Università degli Studi di L'Aquila - Dipartimento di Ingegneria e Scienze dell'Informazione e Matematica

Course catalogue

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Programme of Course "Ingegneria del Software"		
• Code: F1I018 • Type of course unit: Compulsory (Bachelor Degree in Computer Science curriculum General) • Level of course unit: Undergraduate Degrees • Semester: 2		
Number of ects credits: (Bachelor Degree in Computer Science) 6 (workload 150 hours)		
Teachers: Antinisca Di Marco (antinisca.dimarco@univaq.it)		
1	**Course objectives**	The student will be able to formalize and/or choice the best software process model. She will be also able to model the software systems at the requirements, architectural and design levels using an object-oriented paradigm. She will be introduced to design pattern and antipatterns. The student will be also introduced to verification and validation techniques with particular focus on testing for which she will be able to design test cases under several techniques. Finally, some project management concepts will be introduced focusing on risk management and project scheduling.
2	**Course content and learning outcomes (dublin descriptors)**	Topics of the module include: • Software Process Models (waterful, incremental delivery). Agile Development • Requirement Engineering: Requirement Definition and Requirement Specification Process. System Models • Software Architecture Design. Architectural Patterns • Design Patterns and Antipatterns. Software Design: Object-Oriented Design • Verification and Validation. Testing: testing process, planning, testing strategies for test case design, Black-box and White-box testing • Project Management: project scheduling and risk analysis
3	**Course prerequisites**	
4	**Teaching methodsand language**	lessons and exercises **Language**: Italian **Reference textbooks** • Ian Sommerville, ***Software Engineering***. Addison-Wesley. • Braude, Bernstein, ***Software Engineering: Modern Approaches , 2nd Edition***. Wiley.
5	**Assessment methods**	Project, written and oral exam. Mid-term exam