COURSE OUTLINE

(1) GENERAL

SCHOOL	Engineering		
ACADEMIC UNIT	Department of Financial and Management Engineering		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	OI0110	SEMESTER	8th
COURSE TITLE	Portfolio 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
	3	5
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*	Special background, specialised general knowledge, skills development
PREREQUISITE COURSES:	
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek
IS THE COURSE OFFERED TO ERASMUS STUDENTS	No
COURSE WEBSITE (URL)	

(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*

By completion of this course, students will be able to:

1) Understand the concepts of investment risk and return.
2) Apply techniques for investment appraisal and portfolio selection in different market environments.
3) Perform basic calculations in portfolio theory (solving optimization problems, estimating beta coefficients, calculating the efficient frontier) using popular software packages (Excel, Matlab).

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	*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…*
	…….

Search for, analysis and synthesis of data and information, with the use of the necessary technology
Decision-making
Adapting to new situations
Decision-making
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Working in an international environment
Working in an interdisciplinary environment
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Criticism and self-criticism
Production of free, creative and inductive thinking

(3) SYLLABUS

- **Fixed-income portfolio management**: interest rate theory, pricing of bonds and treasury bills, duration and modified duration, convexity, portfolio immunization, term structure of interest rates, yield spread, credit rating of bond issuers.
- **Managing portfolio of uncertain payoffs:** measures of return and risk, mean-variance analysis, the Markowitz model, efficient frontier, capital asset pricing model (CAPM), systematic and idiosyncratic risk, single-/ multi-index models, arbitrage pricing theory (APT)
- **Evaluating portfolio performance:** Sharpe /Treynor's ratio, Jensen's Alpha, alternative metrics of profitability and risk (Sortino ratio, VaR, CVaR).
- **Portfolio management in practice**: estimating the parameters of CAPM and APT model, implementing a portfolio management strategy in an imperfect market environment (rebalancing of positions, transaction costs, bid-ask spread), active and passive management.

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face-to-face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Use of ICT in teaching and communication with students Use of ICT in laboratory education
TEACHING METHODS *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.* *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: 60 Laboratory practice: 30 Project: 50 Exams: 40 Course total: *180*
STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure* *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* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	*Method of assessment and evaluation:* • Final exam (in Greek) with Multiple Choice Questions and Problem Solving (**weighting 40%**) • Laboratory Work (in Greek) (**weighting 60%**) Laboratory reports are taken into account in the final grade as long as the student gets at least 50% in the final exam.

(5) ATTACHED BIBLIOGRAPHY

- *Suggested bibliography:*
  - *Βασιλείου, Δ, Ηρειώτης, Ν. (2018) Ανάλυση Επενδύσεων και Διαχείριση Χαρτοφυλακίου, Rosili*
  - *Edwin J. Elton, Martin J. Gruber, Stephen J. Brown, William N. Goetzmann (2016) Σύγχρονη Θεωρία Χαρτοφυλακίου και Ανάλυση Επενδύσεων, Utopia.*

- *Luenberger, D.G. (1998), Investment Science, Oxford University Press.*
- *Παπαϊωάννου, Δ. (2002), Εισαγωγή στις χρηματοοικονομικές αγορές.*

- Related academic journals:
Journal of Portfolio management