COURSE OUTLINE

(1) GENERAL

SCHOOL	Engineering		
DEPARTMENT	Electrical and Computer Engineering		
LEVEL OF STUDY	Undergraduate		
COURSE UNIT CODE	8.018	**SEMESTER**	8th
COURSE TITLE	Project Evaluation and Management Systems		

COURSEWORK BREAKDOWN	**TEACHING WEEKLY HOURS**	**ECTS Credits**
Theory (Lectures)	4	3
Tutorial/Exercises	1	1
TOTAL	**5**	**4**

COURSE UNIT TYPE	General knowledge
PREREQUISITES	none
LANGUAGE OF INSTRUCTION/EXAMS	Greek
COURSE DELIVERED TO ERASMUS STUDENTS	YES (in English)
WEB PAGE (URL)	https://eclass.hmu.gr/courses/ECE130/

(2) LEARNING OUTCOMES

Learning Outcomes

The course is the basic introductory course in the concepts of project and the procedures of project administration and management. The course aims to deliver knowledge about modern techniques and methods of project administration and project management (project organization, project management). Using case studies the basic project management procedures are presented to improve students' skills in the systematic problem-solving that occur during project initiation and design, project staffing, project organization, time-scheduling and cost management, and project evaluation.

Upon completion of the course, the student will have acquired the necessary knowledge and skills to:

- Know the basic principles of IT project management and be able to apply project analysis techniques to tasks and write a feasibility study.
- Recognize important issues that arise during project management processes.
- Describe best practices in project management processes and follow a project management methodology - from project conception to its completion.
- Create the Word Breakdown Structure (WBS) of the project
- Use various techniques and methods to estimate project schedules and budgets
- Use various techniques and methods to monitor the progress of projects
- Use techniques for allocating and balancing resources
- Monitor the progress of each project using project management software
- Manage and adjust time and estimate and adjust the cost of a project.
- Know the key factors that can lead an IT project to success or failure.

The course also helps to acquire the following general skills:

- Ability to manage projects and the ability to apply the relevant methodologies to execute a project with the lowest possible cost, in the shortest time with the best possible quality.
- Ability to search and find the right elements and variables needed to manage a project, plan the project effectively, and create appropriate schedules, and optimize costs.
- Ability to analyze and synthesize data and information collected to draw appropriate conclusions about how to manage a project.

General Skills

- Search, analysis, and synthesis of data and information, using the necessary technologies

- Design and project management
- Decision making
- Autonomous work
- Teamwork
- Production of free, creative, and inductive thinking

(3) SYLLABUS

Theoretical part of the course

- Theoretical background – Introduction to graph theory and network analysis
- Project Management Methodologies (PM2, PMBOK & PRINCE2)
- Basic concepts. Distinguish between projects and functions. Structures and framework of the project. Project environment. Stakeholders.
- The phases and key elements of project management.
- Organization of the Management of a project. Teams, Roles and responsibilities
- Project Scope – Word Breakdown Structure - Change Management
- Time management of a project
  - Tasks, Milestones and the relation between them
  - Project diagrams (Gantt, Network). CPM and PERT method. Critical path and its importance.
  - Project Crashing
- Project costing and budget
  - Resource categories of a project
  - Resource allocation techniques
  - Optimization algorithms and Leveling
  - Types and techniques of project cost estimation
  - Cost baseline
- Resource management
  - Resource allocation and optimization techniques
- Project quality management
  - Quality Approaches: TQM, ISO, Six Sigma
  - Definition of Quality
  - IT Project Quality Plan
  - Quality Tools: Pareto, Fishbone, Data and flow Charts, etc.
- Project Risk management
  - Definition and risk management of an IT project.
  - Qualitative and quantitative analysis and tools
  - Monitoring and dealing with opportunities and threats of IT projects
- Project completion and delivery
  - Documentation and preparation of project delivery (hand-over)
  - Acceptance Tests: System, Integration, User, etc)
  - Historical database and lessons learned
- Modern methodologies of agile project management of ICT projects (Agile methods, SCRUM, etc.)
- Success criteria of a project

Laboratory part of the course

The Laboratory part of the course, through real cases of small and medium scale projects, will focus on the deepening of the respective theoretical knowledge, the time-scheduling of a project, its costing, and resource management during its execution phase.

(4) TEACHING METHODS - ASSESSMENT

<table>
<tr><td>MODE OF DELIVERY</td><td>In-Class Face-to-Face</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATION TECHNOLOGY</td><td>Use of information and communication technology in teaching
Use of information and communication technology in laboratory teaching
Use of information and communication technology for communicating with the students using the electronic platform eClass</td></tr>
<tr><td>TEACHING ORGANIZATION</td><td>
<table>
<tr><th>Method description / Activity</th><th>Semester Workload</th></tr>
<tr><td>Lectures</td><td>26</td></tr>
<tr><td>Coaching lectures</td><td>13</td></tr>
<tr><td>Small individual practice tasks</td><td>20</td></tr>
<tr><td>Group project</td><td>26</td></tr>
<tr><td></td><td></td></tr>
<tr><td>Independent study</td><td>35</td></tr>
<tr><td></td><td></td></tr>
<tr><td>Total Contact Hours</td><td>120</td></tr>
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<tr><td>ASSESSMENT METHODS</td><td>Theory: Final written exam on the entire syllabus (100%). The exam includes theory questions (from 3 to 5) and practical exercises (from 1 to 2).

Laboratory: The final grade results from the laboratory exercises (50%) and the project (50%).

The assessment criteria are clearly stated in the detailed description of the course located in the relevant course area in eClass.</td></tr>
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(5) RECOMMENDED BIBLIOGRAPHY

Suggested Bibliography:

- *Project Management, A Managerial Approach, 5th edition, Meredith, J. and S. Mantel (edç), 2003, John Wiley & Sons*
- *Kerzner, H. (2006), Project Management: A Systems Approach to Planning, Scheduling and Controlling, 9th edition, John Wiley and Sons, ISBN: 0-471-74187-6, January 2006.*
- *J. Marchewka (2016): Information Technology Project Management: Providing Measurable Organizational Value, Wiley.*
- *B. Maizlish and R. Handler (2010): IT Portfolio Management Step-by-Step: Unlocking the Business Value of Technology, Wiley.*
- *Project Management Institute (2004): A Guide to the Project Management Body of Knowledge, Third Edition (PMBOK Guides), Project Management Institute.*
- *Nicholas J (2004): Project Management for Business and Engineering: Principles and Practice, Butterworth-Heinemann.*
- *Instructor Notes*

Related scientific journals:

- *International Journal of Project Management (Elsevier)*
- *International Journal of Project Organisation and Management*