

Computer science, undergraduate study programme, first Bologna cycle

COURSE STRUCTURE of the study programme

The following section presents the structure of the study programme by year, the curriculum for each year, and the internal elective courses of the programme.

The study programme consists of 29 courses and a final seminar, within which the student prepares and defends a final project thesis. Courses are divided into compulsory courses (21 courses), internal elective courses (5 courses), and external elective courses (3 courses). All courses carry 6 ECTS under the European Credit Transfer and Accumulation System (ECTS).

To complete the programme, a minimum of 180 ECTS must be obtained. This includes all academic requirements within individual courses of the study programme (assignments, seminars, and examinations), as well as the preparation and defence of the final project thesis, which the student defends as part of the seminar.

The following section presents the structure of the study programme by year, as well as the compulsory and internal elective courses and the available study track

Table 1: Structure of the study programme

Year of study	Study obligation	Number	ECTS-credits (ECTS)	
			ECTS	ECTS/ Year of study
1.	Compulsory Course	10	60	60
2.	Compulsory Course	7	42	60
	Internal Elective Course	2	12	
	External Elective Course	1	6	
3.	Compulsory Course	4	24	60
	Internal Elective Course	3	18	
	External Elective Course	2	12	
	Seminar – Final Project Paper	1	6	

Legend:

ECTS credits (ECTS) = credit points awarded under the European Credit Transfer and Accumulation System (ECTS). The credit system facilitates student mobility and the mutual recognition of completed academic requirements.

ECTS credits represent an average estimate of the time required to complete a course and include both organized forms of instruction (lectures, seminars, seminar and laboratory exercises, fieldwork, practical training, etc.) and the student's independent work (exam preparation and other course-related obligations, etc.). One (1) ECTS credit corresponds to 25 to 30 hours of study workload. Credits are awarded upon the successful completion of the requirements for an individual course.

Table 2: First year of study

No.	Courses	ECTS
1.	Mathematics I - Analysis I	6
2.	Mathematics II - Algebra I	6
3.	Theoretical Computer Science I – Discrete Structures	6
4.	Theoretical Computer Science II – Formal Languages and Computability	6

No.	Courses	ECTS
5.	Programming I	6
6.	Programming II – Concepts of Programming Languages	6
7.	Systems I – Hardware	6
8.	Systems II – Operating Systems and Computer Networks	6
9.	Computer Practicum I	6
10.	Computer Practicum II	6

Table 3: Second year of study

No.	Courses	ECTS
1.	Mathematics III – Algebra II	6
2.	Mathematics IV – Combinatorics with Graph Theory	6
3.	Data Structures and Algorithms	6
4.	Programming III – Concurrent Programming	6
5.	Systems III – Information Systems	6
6.	Introduction to Database Systems	6
7.	Computer Networks	6
8.	Elective Course - Internal Elective I	6
9.	Elective Course - Internal Elective II	6
10.	Elective Course - External Elective I, English Language Course	6

Table 4: Third year of study

No.	Course	ECTS
1.	Theoretical Computer Science III – Information Theory	6
2.	Software Engineering	6
3.	Information Technology Management	6
4.	Statistics	6
5.	Elective Course - Internal Elective III	6
6.	Elective Course - Internal Elective IV	6
7.	Elective Course - Internal Elective V	6
8.	Elective Courses - External Elective II	6
9.	Elective Courses - External Elective III	6
10.	Seminar – Final Project Paper	6

ELECTIVE courses

Elective courses are selected by students in the second and third year of study. Elective courses are divided into internal and external electives. All courses carry 6 ECTS under the European Credit Transfer and Accumulation System (ECTS).

Table 5: Internal elective courses of the study programme

No.	Course	ECTS
1.	Introduction to Machine Learning and Data Mining	6
2.	Geographic Information Systems	6
3.	Multimedia Design	6
4.	Augmented Reality	6
5.	Human–Computer Interaction	6
6.	Adaptive Interactive Systems	6
7.	Game Development	6
8.	Language Technologies	6

Table 5 lists **only internal elective courses** that are offered in the current or were offered in the previous academic year. Each academic year, the faculty **offers only a selection of elective courses** from a broader pool, taking into account its staffing and financial capacities, as well as student interest in individual courses. The final list of elective courses offered to students for the upcoming academic year is published prior to the start of enrolment for that year.

Internal elective courses also include **skills modules**, which carry 6 ECTS. Skills modules consist of thematic skills units, which are assigned 2 or 4 ECTS credits. Thematic skills units are freely selectable - students complete a skills module once they accumulate 6 ECTS from selected thematic skills units. Skills modules contribute to enhancing the practical applicability of students' knowledge and skills, and completion of these modules may also enable students to take certain certification examinations. Skills modules have not been offered in the past two academic years.

When selecting internal elective courses, students are not limited to the courses listed in Table 5; they may also choose any subject-specific courses in the fields of computer science and informatics, as well as mathematics.

External elective courses may be selected within accredited study programmes at higher education institutions in Slovenia or abroad. External electives allow students to broaden their knowledge in selected areas of the social sciences, humanities, and natural sciences and/or to pursue more in-depth study within their discipline. External elective courses are selected in the second and third year as follows:

- the first external elective course in the second year is English. This course may be replaced by any course in the field of computer science or mathematics that is delivered in English language;
- the remaining external elective courses may be selected from study programmes in mathematics, financial mathematics, bioinformatics, computer science, informatics, and the natural sciences;
- depending on the student's specific interests, typically in connection with the final project thesis (third year), external electives may also be selected from study programmes in other academic fields.

For assistance and guidance in selecting elective courses and fields of study, students may consult the study programme coordinator.

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