Program	Level	First cycle
	Name of the program	Theoretical Computer Science

COURSE				
Course title	**Selected Topics in Computer Science**			
Course code	Semester	Course status	ECTS	Contact hours (L+AE+LE)
CS 325	V	Elective course	4	2+0+2
Lecturer				
Course Goals	The module aims to deepen the knowledge acquired in a group of subjects in the field "Theoretical computer science" through teaching units for which students express a particular interest in coordination with the subject teacher.			
Learning Outcomes	After completing the module, students will deepen and complete the previously acquired knowledge in computer disciplines that belong to the "Theoretical Computer Science" field and acquire the basis for independent creative research work in the directions in which they express particular interest.			

COURSE CONTENT

The content of the teaching process for this module is not fixed. However, the students who elected this module choose topics from disciplines in which they express a particular interest so they can deepen their knowledge in the "Theoretical Computer Science" field. The lecturer approves topics. Possible disciplines include the theory of algorithms, complexity and computability theory, language and automata theory, parallel algorithms and architectures, web application development, programming languages, operating systems, computer graphics, multimedia systems, advanced programming techniques and others.

LITERATURE

The exact choice of literature depends on the choice of topics that students choose for study in agreement with the lecturer. Roughly among the recommended literature are the following titles:

- Thomas Corman, Charles Leirserson, Ronald Rivest: *"Introduction to Algorithms"*
- Robert Sedgewick: *"Algorithms"*, Addison-Wesley
- Miodrag Živković, *"Algoritmi"*, Matematički fakultet, Beograd, 2000
- Hary Lewis, Christos Papadimitriou: *"Elements of the Theory of Computation"*
- Jozef Gruska: *"Foundations of Computing"*, International Thomson Computer Press, 1997
- Michael Sipser: *"Introduction to the Theory of Computation"*, Course Technology, 2005
- Michael Garey, David Johnson: *"Computers and Intractability, A Guide to the Theory of NPCompletness"*
- Peter Linz, *"An Introduction to Formal Languages and Automata"*, Jones and Bartlett Publishers, 2000
- Martin, John, *"Introduction to Languages and the Theory of Computation"*, McGraw-Hill, 1997
- Anannth Grama, Anshul Gupta, George Karypis, Vipin Kumar: *"Introduction to Parallel Computing"*

STUDENT WORKLOAD (hours in a semester)							
Lectures	30	Tutorial	30	Individual work	40	T o t a l	100

GRADING			REMARKS
Criterion	Maximum points	Minimum points	
Midterm exams	60	30	
Laboratory assignments	0	0	
Final exam	40	25	
T o t a l	100	55	