# COURSE OUTLINE: COMPUTER SCIENCE I

**GENERAL**

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|---|---|---|---|
| **SCHOOL** | ECONOMICS AND BUSINESS | | |
| **ACADEMIC UNIT** | ECONOMICS | | |
| **LEVEL OF STUDIES** | UNDERGRADUATE | | |
| **COURSE CODE** | **ΜΠ201** | **SEMESTER** | **1st** |
| **COURSE TITLE** | **COMPUTER SCIENCE I** | | |

| **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).* | | |

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|---|---|
| **COURSE TYPE** *general background, special background, specialized general knowledge, skills development* | General background, skills development |
| **PREREQUISITE COURSES:** | NO |
| **LANGUAGE OF INSTRUCTION and EXAMINATIONS:** | Greek |
| **IS THE COURSE OFFERED TO ERASMUS STUDENTS** | YES |
| **COURSE WEBSITE (URL)** | https://www.econ.uth.gr/ |

**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 module, students will gain the skills needed to effectively create, design, and ensure the functionality of Excel workbooks. They will learn how to organize spreadsheets, perform mathematical operations on numerical data, utilize functions for data processing, and generate reports summarizing statistical results.*

*The course helps students achieve the following learning outcomes:*
*- Organize, present, and analyze data effectively*
*- Perform calculations accurately*
*- Manage data files efficiently*
*- Visually represent data*

*Upon completing the course, students will:*
*- Be able to analyze simple computational problems within the Excel environment.*
*- Be equipped to use Excel's features to solve complex business and financial issues that involve mathematical, statistical, economic, and logical functions, as well as manage lists and time-dependent data.*
*- Be proficient in creating graphs and maps using Excel.*
*- Develop the analytical and graphical skills necessary for further studies, allowing them to work with a high degree of independence.*

**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*
- *Working independently*
- *Production of free, creative and inductive thinking*

**SYLLABUS**

This course develops and uses Excel spreadsheets as a modeling platform, for a wide range of economic computations. Students learn to apply Excel commands, functions, and add-ins and practice good spreadsheet design. In case discussions, students explore the effectiveness of various spreadsheet models.

Learning Modules

1. Introduction to Spreadsheets.
2. Performing calculations in spreadsheets of Excel (v. Microsoft Office 365).
3. Function syntax in Excel.
   a. Mathematical functions in Excel.
   b. Statistical functions in Excel.
   c. Financial functions in Excel.
4. Logical functions in Excel.
5. Lookup and reference functions.
6. How to plot in Excel.
7. How to organize large amounts of similar data in lists
8. PivotTables and PivotCharts.
9. Special topics in business and financial applications.

**TEACHING and LEARNING METHODS - EVALUATION**

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|---|---|
| **DELIVERY**<br>*Face-to-face, Distance learning, etc.* | Face-to-face, hands-on training. The course is a computer laboratory class. |
| **USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY**<br>*Use of ICT in teaching, laboratory education, communication with students* | Use of ICT in teaching, laboratory education. Use of the e-class platform for posting: (a) lecture materials, (b) announcements, (c) exercises, case studies, and pertinent articles. |
| **TEACHING METHODS**<br>*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.*<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* | |
| **STUDENT PERFORMANCE EVALUATION** | |

| ***Activity*** | ***Semester workload*** |
|---|---|
| Lectures | 39 |
| Study of bibliography | 48 |
| laboratory practice | 60 |
| Mid-term exam | 1 |
| Exams | 2 |
| | |
| Course total | ***150*** |

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| *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>*Specifically-defined evaluation criteria are given, and if and where they are accessible to students.* | The weighted average of the following components determines the final grade for the course:<br><br>- Attendance: 10% of the final grade (Students must attend at least 80% of lectures).<br>- Mid-term exam: 20% of the final grade (A multiple-choice questionnaire administered on a computer, conducted in the middle of the semester).<br>- Final written exam: 70% of the final grade (A computer-based exam at the end of the semester that requires students to develop worksheets for solving realistic problems using both virtual and real data).<br><br>These evaluation criteria are provided to students during the course's first lecture and are continually accessible through relevant announcements on the course's eclass platform.<br><br>Erasmus students will follow the same examination methods but will be taught and examined in English. |

**ATTACHED BIBLIOGRAPHY**

- *Suggested bibliography*


- *Fairhurst, D.S. (2019). "Using Excel for Business and Financial Modelling: A practical guide" [electronic resource]. HEAL-Link Wiley UBCM ebooks (Eudoxus code 91725895).*
- *Tung, H.K.K., Lai, D.C.F., Wong, M.C.S. and NG, S. (2010). "PROFESSIONAL FINANCIAL COMPUTING USING EXCEL AND VBA" [electronic resource]. HEAL-Link Wiley UBCM ebooks (Eudoxus code 91722695).*
- *Karolidis, D. and Xarchakos, K. (2023). "Microsoft Excel 2021", Xarchakou Pinelopi (Eudoxus code 122079364).*