

Incoming student mobility

UNIOS University Unit: DEPARTMENT OF MATHEMATICS

COURSES OFFERED IN FOREIGN LANGUAGE
FOR ERASMUS+ INDIVIDUAL INCOMING STUDENTS

Department or Chair within the UNIOS Unit	Department of Mathematics
Study program	Graduate university study programme in mathematics (Master level) Branch: <ul style="list-style-type: none"> Mathematics and Computer Science-elective
Study level	Graduate (master)
Course title	Dynamic systems
Course code (if any)	M131
Language of instruction	English
Brief course description	<p>Syllabus.</p> <ol style="list-style-type: none"> 1. Introduction. Autonomous equations. Autonomous systems. Construction of a phase space. 2. Linear systems. Linear change of variables. Phase portraits for canonical systems. Classification of all simple phase portraits. The evolution operator. Affine systems. 3. Nonlinear systems. Local and global behaviour. Linearization around a fixed point. The linearization theorem. Multiple fixed points. Stability of fixed points. Global behaviour. 4. Applications. Linear models (mechanical oscillators, electric circuits, closed and open economy models). Affine models (forced harmonic oscillator). Nonlinear models.
Form of teaching	Consultative teaching.
Form of assessment	Lectures and exercises are obligatory. The exam consists of a written and an oral part. After completion of lectures and exercises students can take the exam. Acceptable mid-term exam scores replace the written examination.
Number of ECTS	6

ERASMUS+

EU programme for education, training, youth and sport

Class hours per week	2+2+0
Minimum number of students	
Period of realization	Summer semester
Lecturer	Ninoslav Truhar