

## Incoming student mobility

Name of 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	<ul style="list-style-type: none"> <li>Undergraduate university study programme in Mathematics and Computer Science</li> <li>Undergraduate university study programme in Mathematics</li> <li>Graduate Mathematics and Informatics Education Study Programme</li> </ul>
Study level	Undergraduate (Bachelor)
Course title	Vector Spaces
Course code	M099
Language of instruction	English
Brief course description	<p>Syllabus.</p> <ol style="list-style-type: none"> <li>Dual space, dual basis and dual operator. Canonical isomorphism between the vector space and its bidual space. Nilpotent operators, cyclic bases and elementary Jordan cells. Reduction of the nilpotent operators.</li> <li>Semisimple operators. Polynomials of the operators. Relatively simple polynomials.</li> <li>Hermitian and normal operators. Spectral theorems. Positive operators and isometries. Polar form.</li> <li>Operators on complex and real vector spaces. Complexification of vector space and complexification of an operator. Operators on real unitary spaces. Operators on normed spaces.</li> </ol>
Form of teaching	Consultative teaching.
Form of assessment	Attending lectures and exercises is required. The exam consists of a written and oral part, and can be taken after the completion of lectures and exercises. During the semester students can take preliminary exams that 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	Winter semester
Lecturer	Ivan Matic