## **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 Mathematics and Informatics Education Study<br>Programme   |
| Study level                               | Graduate (master)   |
| Course title                              | Computational Thinking and Programming I  |
| Course code (if any)                      | 1061  |
| Language of instruction                   | English   |
| Brief course description                  | <ol> <li>Syllabus.</li> <li>Basic data types in Python: boolean type, whole numbers, the sliding point and complex numbers, alphanumeric characters. Arithmetic, logical and relational operators. Initialize variables.</li> <li>Branching. Loop. Functions.</li> <li>Lists. Strings. Dictionaries.</li> <li>Exceptions. Debugging. Testing program.</li> <li>Classes and objects. The organization of the program.</li> <li>Manage files. The construction of the module. Parse text files.</li> <li>Using Python library Matplotlib and Pandas for data visualization and analysis.</li> </ol> |
| Form of teaching                          | Consultative teaching.  |
| Form of assessment                        | In lectures, students will learn programming with a focus on the use of available data structures. In exercises, students solve programming tasks where they use data structures and algorithms. During the semester, students solve assignments, which consist of programming tasks. The theoretical and practical knowledge will be examined in the written exam. Satisfactory scores on programming assignments and quizzes can replace written exam.  |
| Number of ECTS                            | 5   |

## **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                   | Ivana Kuzmanović Ivičić |