

<b>Study programme(s):</b> Applied mathematics (MB), Master in Mathematics Teaching (MP)			
<b>Level:</b> master			
<b>Course title:</b> Modelling Seminar 1 (MB-04)			
<b>Lecturers:</b> Zorana Lužanin, Sanja Rapajić			
<b>Status:</b> obligatory for MB, elective for MP			
<b>ECTS:</b> 6			
<b>Requirements:</b>			
<b>Learning objectives</b> The objective of this course is to introduce students to the application of complex mathematical theory to problems in various fields.			
<b>Learning outcomes</b> The student will understand the basic principles of mathematical modelling. Students will be able to apply the mathematical analysis on complex real problems.			
<b>Syllabus</b> <i>Theoretical instruction</i> Basic principles of mathematical modelling. Phase construction of mathematical models. Types of mathematical models (dynamic and static, deterministic and stochastic, linear and nonlinear). The usefulness of mathematical models for analysis and prediction. <i>Practical instruction</i> Tasks and problems are solved, practical lessons follow the teaching content with the extensive use of software packages and programming skills.			
<b>Literature</b> [1] E. A. Bender, An introduction to Mathematical Modelling, Dover Publications, Inc., 1978 [2] Mathematical Modelling: Classroom Notes in Applied Mathematics, Ed. M. S. Klamkin, SIAM, 1987 [3] D. Edwards, M. Hamson: Guide to Mathematical Modelling, Palgrave, 2001			
<b>Weekly teaching load</b>			<b>Other:</b>
Lectures: 1	Exercises: 5	Other forms of teaching:	
<b>Teaching methodology</b> Lectures, exercises, analysis of examples with applications, team work on a set of problems yielding written reports by the students.			
<b>Grading (total number of points 100)</b>			
<b>Pre-exam obligations</b>	<b>points</b>	<b>Final exam</b>	<b>points</b>
practical problems	30	oral exam	
tests		written exam	40
colloquia	30		