

## COURSE OUTLINE

### (1) GENERAL

<b>SCHOOL</b>	SCHOOL OF ENGINEERING		
<b>ACADEMIC UNIT</b>	Department of Informatics and Computer Engineering		
<b>LEVEL OF STUDIES</b>	Undergraduate		
<b>COURSE CODE</b>	ICE-7111	<b>SEMESTER</b>	7 <sup>th</sup> , 9 <sup>th</sup>
<b>COURSE TITLE</b>	Health Informatics		
<b>INDEPENDENT TEACHING ACTIVITIES</b> 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	<b>WEEKLY TEACHING HOURS</b>	<b>CREDITS</b>	
Lectures	2		
laboratory exercises	2		
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).	4	5	
<b>COURSE TYPE</b> general background, special background, specialised general knowledge, skills development	Special Background		
<b>PREREQUISITE COURSES:</b>			
<b>LANGUAGE OF INSTRUCTION and EXAMINATIONS:</b>	Greek		
<b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b>			
<b>COURSE WEBSITE (URL)</b>	<a href="https://eclass.uniwa.gr/courses/ICE302/">https://eclass.uniwa.gr/courses/ICE302/</a>		

### (2) LEARNING OUTCOMES

<p><b>Learning outcomes</b> 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</p> <ul style="list-style-type: none"> <li>• Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</li> <li>• Descriptors for Levels 6, 7 &amp; 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</li> <li>• Guidelines for writing Learning Outcomes</li> </ul>
<p>Upon successful completion of the course the student will be able to:</p> <ul style="list-style-type: none"> <li>• Highlights the specific requirements of the health sector (interdisciplinarity)</li> <li>• Explains which are the health information systems and which are their various subsystems (LIS, PACS, RIS, etc.)</li> <li>• Discerns the need for coding medical terms and be able to list the available systems for encoded recording of medical information</li> <li>• Identifies the needs for interoperability</li> <li>• Recognizes the various standards and encodings used in the exchange of health data (HL7, DICOM, etc.)</li> <li>• Identifies safety issues in health IT</li> <li>• Uses mHealth and eHealth applications</li> <li>• Analyzes and designs health information systems (transforms new knowledge to solve problems from a new unknown environment – health services environment)</li> <li>• Design and implement solutions to public health problems</li> </ul>
<p><b>General Competences</b> 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</p>

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...
	.....

- Working independently
- Production of free, creative and inductive thinking
- Showing social, professional and ethical responsibility
- Team Work
- Decision making
- Working in an interdisciplinary environment
- Project planning and management

### **(3) SYLLABUS**

The internet in health. Public health issues. Systems of definition, grouping and standards in health. Hospital information systems, electronic health record, telemedicine, decision support systems, patient data cards, etc. Interoperability and coding issues. eHealth and mHealth. Individual health record. Virtual reality and augmented reality in health. Nanotechnology in health. Robotic technology in health. Medical informatics. Knowledge management in health. Biometric data and transmission of medical data. Medical imaging, biomarkers and biosignals.

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

<b>DELIVERY</b>	Face-to-face	
Face-to-face, Distance learning, etc.		
<b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b>	<ul style="list-style-type: none"> <li>• Posting material of the theoretical and laboratory part of the course (notes, lecture slides, exercises, exam topics, etc.) on the e-learning platform (e-class).</li> <li>• Use of e-mail and announcements on the e-learning platform to communicate with students.</li> </ul>	
Use of ICT in teaching, laboratory education, communication with students		
<b>TEACHING METHODS</b>	<b>Activity</b>	<b>Semester workload</b>
<p>The manner and methods of teaching are described in detail.</p> <p>Lectures, 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.</p> <p>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</p>	Lectures	26
	Laboratory Practice	26
	Project	30
	Independent Personal study	43
	Course total	<b>125</b>
<b>STUDENT PERFORMANCE EVALUATION</b>		
Description of the evaluation procedure	<p>I. Written final exams (70%) that includes:</p> <ul style="list-style-type: none"> <li>- short-answer questions</li> <li>- multiple choice questionnaires</li> <li>- problem solving</li> </ul> <p>II. Elaboration of laboratory exercises and final laboratory examination (30%)</p>	
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.		

**(5) ATTACHED BIBLIOGRAPHY**

<p>- Suggested bibliography:</p> <ol style="list-style-type: none"> <li>1. Καρανικόλας Ν. Πληροφορική και Επαγγέλματα Υγείας. Αθήνα: Εκδόσεις Νέων Τεχνολογιών, 2010.</li> <li>2. Κουμπούρος Ι. Τεχνολογίες Πληροφοριών και Επικοινωνίας &amp; Κοινωνία. Αθήνα: Εκδόσεις Νέων Τεχνολογιών, 2012.</li> <li>3. Τόκης Ιωάννης και Τόκη Ευγενία, Πληροφορική υγείας, 1η έκδοση, 2006, Εκδόσεις Τζιόλα, ISBN: 960-418-107-6</li> <li>4. Μπότσης Ταξιάρχης και Χαλκιώτης Στέλιος, Πληροφορική υγείας, 1η έκδοση, 2005, Εκδόσεις Δίαυλος, ISBN: 978-960-531-183-4</li> <li>5. Βλαχόπουλος Γ, Κλεπετσάνης Π. Εφαρμογές Πληροφορικής στις Επιστήμες Υγείας. Πάτρα: Εκδόσεις Αλγόριθμος, 2012.</li> </ol>
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6. Αγγελίδης, Π., Ιατρική Πληροφορική, Τόμος Α, 1η έκδοση, 2011, "σοφία" Ανώνυμη Εκδοτική & Εμπορική Εταιρεία
7. Γκόρτζης, Ε., Υπηρεσίες Ιατρικής Πληροφορικής και Τηλεϊατρικής, 2η έκδοση, 2012, εκδόσεις Λευτέρης Γκόρτζης

- Related academic journals: