Study programmes: Master studies - Informatics	
Course name: R308 - Scientific Computing	
Lecturers: Predrag Janičić and other lecturers of the Department of Computer Science	
Status: Optional	
ECTS: 8	
Attendance prerequisites: No prerequisites	
Course aims: Acquiring fundamental knowlege about methods of scientific computing and their applications.	
Course outcome: After completion of the course, students are capable to understand, construct, and implement basic algorithms for numeric and symbolic computation and to apply them in mathematics and other disciplines.	
Course content: Symbolic computation. Numeric computation. Fourier transform and its applications. Nonlinear equations and optimization. Dynamical systems. Random processes. Mathematical software. Computing in natural sciences.	
Literature: 1. Rubin H. Landau: A First Course in Scientific Computing: Symbolic, Graphic, and Numeric Modeling Using Maple, Java, Mathematica, and Fortran90, Princeton universtiy press. 2005 (a lecturer can recommend different literature if deemed appropriate)	

Number of hours: **7**	Lectures: **2**	Tutorials: **3**	Laboratory: **-**	Research: **2**

Teaching and learning methods: Frontal/Lectures/Exercises

Assessment (maximal 100 points)			
Course assignments	**points**	**Final exam**	**points**
Lectures	4	Written exam	-
Exercises / Tutorials	-	Oral exam	-
Colloquia	32	Written-oral exam	60
Essay / Project	4		