

<b>Study programmes:</b> Bachelor studies – Mathematics			
<b>Course name:</b> M1.18 Theory of Algorithms			
<b>Lecturers:</b> Žarko Mijajlović, Aleksandar Jovanović, Milan Božić, Zoran Petrović			
<b>Status:</b> Optional			
<b>ECTS:</b> 5			
<b>Attendance prerequisites:</b> Introduction to Mathematical Logic			
<b>Course aims:</b> Acquisition of general and specific knowledge of Theory of Algorithms			
<b>Course outcome:</b> Upon completion of the course, the students have knowledge of Theory of Algorithms. The students understand the following concepts: Turing Machines, Recursive functions, Decidability and undecidability. The students know fundamental theorem of Theory of Algorithms. They will be able to solve problems in the field.			
<b>Course content:</b> Turing Machines, Recursive functions and other approaches to computability, Indices and enumerations, Universal functions, Church's thesis, Decidability, undecidability and partial decidability, Recursive and recursively enumerable sets.			
<b>Literature:</b> 1. N. Cutland, <i>Computability: An Introduction to Recursive Function Theory</i> , Cambridge University Press, 1980 2. H. Rogers, <i>Theory of Recursive Functions and Effective Computability</i> , MIT Press, 1987; 3. Z. Ognjanović, N. Krdžavac, <i>Uvod u teorijsko računarstvo</i> , Beograd – Kragujevac 2004.			
<b>Number of hours:</b> 4	<b>Lectures:</b> 2	<b>Tutorials:</b> 2	<b>Laboratory:</b> - <b>Research:</b> -
<b>Teaching and learning methods:</b> Lectures/ Tutorials			
<b>Assessment (maximal 100 points)</b>			
<b>Course assignments</b>	<b>points</b>	<b>Final exam</b>	<b>points</b>
Lectures	-	Written exam	30
Exercises / Tutorials	-	Oral exam	40
Colloquia	20	Written-oral exam	-
Essay / Project	10		