COURSE OUTLINE

(1) GENERAL

SCHOOL	ANIMAL BIOSCIENCES		
ACADEMIC UNIT	DEPARTMENT OF ANIMAL SCIENCE		
LEVEL OF STUDIES	Undergraduate [Required]		
COURSE CODE	3330	**SEMESTER**	2nd
COURSE TITLE	INTRODUCTION TO INFORMATICS		

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 (ECTS)**
Theory: Lectures	2	2
Laboratory: Use of Software Tools	3	3
Total	**5**	**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*	Scientific Area (M4.017)
PREREQUISITE COURSES:	-
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek
IS THE COURSE OFFERED TO ERASMUS STUDENTS:	Yes (in gREEK)
COURSE WEBSITE (URL):	https://oeclass.aua.gr/eclass/courses/277/

(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*
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 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, 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) SYLLABUS

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 *Face-to-face, Distance learning, etc.*	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 INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	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 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*	

Activity	***Semester workload***
Lectures	26
Laboratory work	39
Independent study	60

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*	<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td>**Course total (25 h of workload per ECTS)**</td><td>***125***</td></tr></table>
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.*	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) ATTACHED BIBLIOGRAPHY

Suggested:

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

Additional (optional) Bibliography:

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