# COURSE OUTLINE

## (1) GENERAL

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|---|---|---|---|
| SCHOOL | ECONOMICS and BUSINESS ADMINISTRATION | | |
| ACADEMIC UNIT/PARTICIPATING UNITS* | Department of Economics | | |
| PARTICIPATING INSTITUTIONS** | - | | |
| POSTGRADUATE PROGRAMME: TITLE OF POSTGRADUATE PROGRAMME | Innovative and Sustainable Entrepreneurship | | |
| LEVEL OF STUDIES | Post-graduate | | |
| COURSE CODE | KAE-09 | SEMESTER | 2nd |
| COURSE TITLE | Project Management | | |
| 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 |
| | Lectures-Tutorials | 3 | 6 |
| *Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).* | | | |
| COURSE TYPE *general background, special background, specialised general knowledge, skills development* | Specialized general knowledge | | |
| PREREQUISITE COURSES: | There are no prerequisite courses. It is, however, recommended that students have at least a basic knowledge of Differential and Integral Calculus as well as Statistics. | | |
| LANGUAGE OF INSTRUCTION and EXAMINATIONS: | Greek. | | |
| IS THE COURSE OFFERED TO ERASMUS STUDENTS | No. | | |
| COURSE WEBSITE (URL) | To be announced. | | |

*Στην περίπτωση Διακρατικού, Διιδρυματικού ή Διατμηματικού ΠΜΣ συμπληρώνονται όλα τα συμμετέχοντα Τμήματα και χαρακτηρίζεται σε παρένθεση το επισπεύδον, π.χ. Φυσικής (επισπεύδον)

**Συμπληρώνεται μόνο στην περίπτωση Διακρατικού ή Διιδρυματικού ΠΜΣ

## (2) LEARNING OUTCOMES

| Learning outcomes |
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| *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.*<br>*Consult Appendix A*<br>• *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*<br>• *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*<br>• *Guidelines for writing Learning Outcomes* |
| This course focuses on the planning and scheduling of projects. The students are taught how to use the concepts, methods, and tools of project management to execute their organizations' strategic initiatives efficiently, effectively and reliably. Emphasis is also given to advanced topics concerning the resource-constrained project scheduling using well-accepted OR and modern computational optimization methods from the field of heuristics and |

computational intelligence.
A part of the lectures will cover the field of project financing, with a special focus on innovative projects. The available sources of capital will be presented, along with the processes followed and the pre-conditions required from each kind of financier. and the prerequisites required by each type of financier. Finally, key indicators for financial planning and monitoring a project's efficiency, which contribute to the optimal selection of a project among various alternatives, will be analysed."
At the end of this course the student should be able to:

a) to understand the strategic importance of project management.
b) to describe and use widely accepted techniques for planning and designing the network diagram of a project.
c) to determine the project schedule using the CPM method.
d) to handle uncertainty (variability) in activity times using the PERT method.
e) to understand the cost-time trade-offs and how to crash a project.
f) to realize how to manage limited resources in a project and apply widely accepted techniques for resource allocation and scheduling.
g) to understand the computational complexity of the resource-constrained project scheduling problem.
h) To understand the process of selecting the appropriate source of financing based on the project's stage of development
i) to understand the financing process for a project, from sources of debt or equity.
j) To understand the impact of each source of capital on a project's financial planning.
k) To be able to analyse key indicators used to monitor a project's financial progress
l) (l) to understand the processes required for financial planning and management through sustainable practices.

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*
*Working in an international environment*
*Working in an interdisciplinary environment*
*Production of new research ideas*
*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*
*Production of free, creative and inductive thinking*
*……*
*Others…*
*…….*

At the end of the course the student will have further developed the following skills/competences:

- Design projects networks using both the AON and AOA techniques.
- Apply the CPM method to estimate the required scheduling time quantities for the project’s activities.
- Apply the PERT method to estimate the variance of the time completion of a project under uncertainty.
- Construct the related Gant diagrams of the project.
- Use modern tools and techniques for allocating resources to the project’s activities.
- Use simple methods to control a project.
- To prepare - organize and manage the financial strategy for implementing an investment project, using appropriate procedures (increase in share capital, debt issuance, VC etc.) and to be able to select the appropriate financing scheme.
- To determine the financial risk of the venture, using the appropriate methodological tools (re, rd, risk premium, ICR, b)

- To determine and monitor the efficiency of a project using performance indicators (ROE, ROCE etc.) and basic project evaluation indicators (IRR, NPV, B/E point)
- To be familiar with methodological tools for the integration of ESG in the monitoring of investment projects.

## (3) SYLLABUS

The course offers specialized knowledge on topics related to Project Management. In paticular, the course covers the following topics: Introduction to project management. Project characteristics. Organization of projects. Project activities. Estimating the project cost. The role of work breakdown structure. Project planning. AON and AOA activity networks. Gantt charts in project management. Project scheduling using the CPM method. Handling uncertainty in project activities times. Project scheduling using the PERT method. Types of resources in a project. Project scheduling with unlimited resources. Building resource profiles. Project scheduling with limited resources: the resource constrained project scheduling (RCPS) problem. Constructive rules for RCPS. The serial and parallel solution approaches. Resource smoothing and leveling. Advanced computational methods for RCPS solution.

Sources of finance (debt and equity) and specialized sources of capital for innovative and sustainable projects. The process of increasing share capital and issuing debt. Determining the cost of capital using appropriate methodological tools (CAPM, cost of debt, cost of equity, APM, cost of capital). Project selection and monitoring based on performance indicators (return on equity, return on assets, return on capital employed, economic value added, net present value, and internal rate of return) and debt capacity (interest coverage ratio, equity coverage ratio). Analyzing the differences between conventional investment plans and innovative and sustainable projects (shadow prices, invisible costs, ESG standards). Using spreadsheets to apply the above material and present case studies.

## (4) TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY<br>Face-to-face, Distance learning, etc.</td><td>Distance Learning</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY<br>Use of ICT in teaching, laboratory education, communication with students</td><td>• Use of PowerPoint during lectures<br>• Posting of educational material on the asynchronous e-learning platform in the course area<br>• Provision of bibliographic references for study on the asynchronous tele-education platform at the course site<br>• Posting of information of interest and announcements related to the course on the asynchronous e-learning platform in the classroom<br>• Communication via e-mail/eclass</td></tr>
<tr><td>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-</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Lectures</td><td>50</td></tr>
<tr><td>Tutorials</td><td>50</td></tr>
<tr><td>fieldwork, study and analysis of bibliography</td><td>50</td></tr>
<tr><td>Course total</td><td>150</td></tr>
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| *directed study according to the principles of the ECTS* | |
| **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.* | Problem-Solving written work. |

## (5) RECOMMENDED BIBLIOGRAPHY

The course is fully supported by educational material created by the instructor in power-point format. This material is the main bibliography of the course. Research articles are also available on Moodle. Furthermore, the following books are optional.


1. Nearchou Andreas, Scheduling in manufacturing and services, Broken-Hill publ., 2017 (in Greek).
2. Pinto J., Project Management: Achieving Competitive Advantage (3rd Edition), Pearson, 2012.
3. Shtub A., Bard J., Globerson S., Project Management: Processes, Methodologies, and Economics, 2nd Edition, Pearson 2005.
4. Philips J., IT project management: On track from start to finish. McGraw-Hill Osborne Publ., 2nd edition, 2004.
5. Miller, Roger, and Donald Lessard. The Strategic Management of Large Engineering Projects. Cambridge, MA: MIT Press, 2001.
6. Makris, I. 2022. An introduction to Corporate Treasury Management. Kallipos, Open Academic Editions https://hdl.handle.net/11419/8481
7. Damodaran A., (2015), Applied Corporate Finance, 4th ed. Willey publ.
8. Alexander J., (2018) Financial Planning and Analysis and Performance Management, Willey publ.
9. Titman S., Keown, A., Martin J. (2023), Financial Management, Papazisi publ. (in Greek).
10. Makris I., & Apostolopoulos S., (2025), Sustainable Finance & European Policies, Disigma publ. (under publication – in Greek).