

<b>Course unit title:</b>	Systems Analysis and Design
<b>Course unit code:</b>	CSC230
<b>Type of course unit:</b> (Compulsory/optional)	Compulsory
<b>Level of course unit:</b> (First, second or third cycle)	Bachelor (1st cycle)
<b>Year of study:</b>	2
<b>Semester when the unit is delivered:</b>	3
<b>Number of ECTS credits allocated:</b>	5
<b>Name of lecturer(s):</b>	TBA
<b>Learning outcomes of the course unit:</b>	
<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> <li>• Describe the concept of Information Systems and analyze the differences between Information Systems and other types of software systems</li> <li>• Describe the basic stages of the systems' lifecycle development process and discuss their interrelationship</li> <li>• Describe various systems' development methodologies and evaluate their relative merits</li> <li>• Describe the operation of modeling tools in systems' development methodologies and apply them in realistic development cases</li> </ul>	
<b>Mode of delivery:</b>	Face- to- face
<b>Prerequisites and co-requisites:</b>	CSC132
<b>Recommended optional program components:</b>	None
<b>Course Contents:</b>	
<p><b>Objective:</b> The objective of this course is to introduce students to the principles of Information Systems (IS) development. The lifecycle stages are explained in detail. Traditional and novel systems' development methodologies are described and their basic characteristics are compared. Students learn how to apply the modeling tools of systems' development methodologies in realistic development cases.</p>	

**Description:**

The context of System Analysis and Design:

System Stakeholders, Business drivers, Technology drivers. Information System Building Blocks, Fundamentals of Information Systems, Transaction Processing Systems, Management Information Systems, Decision Support Systems, Expert Systems, Office Information Systems.

Information Systems Development:

Systems Analysis and modern systems development. The functions of systems Analysis, Modern Structured Analysis, Information Engineering (IE), Prototyping, Joint Application Development (JAD), Business Process Redesign (BPR), Object-Oriented Analysis (OOA), FAST Systems Analysis Strategies. System development life cycles.

Fact-Finding Techniques:

Process of requirements discovery, sampling, research and site visits, observation, questionnaires, interviews, discovery prototyping, a fact-finding strategy.

Use Case Modeling:

Identify business actors, use cases, relationships, use-case diagram, use-case narrative, use cases and project management.

Data Modeling:

Introduction to data modeling, entities, attributes, relationships, the process of logical data modeling, analyzing the data model, normalization.

Process Modeling:

Process concepts, data flows, external agents, data stores, the process of logical process modeling, how to construct process models, the context data flow diagram, the functional decomposition diagram, the event response list, system and primitive diagrams, synchronizing of system models.

Systems Design:

Modern Structured Design, Information Engineering (IE), Prototyping, Joint Application Development (JAD), Rapid Application Development (RAD), Object-Oriented Design (OOD), FAST Systems Design Methods.

Object-Oriented Modeling:

An Introduction to Object-Oriented Modeling, System concepts for object modeling, uml diagrams, static structure diagrams, interaction diagrams, state diagrams, implementation diagrams, the process of object modeling.

**Recommended  
or  
required reading:**

Whitten and Bentley, SYSTEMS ANALYSIS AND DESIGN METHODS, McGraw Hill

Pressman, SOFTWARE ENGINEERING, McGraw Hill

	Kendal & Kendal, SYSTEMS ANALYSIS AND DESIGN Prentice Hall	
<b>Planned learning activities and teaching methods:</b>	Class Instruction	42 Hours
	Consultation/Computer Lab	15 Hours
<b>Assessment methods and criteria:</b>	Examinations	70%
	Projects/Assignments/Readings/Labs	30%
		100%
<b>Language of instruction:</b>	English	
<b>Work placement(s):</b>	No	
<b>Place of Teaching:</b>	Regular Classroom European University Cyprus, Nicosia	