Program	Level	Second cycle
	Name of the program	Theoretical Computer Science

COURSE

Course title	**Software Engineering**			
Course code	Semester	Course status	ECTS	Contact hours (L+AE+LE)
CS 510	III	Mandatory	8	2+2+1
Lecturer				
Cilj predmeta	The objectives of the course are familiarization with the models of building the entire information system. Students will learn about software development, from requirements analysis and specification, through design and implementation, verification and validation, and maintenance. The emphasis is on IT aspects of software development and the goal is to introduce students to different (often conflicting) ideas and models of software engineering, and their advantages and disadvantages. Exercises are performed more concretely, i.e. by application selected method and appropriate CASE tool.			
Learning Outcomes	Through the course, students will master the use of tools through independent work, as well as tools for designing and implementing an information system, as well as training students to create these systems.			

COURSE CONTENT

- Basic terms related to software engineering; Models for software process
- Software project management
- Requirements and specifications; System modelling
- Use of prototypes; Formal specification
- Design and Implementation
- System architecture design; Architectures of distributed systems
- Object-oriented design approach
- Verification and validation; Static verification
- Maintenance and evolution; Configuration Management
- Legacy software and its modification

LITERATURE

[1] Lecture notes

[2] Sommerville I: Software Engineering, 8-th Edition. Addison-Wesley, Harlow, England, 2006. ISBN 0-321-31379-8. http://www.software-engin.com

[3] Van Vliet H.: Software Engineering - Principles and Practice, 2-nd Edition. John Wiley and Sons, Chichester, England, 2000. ISBN 0-471-97508-7. http://www.wiley.co.uk/vanvliet

[4] Pressman R.S.: Software Engineering - A Practicioner's Approach, 6-th Edition. McGraw Hill, New York, 2005. ISBN 0-07-285318-2.

[5] Schach S.R.: Object Oriented & Classical Software Engineering, 7-th Edition. McGraw Hill, NewYork, 2006. ISBN 0-07-319126-3. [6] Pont M.J.: Software Engineering with C++ and CASE Tools. Addison-Wesley, Harlow, England, 1996. ISBN 0-201-87718-X. [7] Grupa autora: Argo UML - an UML Tool with Cognitive Support. Open Source Software Engineering Tools. http://argouml.tigris.org/

STUDENT WORKLOAD (hours in a semester)

Lectures	30	Exercises	45	Individual work	125	T o t a l	200

GRADING			**REMARKS**
Criterion	Maximum points	Minimum points	
Midterm exams	5	3	
Homework	5	3	
Projects	40	21	
Seminar	5	3	
Final exam	45	25	
T o t a l	100	55	