2) LEARNING OUTCOMES

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| <p>Learning outcomes</p> <p><i>The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.</i></p> <p><i>Consult Appendix A</i></p> <ul style="list-style-type: none"> • <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i> • <i>Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i> • <i>Guidelines for writing Learning Outcomes</i> |
| <p>Students should be able to:</p> <ul style="list-style-type: none"> • Understand all the necessary knowledge for the preparation and writing of an environmental impact assessment report, that concerns the technical projects • Evaluate the impact of a project on the environment • Estimate the environmental impacts using specific techniques • Use appropriate indicators and indices in environmental monitoring • Evaluation the alternatives of a project • Understanding the EU and Greek legislative framework for the preparation and writing of an E.I.A report. |

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

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| Search for, analysis and synthesis of data and information, with the use of the necessary technology | Project planning and management |
| Adapting to new situations | Respect for difference and multiculturalism |
| Decision-making | Respect for the natural environment |
| Working independently | Showing social, professional and ethical responsibility and sensitivity to gender issues |
| Team work | Criticism and self-criticism |
| Working in an international environment | Production of free, creative and inductive thinking |
| Working in an interdisciplinary environment | |
| Production of new research ideas | Others... |
| | |

- analyzing environmental impacts of a mining and technical project on the wider area
- Estimate the environmental impacts using evaluation techniques
- Use environmental indicators and indices for measuring the evolution of the project
- Understand current environmental EU and Greek legislative framework
- Distinguish the weaknesses of EIA reports
- Preparation of an environmental impact assessment (EIA) report
- Knowledge the general context in which the EIA is implemented
- Showing social, professional and ethical responsibility

(3) SYLLABUS

Introduction: Sustainability, Natural and fossil fuel resources management. Attributes of E.U and Greek legislative framework, need for Environmental Impact Assessment reports. EIAs in Greece and EU, Estimation of the Environmental Impact Assessment works, Specific techniques (GIS), Technical project phases: (design, construction, maintenance, Operation, Demolition, Rehabilitation of a technical project). Indicators and indices, environmental monitoring in mining and geotechnical projects, Evaluation of alternatives, Assessment Techniques and Standards. Research licensing in Mining projects. Environmental Impact Assessment methodology and techniques. Mining concessions, Mining Exploration License, Concession of mining rights. Environmental monitoring, Public participation and deliberation, Social acceptance.

TEACHING and LEARNING METHODS - EVALUATION

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| DELIVERY <i>Face-to-face, Distance learning, etc.</i> | Face-to-face, Distance learning, Lectures, Lab demonstration, Tutorials | |
| USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i> | E-Class, electronic communication, video demonstrations, intermediate exams via e-Class tools | |
| TEACHING METHODS <i>The manner and methods of teaching are described in detail. Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.</i> | Activity | Semester workload |
| | Lectures | 36 |
| | Lab | 12 |
| | Tutorials | 32 |
| | Self-study | 20 |
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| <p>The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</p> | | |
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| | Course total | 100 |
| <p align="center">STUDENT PERFORMANCE EVALUATION</p> <p><i>Description of the evaluation procedure</i></p> <p><i>Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</i></p> <p><i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i></p> | <p>Final exam (60%, minimum required grade = 4/10), Multiple choice intermediate exam (20%), Homework (20%)</p> | |

(4) SUGGESTED BIBLIOGRAPHY

- Suggested bibliography:

- 1. Κωνσταντίνος Ι. Βατάλης (2014). Αειφορική Διαχείριση- Περιβαλλοντικές Επιπτώσεις Έργων» ISBN: 978-960-99197-0-8. Αυτοέκδοση.
- 2. Μανωλιάδη, Ο. (2002). Περιβαλλοντικός σχεδιασμός- Μελέτη και εκτίμηση περιβαλλοντικών επιπτώσεων. Αθήνα, Εκδόσεις Ιων. ISBN: 960-411-282-1.
- 3. Allan Gilppin (1995). Environmental Impact Assessment (EIA)-Cutting edge for the Twenty-First Century Cambridge University Press, 1995, UK.
- 4. Βαβίζος, Γ. & Μερτζάνης, Α. (2003). Περιβάλλον-Μελέτες Περιβαλλοντικών Επιπτώσεων. Εκδόσεις Παπασωτηρίου, Αθήνα.
- 5. Κουτούπα -Ρεγκάκου, Ε. (2005). Δίκαιο του Περιβάλλοντος. Εκδόσεις Σάκκουλα. Αθήνα.
- 6. Παπαργηγόριου Σ., Παπανδρέου, Α., Σκούρτος, Μ., & Χατζημπίρος Κ. (1999). Σχεδιασμός-Περιβαλλοντικές Επιπτώσεις και Μέθοδοι Εκτίμησης τους. Τόμος Β1, Εκδόσεις ΕΑΠ, Πάτρα 1999.
- 7. Canter, L.W. (1996). Environmental Impact Assessment, Mc Graw Hill Intern. editions ISBN: 0-07-009767
- 8. McAllister, D.M. (1982). Evaluation in Environmental planning. Assessing environmental, social, economic and political trade-offs. MIT press.
- 9. Μιχαλοπούλου, Σ. (2004). Νομοθεσία για το περιβάλλον. Εκδόσεις Ζήτη, Θεσσαλονίκη 2004.
- 10. Παπαργηγόριου Σ., Παπανδρέου, Α., Σκούρτος, Μ., & Χατζημπίρος Κ. (1999). «Σχεδιασμός-Περιβαλλοντικές Επιπτώσεις και Μέθοδοι Εκτίμησης τους». Τόμος Β1, Εκδόσεις ΕΑΠ, Πάτρα 1999.
- 11. Marriott B. (1997). Environmental Impact Assessment: A Practical Guide. McGraw-Hill Professional.
- 12. Eccleston C.H. (2011). Environmental Impact Assessment: A Guide to Best Professional Practices. CRC press. Taylor and Francis.
13. IBANEZ G. JORGE, HERNANDEZ-ESPARZA MARGARITA, DORIA-SERRANO CARMEN, FREGOSO-INFANTE ARTURO, SINGH MONO MOHAN. Περιβαλλοντική Χημεία, θεμελιώδεις έννοιες. (εύδοξος 32998355] ΙΤΕ-ΠΑΝΕΠΙΣΤΗΜΙΑΚΕΣ ΕΚΔΟΣΕΙΣ ΚΡΗΤΗΣ.
14. ΜΟΔΗΣ Κ., ΣΤΑΜΑΤΑΚΗ Σ. 2016. Εισαγωγή στη μεταλλευτική έρευνα. (Εκδότης): Ελληνικά Ακαδημαϊκά Ηλεκτρονικά Συγγράμματα και Βοηθήματα - Αποθετήριο "Κάλλιπος". (εύδοξος 320040]

- Related academic journals:

Environmental Impact Assessment Review

Environmental Monitoring and Assessment

Journal of Environmental Assessment Policy and Management

Integrated Environmental Assessment and Management