Incoming student mobility

Name of UNIOS University Unit: SCHOOL OF APPLIED MATHEMATICS AND INFORMATICS

COURSES OFFERED IN FOREIGN LANGUAGE
FOR ERASMUS+ INDIVIDUAL INCOMING STUDENTS

Department or Chair within the UNIOS Unit	School of Applied Mathematics and Informatics

Study program	Undergraduate university study programme in Mathematics

Study level	Undergraduate (Bachelor)

Course title	Methods of Mathematical Physics
Course code	M107
Language of instruction	English
Brief course description	Syllabus. 1. Introduction. Continuum, and derivation of equations of continuum: heat diffusion, and transversal oscillations of vibrating string. Boundary conditions. Boundary, initial, and initial-boundary value problem for partial differential equations. Classification of second-order partial differential equations. 2. Equations of equilibrium of continuum. Boundary problems for string equilibrium. Concentrated load. Green function. Variational formulation and energy functional. Calculus of variation, Finite elements methods. 3. Equations of motion of continuum. Initial value problem for wave equation and diffusion equation. D'Alambert and Poisson formula. Initial-boundary value problem for wave equation and diffusion equation. Fourier method of separation of variables. Fourier series. Laplace and Poisson equation. Sturm-Liouville problem.
Form of teaching	Consultative teaching.
Form of assessment	Lectures and exercises are mandatory. The exam consists of a written and oral part and is taken after the completion of lectures and exercises. Acceptable scores achieved in mid-term exams taken throughout the semester replace the written part of examination.

Number of ECTS	7
Class hours per week	3+2+0
Minimum number of students	
Period of realization	Summer semester
Lecturer	Krešimir Burazin