COURSE OUTLINE

1. GENERAL

SCHOOL	PLANT SCIENCES, ANIMAL BIOSCIENCES, FOOD AND NUTRITIONAL SCIENCES, APPLIED BIOLOGY AND BIOTECHNOLOGY		
DEPARTMENT	CROP SCIENCE, ANIMAL SCIENCE, FOOD SCIENCE AND HUMAN NUTRITION, BIOTECHNOLOGY		
STUDY LEVEL	*Undergraduate*		
COURSE CODE	**3330**	**SEMESTER**	1st
COURSE TITLE	INTRODUCTION TO INFORMATICS (OBLIGATORY)		

INDEPENDENT TEACHING ACTIVITIES	**WEEKLY TEACHING HOURS**	**ECTS**
Theory: Lectures	**2**	**2**
Laboratory: Use of Software Tools	**3**	**3**
Total:	**5**	**5**

COURSE TYPE	Scientific Area (M4.017)
PREREQUISITES	
LANGUAGE	Greek
IS THE COURSE OFFERED for ERASMUS STUDENTS?	Yes (in Greek)
COURSE WEB PAGE	https://oeclass.aua.gr/eclass/courses/277/

2. LEARNING OUTCOMES

Learning Outcomes

Upon successful completion of the course the student will

- understand the basic concepts of Information Science and implications in society, employment, scientific progress and philosophy,
- distinguish the capabilities of the parts that make up a computer and will be able to choose the parts of a computer system that meets the needs of his scientific field,
- understand the capabilities and features of his computer's Operating System,
- use specific software packages for data processing and analysis, evaluation of results and decision-making in matters of his scientific field,
- use the computer for collaborative learning with partners, in the context of group work,
- understand the concept of algorithm and can create in the form of flowcharts, algorithms for solving computational problems,
- implement algorithms using the Python programming language,
- understand the concept of the database, its utility, the design principles and methodology and the ways of processing the data in a database, and furthermore can design simple databases, implement them and manage their data,
- know the basic concepts of networking, the internet, and its services as well as the issues related to their security,
- understand issues of cutting-edge technologies (artificial intelligence, virtual reality, big data, IoT, cloud computing), as well as their applications and techniques.

General Competences

- 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.
- Teamwork.

1. COURSE CONTENT

Theory

1. Representation, storage and manipulation of data in a computer system, IT applications.
2. Computer Hardware: Central Processing Unit, Main Memory, Peripheral Units.
3. Algorithms - Data Flow Diagrams - Programming Languages – Python Programming.
4. Computer Software: Operating Systems, Application Software.
5. Database Systems.
6. Artificial Intelligence.
7. Information Systems: Analysis-Design of Systems, Decision-Making Systems.
8. Communications-Computer Networks: Internet Technology, Internet Services, Internet Multimedia Applications.
9. Computer Security.
10. Recent advancements and technological achievements.

Laboratory

1. Spreadsheets (formats, functions, reports, graphs)
2. Database Software (design, data entry, query design, forms)

2. 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 e-class platform and e-mail.
TEACHING ORGANISATION	

Activity	*Workload (hours)*
Lectures	26 hours
Laboratory work	39 hours
Individual study	60 hours
Total contact hours and training	***125 hours***

3. BIBILIOGRAPHY