



Programme of Module "Software Architectures"

- Code: DT0223
- Type of course unit: Compulsory (Master Degree in Computer Science curriculum NEDAS), Compulsory (Master Degree in Computer Science curriculum UBIDIS)
- Level of course unit: Postgraduate Degrees
- Semester: 1

Number of ects credits: (Master Degree in Computer Science) 6 (workload 150 hours)

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<b>1</b>	<b>Course objectives</b>	
<b>2</b>	<b>Course content and learning outcomes (dublin descriptors)</b>	<p>Topics of the module include:</p> <ul style="list-style-type: none"> <li>• Components and Connectors</li> <li>• Architectural Styles</li> <li>• Architectural Views and Viewpoints</li> <li>• Architecture Descriptions and Architecture Description languages</li> <li>• Architecture Design Decisions</li> <li>• Architecting Situational Aware Applications</li> </ul> <p>On successful completion of this module, the student should :</p> <ul style="list-style-type: none"> <li>• <b>KNOWLEDGE:</b> This course introduces advanced concepts on Software Architecture. The first part of this course will provide advanced basic and advanced knowledge on software architecture, together with examples, and with a specific focus on architecture description language, and multi-view modeling. The second part will focus on architectural design decisions, architectural patterns, and architecture for adaptive systems. An objective is also to gain familiarity with software languages and tools which make easier the specification of component-based systems and architectures</li> </ul> <p><b>ABILITY (ability to do):</b> From the perspective of the "ability students will gain", the main objective of this course is to acquire a good knowledge on both theory and practice of Software Architecture and their usage in practice. At the end of this course, students will be able to correctly model a Software Architecture by using the appropriate tools. Through projects, students will practice the theoretical concepts previously described.</p> <p><b>BEHAVIOR (ability to be):</b> at the end of the learning process, the students will be conscious of how architectural choices impact on the quality of the developed software system.</p>
<b>3</b>	<b>Course prerequisites</b>	
<b>4</b>	<b>Teaching methods and language</b>	<p><b>Language:</b> English</p> <p><b>Reference textbooks</b></p> <ul style="list-style-type: none"> <li>• Len Bass, Paul Clements, and Rick Kazman, <b>Software Architecture in Practice (3rd Edition)</b>. . Addison Wesley Professional. 2012.</li> </ul>
<b>5</b>	<b>Assessment methods</b>	