# COURSE OUTLINE

## (1) GENERAL

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|---|---|---|---|
| **SCHOOL** | SCHOOL OF ENGINEERING | | |
| **ACADEMIC UNIT** | DEPARTMENT OF MINERAL RESOURCES ENGINEERING | | |
| **LEVEL OF STUDIES** | *UNDERGRADUATE* | | |
| **COURSE CODE** | **MRE105** | **SEMESTER** | **1** |
| **COURSE TITLE** | **Technical drawing** | | |

| **INDEPENDENT TEACHING ACTIVITIES** *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* | **WEEKLY TEACHING HOURS** | **CREDITS** |
|---|---|---|
| Theory - lectures | 2 | **5** |
| Exercises | 3 | |
| Total (hours) | 5 | |
| *Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).* | | |

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| **COURSE TYPE** *general background, special background, specialised general knowledge, skills development* | general background |
| **PREREQUISITE COURSES:** | - |
| **LANGUAGE OF INSTRUCTION and EXAMINATIONS:** | Greek |
| **IS THE COURSE OFFERED TO ERASMUS STUDENTS** | Yes |
| **COURSE WEBSITE (URL)** | https://eclass.uowm.gr/courses/MRE210/ |

## (2) LEARNING OUTCOMES

**Learning outcomes**

*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.*

*Consult Appendix A*

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

Upon successful completion of the course, students will be able to:

• Design correctly and in accordance with the regulations various technical projects of their specialty

• Understand the design of various technical projects through their faces and sections.

• Recognize and successfully relate the data of a project to the realities it represents

• Understand the existing correspondence between a three-dimensional shape and its two-dimensional representations and vice versa.

• Easily design the various projects of their specialty both in the conventional way and through a computer.

**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?*

*Search for, analysis and synthesis of data and information, with the use of the necessary technology*
*Adapting to new situations*
*Decision-making*
*Working independently*
*Team work*
*Project planning and management*
*Respect for difference and multiculturalism*
*Respect for the natural environment*
*Showing social, professional and ethical responsibility and sensitivity to gender issues*
*Criticism and self-criticism*

| | |
|---|---|
| *Working in an international environment*<br>*Working in an interdisciplinary environment*<br>*Production of new research ideas* | *Production of free, creative and inductive thinking*<br>*……*<br>*Others…*<br>*…….* |
| *Search for, analysis and synthesis of data and information*<br>*Working independently*<br>*Team work*<br>*Decision-making*<br>*Search for, analysis and synthesis of data and information, with the use of the necessary technology* | |

## (3) SYLLABUS

Introduction to the technical drawing.
Description of the basic equipment of a drawing room. Drawing instruments, drawing papers, writing instruments. International design standards and regulations. Sizing rules. Technical design scales. Dimensions and installation rules. Grammography, writing letters and numbers. Memoirs. Projection levels. Theory and technique of presenting elementary floor plans, sections, facades and auxiliary facades of various objects / taken emphasis on technical works. Fundamental geometric formations, projection and intersection operations.
Methods of representing shapes in the plane, axonometric projection. Representation of shapes of space in a plane (point, line, plane, intersection of line and plane, line perpendicular to a plane, reclining plane, angle of lines and planes). Representation of shapes in two levels (horizontal and vertical). Architectural and topographic plan. Examples of applications, related to Mineral Resources Engineers.

LIST OF DESIGNS:

01 GEOMETRIC CONSTRUCTIONS & GRAMMOGRAPHY
02 FACE DESIGN – ALL VIEWS
03 3-D DESIGNING
04 AXONOMETRIC / PERSPECTIVE DESIGN, DRAWING AND VIEWS
05 BUILDING/CONSTRUCTIONS DESIGN
06 EQUATIONS LINES (SAME ALTITUDE LINES) DESIGN
07 TECHNICAL DRAWING AND GEOLOGY
08 CONSTRUCTION DETAILS
09 TOPOGRAPHIC DESIGN
10 PARADOXE DESIGN

## TEACHING and LEARNING METHODS - EVALUATION

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|---|---|
| **DELIVERY**<br>*Face-to-face, Distance learning, etc.* | *Face-to-face, Distance learning* |
| **USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY**<br>*Use of ICT in teaching, laboratory education, communication with students* | • **Projector/pc presenting all lectures,**<br>• **COURSE RELATED NOTES AND ALSO UNSOLVED EXERCISES DATABASE SITED AT THE COURSE' e-class WEBSITE** |
| **TEACHING METHODS**<br>*The manner and methods of teaching are described in detail.*<br>*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.*<br><br>*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* | |

| *Activity* | *Semester workload* |
|---|---|
| lectures | 13 |
| *Exercises* | 10 |
| *Group work* | - |
| *Educational visit to industries* | - |
| *Atomic avocation* | COMPULSORY PREREQUISITE ATOMIC WORK (TEN DRAWINGS) FOR ALL STUDENTS |
| | |
| | |
| *Personal study* | *13* |
| Total (ects credits * 25) | 125 |
| Course total | 125 |

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|---|---|
| **STUDENT PERFORMANCE EVALUATION**<br>*Description of the evaluation procedure*<br><br>*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*<br><br>*Specifically-defined evaluation criteria are given, and if and where they are accessible to students.* | Students at the exams have to DRAW.<br><br>PREREQUISITE ATOMIC WORKOUT FOR ALL STUDENTS (10 DRAWNINGS) is taken into account and the students are finally graded.<br><br>THE FINAL GRADE OF EACH STUDENT, COMES OUT FROM THE SUMMARY OF:<br>• EXAMINATION DRAWING GRADE 50%<br>• COMPULSORY PREREQUISITE ATOMIC WORK FOR ALL STUDENTS (10 DRAWNINGS) 50% |

## (4) SUGGESTED BIBLIOGRAPHY

*- Suggested bibliography:*


- *Book [22746981]: Technical Drawing, Rakas Nikolaos Ch.*
- *Book [59371949]: TECHNICAL DESIGNS, Samir Bayuk*
- *Book [12985431]: Methodology and Applications of Technical Design, Malikouti Stamatina*


*- Related academic journals:*