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	- Undergraduate university study programme in Mathematics - Undergraduate university study programme in Mathematics and Computer Science - Graduate Mathematics and Informatics Education Study Programme

Study level	Undergraduate (Bachelor)

Course title	Object – Oriented Programming
Course code	I048
Language of instruction	English
Brief course description	Syllabus. 1. Data encapsulation: Class. Public, private and protected class members. Class methods. Constructors and destructors. Overloading of constructor and operators. Pointer to classes. Key word "this". Static class members. Dynamic allocation of objects. 2. Friendship and inheritance: Friend functions. Friend classes. Inheritance. Multiple inheritance. 3. Polymorphism: Pointer to the base class. Virtual class members. Abstract base class. 4. SOLID principles in object oriented design (examples). Lambda function vs. functor. Decltype. Static assert. Variadic templates. 5. Linux. Compiling with gcc compiler. Makefile. Modern C++ standards (c++11, c++14). Git version control system. 6. Thread library in C++. 7. Demonstrate OO programming concepts through the use of Unreal Game Engine.
Form of teaching	Consultative teaching.
Form of assessment	Lectures will contain many examples with indepth explanations. Exercises will be held in specialized computer-based laboratories where students will learn how to program in C/C++. The final exam

	will be held after the completion of lectures and exercises and it will contain practical tasks each student will have to complete independently.
Number of ECTS	6
Class hours per week	2+2+0
Minimum number of students	
Period of realization	Summer semester
Lecturer	Domagoj Matijević