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	Number Theory
Course code	M108
Language of instruction	English
Brief course description	Course content. 1. Divisibility. Divisibility of integers and basic properties of divisibility. The Euclidean algorithm. 2. Factorization. Prime numbers. The fundamental theorem of arithmetic. Number and sum of divisors of a positive integer. 3. Congruences. Modular arithmetic. Linear congruences. The Chinese remainder theorem. The Euler function. Wilson's and Lagrange's theorem. Primitive roots and indices. Linear Diophantine equations. Applications of congruences. 4. Quadratic residues. The Legendre symbol. Quadratic reciprocity law. The Jacoby symbol. Applications of Legendre's and Jacoby's symbol. 5. The Gaussian integers. Elementary properties of Gaussian integers. Divisibility and primes in the set of Gausian integers. Sums of two squares. Pythagorean triples. 6. Continued fractions. Finite and infinite continued fractions. Quadratic irrationals. Pell's equations.
Form of teaching	Consultative teaching.
Form of assessment	Attendance at lectures and exercises is required. The exam consists of written and oral part, and can be taken after completion of lectures and exercises. Acceptable results of colloquiums written

	during the semester can replace the written part of the exam.
Number of ECTS	6
Class hours per week	2+2+0
Minimum number of students	
Period of realization	Summer semester
Lecturer	Mirela Jukić Bokun