



UNIVERSITY OF MITROVICA “ISA BOLETINI”

Course Curriculum Model (Syllabus)		
Faculty:	Faculty of Mechanical and Computer Engineering	
Department:	Computer Science and Engineering	
Level:	VI	
Code of the course:	308-CSE	
Course:	Advanced Programming	
Course Status:	O	(mandatory)
Semester:	VI	(summer)
Number of hours per week:	3+2	
ECTS:	6	
Time / location:		
Year of studies:	III	
Lecturer:	Prof. ass. dr. Muzafer Shala	
Assistant:	Ass. Berat Ujkani	
Contact details:	Lecturer	Assistant
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Tel:		

Content	This course presents advanced software development techniques within the context of a real world business environment. It focuses on: software engineering principles; agile development processes; object oriented analysis and design techniques (using the UML notation); object-oriented principles; well-known design practices as design patterns; and the systematic testing of software.
Purpose	This course aims to: - introduce basic software engineering concepts such as process models, project estimation and planning, project management; - describe a process for developing object-oriented software; - describe the activities involved in capturing and analyzing requirements; - describe the activities involved in software design; - introduce the UML language and the diagrams used in representing analysis and design models; - present object-oriented design principles; - present design techniques as design patterns in order to improve the design of software; - present the activities of forward and reverse engineering; - introduce techniques for systematic testing - expose students to current trends in software development

Accessi bility	By the end of the course, a student will be able to: ● understand the different phases of the Unified Process; ● specify requirements using a use case model; ● perform object-oriented analysis and design activities; ● use UML diagrams to document analysis and design models; ● understand how an object-oriented design can be implemented in an object-oriented language; ● recognise which design pattern can improve the design of code and apply it; ● understand and apply object-oriented design principles	
Progra m	weeks	Lecture
	<i>First week:</i>	Introduction
	<i>Second week:</i>	Iterative development
	<i>Third week:</i>	Requirements
	<i>Fourth week:</i>	Analysis
	<i>Fifth week:</i>	Design & Coding
	<i>Sixth week:</i>	Object-oriented concepts and principles
	<i>Seventh week:</i>	Design patterns I
	<i>Eighth week:</i>	Design patterns II
	<i>Ninth week:</i>	Testing & design refinement
	<i>Tenth week:</i>	Architecture
	<i>Eleventh week:</i>	Persistence framework
	<i>Twelfth week:</i>	Current trends in Software Development
	<i>Thirteenth week:</i>	Web services, Agile Methods, Dynamic languages, WEB frameworks, etc.
	<i>Fourteenth week:</i>	Revision
	<i>Fifteenth week :</i>	Coursework presantation
Literatu re	Principal literature: Larman, Applying UML and Patterns: An Introduction to Object-Oriented Analysis and Design and Iterative Development (4th Edition), Prentice Hall, 2015. Recommended Literature: Martin Fowler with K Scott, UML Distilled: A Brief Guide to the Standard Object Modeling Language (2nd Edition), Addison-Wesley, 1999. Steve C McConnell, Code Complete: A Practical Handbook of Software Construction. Redmond, Wa.: Microsoft Press, 1993.	

Teaching methodology	• Lecture • Discussion • Group work • Exercises • Homework • Real world projects																																																								
	<table><tr><th colspan="4">Contribution to student workload (which should correspond to student learning outcomes - 1 ECTS credit = 25 hours)</th></tr><tr><th>Activity</th><th>Hours</th><th>Days/weeks</th><th>Total</th></tr><tr><td>Lectures</td><td>3</td><td>15</td><td>45</td></tr><tr><td>Exercise sessions (with TA)</td><td>1</td><td>15</td><td>15</td></tr><tr><td>Practical work</td><td>1</td><td>15</td><td>15</td></tr><tr><td>Office hours</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Fieldwork</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Midterms, seminars</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Homework</td><td>2</td><td>15</td><td>30</td></tr><tr><td>Self-study</td><td>1</td><td>15</td><td>15</td></tr><tr><td>Final exam preparation</td><td>1</td><td>15</td><td>15</td></tr><tr><td>Time spent in exams</td><td>2</td><td>2</td><td>4</td></tr><tr><td>Projects, presentations, etc</td><td>1</td><td>11</td><td>11</td></tr><tr><td>Total</td><td></td><td></td><td>150</td></tr></table>	Contribution to student workload (which should correspond to student learning outcomes - 1 ECTS credit = 25 hours)				Activity	Hours	Days/weeks	Total	Lectures	3	15	45	Exercise sessions (with TA)	1	15	15	Practical work	1	15	15	Office hours	0	0	0	Fieldwork	0	0	0	Midterms, seminars	0	0	0	Homework	2	15	30	Self-study	1	15	15	Final exam preparation	1	15	15	Time spent in exams	2	2	4	Projects, presentations, etc	1	11	11	Total			150
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Academic policies	The Professor sets the criteria for regular attendance at lectures and exercises and the rules of ethics such as keeping calm in class, turning off cell phones, entering the hall on time, etc. The students are expected to behave in correct and professional manner. They can cooperate and discuss papers and projects among themselves, but the submitted papers and projects need to be unique and individual. Each student will be graded individually, based on evaluation methods. No copying between students or the presentation of solutions received from unauthorized books or other online resources will be tolerated. Eventual cases of violation of academic conduct and norms will be reported to the management of the Faculty. The achieved performance will be evaluated according to the following table: <table data-bbox="643 543 1149 825"> <tr> <th>Points</th><th>Grade</th></tr> <tr> <td>50 - 59.9</td><td>6</td></tr> <tr> <td>60 - 69.9</td><td>7</td></tr> <tr> <td>70 - 79.9</td><td>8</td></tr> <tr> <td>80 - 89.9</td><td>9</td></tr> <tr> <td>90 – 100</td><td>10</td></tr> </table>	Points	Grade	50 - 59.9	6	60 - 69.9	7	70 - 79.9	8	80 - 89.9	9	90 – 100	10
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Mitrovica

Course provider:

Prof. ass. dr. Muzafer Shala

(Signature)