COURSE LAYOUT

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 (CS, FSHN, BIO) 2nd (AS)
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 forERASMUS 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 is able to 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 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 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)

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	

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

STUDENTS EVALUATION	**I. Theory** Final Exam, written or oral, of increasing difficulty, which may include Multiple choice test, Questions of brief answer, Questions to develop a topic, Judgment questions and Exercise solving. **Marking Scale:** 0-10. **Minimum Passing Mark:** 5. **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. **The final Course mark is the average of the marks on Theory and Lab.**

5. BIBILIOGRAPHY

-***Proposed Literature :***

Εισαγωγή στην Πληροφορική και τους Υπολογιστές. Μποζάνης Παναγιώτης Δ. Έκδοση 1η, 2016, ISBN: 9789604185382 (Κωδικός Βιβλίου στον Εύδοξο: 50656007), ΕΚΔΟΣΕΙΣ Α. ΤΖΙΟΛΑ & ΥΙΟΙ Α.Ε.

Εισαγωγή στην πληροφορική. Evans Alan, Martin Kendall, Poatsy Mary Anne. 3η έκδ./2022, ISBN: 9789605864071 (Κωδικός Βιβλίου στον Εύδοξο: 112692279), ΕΚΔΟΣΕΙΣ ΚΡΙΤΙΚΗ ΑΕ

Η ΕΠΙΣΤΗΜΗ ΤΩΝ ΥΠΟΛΟΓΙΣΤΩΝ: ΜΙΑ ΟΛΟΚΛΗΡΩΜΕΝΗ ΠΑΡΟΥΣΙΑΣΗ. J. GLENN BROOKSHEAR, 10η έκδοση /2009, ISBN: 9789604612703, Κωδικός Βιβλίου στον Εύδοξο: 13957, ΕΚΔΟΣΕΙΣ ΚΛΕΙΔΑΡΙΘΜΟΣ ΕΠΕ

Εισαγωγή στην Πληροφορική. Beekman Ben, Beekman George, 10η Έκδοση/2015 ISBN: 9789605126674, Κωδικός Βιβλίου στον Εύδοξο: 50658777, ΕΚΔΟΣΕΙΣ: Χ. ΓΚΙΟΥΡΔΑ & ΣΙΑ ΕΕ

ΕΙΣΑΓΩΓΗ ΣΤΟΥΣ ΥΠΟΛΟΓΙΣΤΕΣ ΚΑΙ ΤΗΝ ΠΛΗΡΟΦΟΡΙΚΗ. ΓΚΛΑΒΑ ΜΑΙΡΗ, Έκδοση: 1/2021, ISBN: 9786182020722, Κωδικός Βιβλίου στον Εύδοξο: 102076250, ΕΚΔΟΣΕΙΣ ΔΙΣΙΓΜΑ ΙΚΕ

-Related scientific journals:

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