

COURSE LAYOUT

1. GENERAL

SCHOOL	APPLIED ECONOMICS AND SOCIAL SCIENCES		
DEPARTMENT	AGRICULTURAL ECONOMY AND RURAL DEVELOPMENT		
STUDY LEVEL	<i>Undergraduate</i>		
COURSE CODE	3435	SEMESTER	1 st
COURSE TITLE	INFORMATICS (OBLIGATORY)		
INDEPENDENT TEACHING ACTIVITIES	WEEKLY TEACHING HOURS	ECTS	
Theory: Lectures	3		
Laboratory: Use of Software Tools	3		
Total:	6	5	
COURSE TYPE	Scientific Area		
PREREQUISITES			
LANGUAGE	Greek		
IS THE COURSE OFFERED for ERASMUS STUDENTS?	Yes (in Greek)		
COURSE WEB PAGE	https://oeclass.aua.gr/eclass/courses/2550/		

2. LEARNING OUTCOMES

Learning Outcomes

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

- distinguish the capabilities of the components that make up a computer and select the configuration of a computer system that meets specific needs,
- understand the concept of the operating system and how its functioning is related to the smooth operation of the computer,
- comprehend the fundamental concepts of Computer Science with broader implications for society, employment, scientific progress, and philosophy,
- use specialized software packages for processing and analyzing data related to Agricultural Economics and Development,
- use the computer in collaborative learning contexts, working with classmates on group projects,
- understand what a database is, design simple databases, and implement them with the help of dedicated software,
- create algorithms for solving computational problems (in the form of flowcharts)
- write code in a visual programming environment,
- understand the concept of the Internet of Things and be able to create a wireless sensor network, making use of appropriate hardware in combination either with no-code platforms that generate the necessary code, or with visual programming environments where they write the code themselves,
- understand the capabilities and applications of artificial intelligence and create an AI model using no-code tools,
- develop applications that utilize artificial intelligence through visual

- programming environments,
- understand the usefulness of free/open-source software as a building block for creating services in the field of Agriculture.

General Competenses

- Search, analysis and synthesis of data and information by use of the necessary information and communication technologies.
- Adaptation to new situations.
- Decision making.
- Individual work.
- Team work.

3. COURSE CONTENT

Theory

1. Representation, storage, and manipulation of data in the computer, Central Processing Unit, Main Memory, Peripheral Units.
2. Operating Systems.
3. Algorithms – Data flow diagrams.
4. Visual programming environments.
5. Database systems, Entity – Relationship Model, Relational Model, SQL, the SQLite Studio user interface, the Microsoft Access user interface.
6. Artificial Intelligence and applications.
7. Computer Communications and Networks: Internet Technology, Web Services, Computer Security.
8. Sensors in Agriculture and the Internet of Things. Development of wireless sensor networks using no-code platforms or visual programming
9. Free/Open-Source Software in Agriculture (farm management and crop monitoring applications).

Laboratory

1. Spreadsheets
2. Writing code in the form of flowcharts (Flowgorithm)
3. Writing code in a visual programming environment (Snap4Arduino)
4. Connecting and programming Arduino hardware using a visual programming tool.

4. TEACHING and LEARNING METHODS - Evaluation

TEACHING METHOD	In classroom and in laboratory (face-to-face). If needed, synchronous distance teaching can be applied in both theory and laboratory. Also, educational material for asynchronous distance teaching has been uploaded in the course Web page.	
USE OF INFORMATICS and COMMUNICATION TECHNOLOGIES	Exploitation of Information and Communication Technologies in teaching, in laboratory training and in the communication with students. Use of dedicated software. Use of integrated e-learning system. Communication with students via open eclass platform and e-mail.	
TEACHING ORGANISATION	<i>Activity</i>	<i>Work Load (hours)</i>
	Lectures	39 hours

	Laboratory work	39 hours
	Individual study	72 hours
	Total contact hours and training	150 hours
STUDENTS EVALUATION	<p>I. Theory</p> <ul style="list-style-type: none"> • Final Exam, written or oral (70% of the final mark in theory). It may include Multiple choice test, Questions of brief answer, Questions to develop a topic, Judgment questions and Exercise solving. • Project(30% of the final mark in theory). It includes the creation of a database using the SQLiteStudio software, or Microsoft Access. <p>Marking Scale: 0-10. Minimum Passing Mark: 5.</p> <p>II. Laboratory Final Exam, hands on computer, of the software tools taught. Assuming feasibility, progress exams will take place during the semester and the mark of the above will contribute to the determination of the final Laboratory mark. Marking Scale: 0-10. Minimum Passing Mark: 5.</p> <p>The final Course mark is the average of the marks on Theory and Lab.</p>	

5. BIBLIOGRAPHY

-Proposed Literature :

1. INTRODUCTION TO INFORMATICS – THEORY AND PRACTICE, ALLAN EVANS, KENDALL MARTIN, MATY ANNE POASTY, KRITIKI PUB, 2nd Edition. 2018, ATHENS (Eudoxus code: 77109607)
2. THE THEORY OF COMPUTERS - AN INTEGRATED PRESENTATION, J. GLENN BROOKSHEARR, KLIDARITHMOS PUB, 10ⁿ Edition, 2009, ATHENS (Eudoxus code: 13957)
3. INTRODUCTION TO INFORMATICS, BEN BEEKMAN, GEORGE BEEKMAN, H. GIOURDAS AND CO. PUB., 10th Edition, 2015, ATHENS (Eudoxus code: 50658777)
4. INTRODUCTION TO INFORMATICS, BOZANIS PANAGIOTIS, A. TZIOLA & SONS PUB, 1ST EDITION, 2016, ATHENS (Eudoxus code: 50656007)
5. INTRODUCTION TO COMPUTERS AND INFORMATICS, MARY GLAVA, DISIGMA PUB, 2021 (Eudoxus code: 102076250)

-Related scientific journals:

1. Computers and Electronics in Agriculture.
2. Information Sciences.

6. ΔΙΔΑΣΚΟΝΤΕΣ

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