University of Primorska, Faculty of Mathematics, Natural Sciences and Information Technologies

MATHEMATICS – undergraduate study programme, 1st Bologna cycle

Course structure for students enrolled in the academic years 2007/08 - 2016/17 (MA-07)

During their studies, students must complete a total of 30 courses (18 compulsory and 12 electives) and prepare a final project.

On completing the 1st year, students can opt for one study field.

In 2017 changes occurred in the course plan:
- students enrolled for the first time in the 3rd year of study in the academic year 2017/18 have to prepare a final project paper;
- while students enrolled for the first time in the 3rd year of study starting from the academic year 2018/19 choose instead a ninth elective course (6 ECTS-credits). In the 3rd year of study they have to pass 1 compulsory, 7 internal elective and 2 external elective courses.

All courses are awarded 6 ECTS-credits. One ECTS-credit encompasses 30 hours of student work. In addition to the student's presence (at lectures, seminars, in-class and laboratory practical work), this also includes independent work (literature study, preparation for examinations, home assignments, seminar and project work, etc.). The courses require a minimum of 75 and a maximum of 90 hours of a student's presence (contact hours).

Table 1: 1ST YEAR – 60 ECTS-credits (MA-07)

Courses	ECTS	Forms of contact hours				
		L	S	T	LW	Total
Algebra I - Matrix Calculus	6	60	-	30	-	90
Algebra II – Linear Algebra	6	60	-	30	-	90
Analysis I – Foundations of Analysis	6	60	-	30	-	90
Analysis II – Infinitesimal Calculus	6	60	-	30	-	90
Discrete Mathematics I – Set Theory	6	60	-	30	-	90
Discrete Mathematics II – Combinatorics	6	60	-	30	-	90
Mathematical Practicum I	6	45	-	-	45	90
Computer Science I	6	45	-	-	45	90
Computer Practicum	6	-	-	30	60	90
Mathematical Topics in English I	6	60	-	30	-	90

L = lectures, S = seminars, T = tutorials, LW = laboratory work
ECTS = ECTS credits

Table 2: 2ND YEAR – 60 ECTS-credits (MA-07)

Courses	ECTS	Forms of contact hours				
		L	S	T	LW	Total
Algebra III – Abstract Algebra	6	60	-	30	-	90
Analysis III – Functions of Many Variables	6	60	-	30	-	90
Physics	6	60	-	30	-	90
Introduction to Numerical Calculations	6	60	-	30	-	90
Computer Science II	6	45	-	-	45	90
Probability	6	60	-	30	-	90
Mathematical Topics in English II	6	60	-	30	-	90
Elective course - Internal Elective I	6					
Elective course - Internal Elective II	6					
Elective course - External Elective I	6					

Table 3: 3RD YEAR – 60 ECTS-credits (MA-07)

Courses	ECTS	Forms of contact hours				
		L	S	T	LW	Total
Mathematical Modelling	6	60	-	30	-	90
Elective course - Internal Elective III	6					
Elective course - Internal Elective IV	6					
Elective course - Internal Elective V	6					
Elective course - Internal Elective VI	6					
Elective course - Internal Elective VII	6					
Elective course - Internal Elective VIII	6					
Elective course - Internal Elective IX	6					
Elective course - External Elective II	6					
Seminar – Final Project Paper *	6	-	30	-	-	30

* In 2017 changes occurred in the course plan:
- students enrolled for the first time in the 3rd year of study in the academic year 2017/18 have to prepare a final project paper;
- while students enrolled for the first time in the 3rd year of study starting from the academic year 2018/19 choose instead a third external elective course (6 ECTS-credits). In the 3rd year of study they have to pass 1 compulsory, 7 internal elective and 2 external elective courses.

Table 4: INTERNAL ELECTIVE COURSES (MA-07)
(The list shows all internal elective courses of the study programme. Every Academic year, the Faculty offers a different selection of elective courses.)

Courses	ECTS	Forms of contact hours				
		L	S	T	LW	Total
Algebraic Graph Theory	6	45	-	30	-	75
Algebra IV – Algebraic Structures	6	45	30	-	-	75
Analysis IV – Real Analysis	6	45	30	-	-	75
Differential Equations	6	45	30	-	-	75
Functional Analysis	6	45	30	-	-	75
Combinatorics	6	45	30	-	-	75
Geometry	6	45	30	-	-	75
Optimization Methods	6	45	30	-	-	75
Introduction to Statistics	6	45	30	-	-	75
Permutation Groups	6	45	30	-	-	75
Stochastic Processes	6	45	30	-	-	75
Graph Theory	6	45	-	30	-	75
Game Theory	6	45	30	-	-	75
Measure Theory	6	45	30	-	-	75
Topology	6	45	30	-	-	75
Financing the Health System	6	45	30	-	-	75
Selected Topics in Discrete Mathematics	6	45	30	-	-	75
Selected Topics in Computing Methods and Applications	6	45	30	-	-	75
Selected Topics in Statistics	6	45	30	-	-	75
Complex Analysis	6	45	30	-	-	75
Cryptography and Computer Safety	6	45	30	-	-	75
Mathematical Methods in Physics	6	45	-	30	-	75
Mathematics: Methods and Art	6	45	30	-	-	75
Molecular Modelling	6	45	30	-	-	75
Optimization Methods in Logistics	6	45	30	-	-	75
Introduction to Financial Mathematics	6	45	30	-	-	75
Solving Equations: from al-Khwarizmi to Galois	6	45	30	-	-	75
Symmetric Codes	6	45	30	-	-	75
Coding Theory	6	45	30	-	-	75
Number Theory	6	45	30	-	-	75
History and Philosophy of Mathematics	6	45	-	30	-	75
Seminar - Introduction to Research Work	6	-	45	-	-	45

The internal courses selected may fall within the field of Computer Science.