

Course unit title:	Requirements Engineering and Management
Course unit code:	INS 600
Type of course unit: (Compulsory/optional)	Compulsory
Level of course unit: (First, second or third cycle)	Master (2 nd Cycle)
Year of study:	1
Semester when the unit is delivered:	1
Number of ECTS credits allocated:	7
Name of lecturer(s):	TBA
Learning outcomes of the course unit:	
<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Select and employ requirements engineering elicitation methodologies based on the nature of the business environment. • Identify and employ technical models for the description of system requirements. • Explain the theory and practice of requirements engineering and management. • Explain the basic principles underpinning prototyping. 	
Mode of delivery:	Face- to- face
Prerequisites and co-requisites:	None
Recommended optional program components:	None
Course Contents:	
<p>Objective: To provide students with a thorough knowledge on the process of eliciting and managing requirements for the development of Information Systems. This is related to specific objectives 3 and 4.</p> <p>Description: The problem of requirements elicitation: Definition of system requirements; definition of requirements engineering and management.</p>	

Development lifecycle process models:

Waterfall model; incremental model; evolutionary model; the Rational Unified Process.

Understanding and modeling the business and e-business:

Systems and system boundaries; soft systems analysis; business process modeling techniques.

Problem analysis:

Understanding and addressing the root cause of a problem; defining the solution system boundary and the constraints to be imposed.

Requirements elicitation techniques:

Interviewing; questionnaires; brainstorming; storyboarding; requirements workshops.

System definition:

Functional and non-functional requirements; the Unified Modeling Language, use-case modeling, pseudo-code, activity diagrams, decision tables, data models.

Requirements management:

Establishment of project scope; the requirements baseline; organizing requirements; managing the requirements baseline; requirements configuration management.

System implementation:

Mapping requirements to design; implementation and testing.

Rapid software development:

Agile methods; extreme programming; rapid application development; software prototyping.

**Recommended
or
required reading:**

Booch G., Rumbaugh, J., & Jacobsen, I. (1999). The Unified Modeling Language Reference Manual. Boston, MA: Addison Wesley.

Rumbaugh, J., Jacobsen, I., & Booch, G. (1999). The Unified Modeling Language User Guide. Boston, MA: Addison Wesley.

Leffingwell, D., & Widrig, D. (2005). Managing Software Requirements: A Use Case Approach. Boston, MA: Addison Wesley.

Avison, D., & Fitzgerald, G. (2008). Information Systems Development. Berkshire: McGraw-Hill.

	<p>Hass, K.B., Wessels, D.J., & Brennan, K. (2007). Getting It Right: Business Requirement Analysis Tools and Techniques. Vienna: Management Concepts.</p> <p>Hood, C., Wiedemann, S., Fichtinger, S., & Pautz, U. (2007). Requirements Management: The Interface Between Requirements Development and All Other Systems Engineering Processes. Oberhaching: Springer.</p> <p>Hull, E., Jackson, K., & Dick, K. (2010). Requirements Engineering. Berlin: Springer.</p> <p>Olive, A. (2007). Conceptual Modeling of Information Systems. Berlin: Springer-Verlag.</p> <p>Pohl, K. (2010). Requirements Engineering: Fundamentals, Principles, and Techniques. Berlin: Springer.</p>						
<p>Planned learning activities and teaching methods:</p>	<table border="1" style="width: 100%;"> <tr> <td style="width: 60%;">Class Instruction</td> <td style="width: 40%; text-align: center;">42 Hours</td> </tr> <tr> <td>Consultation</td> <td style="text-align: center;">30 Hours</td> </tr> </table>	Class Instruction	42 Hours	Consultation	30 Hours		
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<p>Assessment methods and criteria:</p>	<table border="1" style="width: 100%;"> <tr> <td style="width: 60%;">Examinations</td> <td style="width: 40%; text-align: center;">50%</td> </tr> <tr> <td>Coursework/ Independent Study/ Participation</td> <td style="text-align: center;">50%</td> </tr> <tr> <td></td> <td style="text-align: center;">100%</td> </tr> </table>	Examinations	50%	Coursework/ Independent Study/ Participation	50%		100%
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	100%						
<p>Language of instruction:</p>	<p>English</p>						
<p>Work placement(s):</p>	<p>No</p>						
<p>Place of Teaching:</p>	<p>Regular Classroom European University Cyprus, Nicosia</p> <p>Computer Laboratory European University Cyprus, Nicosia</p>						