Freie Universität Bozen
Libera Università di Bolzano
Università Liedia de Bulsan

MASTER OF SCIENCE IN SOFTWARE ENGINEERING FOR INFORMATION SYSTEMS

Study plan by year and semester – Cohort 2022/23

First Year

1st Semester		
Course	**CP**	**Exam**

Programming and Visualization for Data Science
    M1: Data Visualization and Exploration
    M2: Programming for Data Science
	12	Yes

Contemporary Software Development	6	Yes
Advanced Software Design Techniques	6	Yes
Specialization Topics Alternative from Catalogue	6	Yes
	30	

2nd Semester		
Course	**CP**	**Exam**
Verification and Reliability for Dependable Systems	6	Yes

Systems design and implementation
    M1: Embedded Systems Design and Implementation
    M2: Extended Reality: Augmented, Virtual and Mixed Reality
	12	Yes

Software and Systems Security	6	Yes
Cloud Computing and Distributed Systems	6	Yes
	30	

Second year

1st Semester		
Course	**CP**	**Exam**
Research Methods and Technology Transfer	6	Yes
Free Choice*	12	**
Internship	6	Pass / fail
	24	

2nd Semester		
Course	**CP**	**Exam**
Advanced Topics in Software / Systems Engineering Alternatives from Catalogue	6	Yes

Thesis***	30	Graduation
	36	

* The student can freely advance or postpone the Free Choice credit points
** The student can choose courses that foresee both exams with grades and pass/fail tests
*** Starting from the second year the student can start with the Thesis Work.

Catalogue Specialization Topics
The student has to choose one course from this catalogue.
The Faculty Council decides annually which courses to activate.

First Semester

Course	CP	Exam
Microcontroller Programming	6	Yes
Parallel computing	6	Yes
Agile Software Development	6	Yes
Information retrieval	6	Yes

	CP	Exam
Infobytes (Topics can change) • Basic electronics and signal processing • Introduction to robotics • Digitalization of production processes – Industry 4.0	6	Yes

Catalogue Advanced Topics in Software / Systems Engineering
The student has to choose one course from this catalogue.
The Faculty Council decides annually which courses to activate.

Forth Semester

Course	CP	Exam
Software Maintenance and Evolution	6	Yes
Robotics	6	Yes
Software for Technical Drawing	6	Yes
Mobile Robotics	6	Yes
Programmable Logic Controllers	6	Yes
DevOps	6	Yes
Entrepreneurial Software Engineering	6	Yes
Design and Development of Business Software	6	Yes

Free Choice
The student is free to choose lectures for a total of 12 credits points. As alternative student can choose an additional Internship to 6 CP (150 h) or 12 CP (300h).
These educational activities must be consistent with the student's academic pathway.
The methods for verifying consistency are decided by the Course Council.
Examinations taken for lectures chosen as Free Choice count as a single examination for the purposes of calculating the total number of examinations taken by the student.
Other language skills in addition to English

Before graduating the student must demonstrate a A1 level in German and Italian.
The modalities through which the achievement of the required language level can be demonstrated are: - completion of a high school or university degree in that language; - achievement of a recognized language certificate in that language; - successful completion of a language course in that language at the unibz Language Centre; For details student must refer to the unibz Language Centre.