INTERNET AND APPLICATIONS IN AGRICULTURE

1. GENERAL

SCHOOL	APPLIED ECONOMICS AND SOCIAL SCIENCES
DEPARTMENT	AGRICULTURAL ECONOMICS AND RURAL DEVELOPMENT
STUDY LEVEL	*Undergraduate – Elective course*

COURSE CODE	**3721**	**SEMESTER**	7th
COURSE TITLE	INTERNET AND APPLICATIONS IN AGRICULTURE		

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?	No
COURSE WEB PAGE	https://oeclass.aua.gr/eclass/courses/AOA246/

2. LEARNING OUTCOMES

Learning Outcomes

Upon completing of the course, the student will:
- be able to understand the Internet basic terms and concepts,
- be able to understand the Internet architecture and its technological infrastructure,
- be able to understand the Internet services and web enabled applications,
- be able to describe Web 2.0 and Web 3.0 technologies and their use,
- acquire practical knowledge on web design,
- acquire skills in writing HTML code and CSS rules for website development,
- be able to develop mobile apps for the agricultural sector,
- acquire knowledge in the use of cloud computing technology,
- be able to understand cyber security issues,
- be able to provide advisory services on the development of websites and mobile apps, and the use of online applications to agribusinesses.

General Competenses
- Search, analysis and synthesis of data and information with the use of necessary technologies.
- Individual work.
- Team work.
- Work in a multidisciplinary environment.
- Generation of new research ideas.
- Advancement of free, creative and deductive thinking.

3. COURSE CONTENT

Theory
1. Introduction to the Internet basic terms and concepts.
2. Internet protocols and technologies.
3. Internet basic services and applications.
4. World Wide Web: Web 2.0 and Web 3.0 technologies
5. Introduction to HTML for web development.
6. Basic structure, formatting, tables, HTML frames.

7. Webpage layout formatting using Cascading Style Sheets (CSS).
8. Innovative web-based applications for agriculture.
9. Use of cloud computing technologies.
10. Cyber security issues.
11. Mobile apps for agriculture.

Laboratory
1. Using HTML and CSS for web development.
2. Evaluation of websites using Web 2.0 tools.
3. Development of mobile apps for agriculture using the free software App Inventor of MIT.

4. TEACHING and LEARNING METHODS - Evaluation

TEACHING METHOD	In Classroom (theory) and in Laboratory (laboratory exercises) or distance learning for theory and laboratory exercises (if required)
USE OF INFORMATICS and COMMUNICATION TECHNOLOGIES	• Exploitation of Information and Communication Technologies in teaching, laboratory training and the communication with students. • Use of specialized free software. • Use of the electronic services of the integrated course management platform eClass (e.g. posting of educational material, exercises, tasks, useful links, announcements, chat, Wiki system). • Communication with students via the eClass platform and e-mail. • Use of the eClass online services for distance learning if required, with additional use of the teleconferencing tool Big Blue Button (eClass platform) or MS Teams or Webex.
TEACHING ORGANISATION	<table><tr><td>*Activity*</td><td>*Work Load*</td></tr><tr><td>Lectures</td><td>26 h</td></tr><tr><td>Laboratory exercises</td><td>39 h</td></tr><tr><td>Group and/ or individual projects</td><td>13 h</td></tr><tr><td>Autonomous study</td><td>47 h</td></tr><tr><td>***Total contact hours and training***</td><td>***125 h (5 ECTS)***</td></tr></table>
STUDENT EVALUATION	**I. Theory** Final written examination of graded difficulty in theory, including multiple choice questions and short answer questions. **II. Laboratory** Assignment in which each student or group will be asked to: (a) propose and develop a mobile electronic application related to agriculture, (b) prepare a relevant presentation to be submitted electronically and (c) make an oral presentation. The final grade is the sum of the above individual evaluations. Rating Scale: 0-10 Minimum Grade: 5 The assessment criteria are explicitly defined and students can have access to their written examination and software

	records.
	If required, students' evaluation can also be realized remotely through the eClass platform for the written examination, and through video conferencing tools for presentation of projects or oral examinations.

5. BIBILIOGRAPHY

-Proposed Literature:
- Douligeris, C., Mavropodi, R., Kopanaki, E., Karalis, A., (2021) *Technologies and Programming in World Wide Web*. New Technologies Editions, 2nd Edition/2021
- Jennifer Kyrnin, Julie C. Meloni (2021). *Learn HTML 5, CSS and JavaScript All in One*. Giourdas Editions, 3rd Editon/2021
- Castro E., Hyslop B. (2013). *HTML5 and CSS3 with Images*, Kleirarithos Editions. 7th Edition/2013
- Georgiadis, C. (2015). *Word Wide Web and Electronic Commerce Technologies* [Undergraduate textbook]. Kallipos, Open Academic Editions. https://hdl.handle.net/11419/2288
- Paraskevas, M., Asimakopoulos, G., & Triantafyllou, V. (2015). *Information Society* [Undergraduate textbook]. Kallipos, Open Academic Editions. https://hdl.handle.net/11419/378
- Gavalakis, N. (2023). *Introduction to Cybercrime* [Undergraduate textbook]. Kallipos, Open Academic Editions.

-Related scientific journals:
- Internet Research
- Journal of Internet Services and Applications, Springer
- ACM Internet Technology
- IEEE Internet Computing
- Journal of Internet Technology
- Computer and Electronics in Agriculture