

## COURSE OUTLINE

### (1) GENERAL

<b>SCHOOL</b>	Science and Technology		
<b>ACADEMIC UNIT</b>	Science and Technology		
<b>PROGRAMME OF STUDIES</b>	MSc in Information and Communication Technology (ICT) Systems MSc in Mobile and Web Computing		
<b>LEVEL OF STUDIES</b>	Postgraduate		
<b>COURSE CODE</b>	IC06 MCO1	<b>SEMESTER</b>	1
<b>COURSE TITLE</b>	Web Programming		
<b>COURSE TYPE</b> <i>Elective, compulsory</i>	Compulsory		
<b>INSTRUCTOR(S)</b>	Leonidas Akritidis – Dimitrios Karapiperis		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <i>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</i>	<b>WEEKLY TEACHING HOURS</b>	<b>CREDITS</b>	
	3	6	
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>			
<b>TEACHING ACTIVITIES BREAKDOWN</b>	<b>WEEKLY HOURS</b>		
<b>Theory</b>	1,5		
<b>Lab</b>	1,5		
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Skills development		
<b>PREREQUISITE COURSES:</b>	-		
<b>LANGUAGE OF INSTRUCTION and EXAMINATIONS:</b>	English		
<b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBSITE (URL)</b>	<a href="https://elearn-ucips.ihu.gr/course/view.php?id=1090">https://elearn-ucips.ihu.gr/course/view.php?id=1090</a>		

### (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

On completing the course, the student will be able to:

- Know the basic features, requirements and specifications of web applications.
- Design efficient user interfaces by selecting appropriate controls on a case-by-case basis and formatting using CSS techniques.
- Program Web applications at the client (Javascript) and server (PHP) levels.
- Install and configure Web application serving environments (Apache HTTP Server).
- Create applications with support for MySQL database systems.
- Connects applications to other applications, services and interfaces on the World Wide Web.
- Publishes applications to servers on the World Wide Web.

#### 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?*

<i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i>	<i>Project planning and management</i>
<i>Adapting to new situations</i>	<i>Respect for difference and multiculturalism</i>
<i>Decision-making</i>	<i>Respect for the natural environment</i>
<i>Working independently</i>	<i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i>
<i>Team work</i>	<i>Criticism and self-criticism</i>
<i>Working in an international environment</i>	<i>Production of free, creative and inductive thinking</i>
<i>Working in an interdisciplinary environment</i>	<i>.....</i>
<i>Production of new research ideas</i>	<i>Others...</i>
	<i>.....</i>

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Decision Making
- Teamwork
- Production of free, creative, and inductive thinking

### (3) SYLLABUS

The course introduces the student to the basic technologies that govern the World Wide Web. It discusses the fundamental and related features and how they are used in communications protocols. It then presents software development techniques for creating applications that conform to these characteristics. The course is structured into two main categories: Client technologies and server technologies. The taught material is organized and taught as follows:

- Fundamental concepts, models, Communication protocols.
- Client Technologies: Development of web pages with HTML.
- Client Technologies: Formatting Web page elements with the CSS standard.
- Client Technologies: Dynamic programming of Web page elements with Javascript.
- Server Technologies: HTTP servers, CGI standard, client-server model, basics of HTTP and FTP protocols.
- Server Technologies: The PHP programming language.
- Server Technologies: Database Systems. Development of data-driven Web applications with MySQL system support.

### (4) TEACHING and LEARNING METHODS - EVALUATION

<b>DELIVERY</b> <i>Face-to-face, Distance learning, etc.</i>	Hybrid: Face to face and synchronous distance learning
<b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	<b>Use of ICT in Teaching</b> During the educational process, various Web application development tools are used, along with the material available at the e-learning platform. The hybrid teaching method involves synchronous learning with the support of the videoconferencing tool Zoom. Students are taught a variety of tools related to the course content and material.

	<p><b>Use of ICT in Communication with students</b></p> <ul style="list-style-type: none"> <li>The course material (slides, scientific articles, exercises, etc.) is posted on the course page at the e-learn platform (Moodle).</li> <li>Use of Moodle Forums announcements.</li> <li>Live video meetings via Zoom/Teams.</li> <li>Contact via email.</li> </ul>																								
<p><b>TEACHING METHODS</b></p> <p><i>The manner and methods of teaching are described in detail.</i></p> <p><i>Lectures, recitation, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.</i></p> <p><i>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</i></p>	<table border="1"> <thead> <tr> <th><i>Activity</i></th> <th><i>Semester workload</i></th> </tr> </thead> <tbody> <tr> <td>Lectures</td> <td>15 hrs.</td> </tr> <tr> <td>Lab</td> <td>15 hrs.</td> </tr> <tr> <td>Project</td> <td>8 hrs.</td> </tr> <tr> <td>Exams</td> <td>2 hrs.</td> </tr> <tr> <td>Non-Directed Study</td> <td>112 hrs.</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td><b>Course total</b></td> <td><b>150 hrs.</b></td> </tr> </tbody> </table>	<i>Activity</i>	<i>Semester workload</i>	Lectures	15 hrs.	Lab	15 hrs.	Project	8 hrs.	Exams	2 hrs.	Non-Directed Study	112 hrs.							<b>Course total</b>	<b>150 hrs.</b>				
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<p><b>STUDENT PERFORMANCE EVALUATION</b></p> <p><i>Description of the evaluation procedure</i></p> <p><i>Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work,</i></p>	<p>Language of Evaluation: English</p> <p>Evaluation Procedure:</p> <ul style="list-style-type: none"> <li>Written Exams (50%). Methods of evaluation: <ul style="list-style-type: none"> <li>Open-ended questions</li> </ul> </li> </ul>																								

<p><i>essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</i></p> <p><i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students</i></p>	<ul style="list-style-type: none"> <li>○ Problem solving</li> <li>○ Multiple choice questions (on lab material)</li> <li>● Project (50%): <ul style="list-style-type: none"> <li>○ Develop web application with specific template and functionality.</li> </ul> </li> </ul> <p>The evaluation procedure is announced to the students during the first lecture and is also accessible at the e-learn platform throughout the entire semester.</p>
<p style="text-align: center;"><b>STUDENT OBLIGATIONS</b></p> <p><i>Compulsory attendance of lectures, labs, recitations, compulsory participation in midterms, exams, compulsory delivery of homework, projects, etc.</i></p>	<ul style="list-style-type: none"> <li>● Compulsory attendance of lectures</li> <li>● Compulsory participation in the exams</li> <li>● Compulsory delivery of project</li> </ul>

### (5) ATTACHED BIBLIOGRAPHY

<p><i>- Suggested Textbooks</i></p> <ol style="list-style-type: none"> <li>1. Jon Duckett, HTML and CSS: Design and Build Websites, John Wiley &amp; Sons, 2011.</li> <li>2. Jon Duckett, JavaScript and jQuery: Interactive Front-End Web Development, John Wiley &amp; Sons, 2014.</li> <li>3. Jon Duckett, Server-side Web Development, John Wiley &amp; Sons, 2022.</li> </ol>
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