SLOVENSKO
OGRODJE
KVALIFIKACIJ

diplomirani inženir mehatronike (UN)/diplomirana inženirka mehatronike (UN)

Selected qualifications

Name of qualification	diplomirani inženir mehatronike (UN)/diplomirana inženirka mehatronike (UN)
Translated title (no legal status)	Bachelor of Science in Mechatronics
Type of qualification	Diploma prve stopnje (UN)
Category of qualification	Izobrazba
Type of education	Academic bachelor's education
Duration	3 years
Credits	180 credits

Admission requirements

• Matura or
• vocational matura in any secondary school programme and an examination in one of the matura subject; the selected subject may not be a subject which the candidate has already taken in the vocational matura; or
• school-leaving examination (prior to 1 June 1995) under any four-year secondary school programme.

ISCED field

Field
Tehnika, proizvodne tehnologije in gradbeništvo

ISCED subfield

subfield interdisciplinarne izobraževalne aktivnosti/izidi, pretežno tehnika, proizvodne tehnologije in gradbeništvo

Qualification level

SQF 7
EQF 6
First level

Learning outcomes

The qualification holder will be able to:

General competences:

Students of the interdisciplinary university study programme of the first level of MECHATRONICS will acquire appropriate competences in the educational process, so that they will be able to perform the set task in accordance with the standards of work performance. We will enable graduates to acquire quality knowledge, as well as skills, abilities, values and a positive self-image, which, in addition to knowledge, significantly contribute to work success.

Graduates of the program will master research methods, procedures and processes in the field of mechatronics and with professional criticism, self-critical judgment and responsibility design, construct, manufacture and maintain mechatronic products, machines and plants, taking into account professional excellence, social utility, ethical responsibility, commitment to professional ethics and criteria for the environmental integrity of their creations.

They will be able to make, design and manufacture mechatronic products, machines, devices and complex plants in such a way that functional, design, quality, cost and environmental criteria are met on the basis of acquired basic knowledge of basic natural sciences, specific knowledge of mechanical engineering, electrical design and computer programming, as well as interdisciplinary connections between the aforementioned specific knowledge, which is the most important virtue of a mechatronics engineer, and knowledge in the field of environmental protection, good engineering practice, all supported by computer and communication technology.

Graduates will creatively and innovatively connect theory and practice, especially with project-organized study, as well as with the help of organized project work during their studies. Project-based study, in which a small group of 3-4 students will develop, design and manufacture a mechatronic product under the guidance of a professional mentor, will enable students to develop professional skills and a sense of teamwork, which is the basis of any modern engineering work. At the same time, students will develop a

positive professional self-image through project work, which makes it easier to identify students with a profession such as a mechatronics engineer. The interdisciplinary orientation of study contents will help them to be more creative, innovative and flexible. They will be able to analyze problems, eliminate insignificant factors, make a synthesis, predict possible solutions and consequences. They will be independent at work, and at the same time they will develop communication skills and group work in the domestic and international environment.

The stated general competences derive from the basic subject content of the programme and outline the general, basic character of the graduate. During the study process, not only the knowledge deepens, but also the attitude towards the use of this knowledge. In this way, the educational component is also related to the educational.

Subject-specific competences:

- use and development of computer-aided mechanical engineering and electrical design as well as modern programming languages and web systems for teleoperation of mechatronic systems,
- use and development of procedures and tools for modeling, optimization and simulation of mechatronic systems,
- ability to design, develop and use modern mechatronic production technologies and concepts,
- ability to manage existing mechatronic production processes and technologies, analyze, evaluate and evaluate them and update them,
- ability to organize the planning and management of the mechatronic production process,
- the ability to ensure the appropriate quality of products by performing appropriate measurements and quality control,
- the ability to provide measures for the smooth operation, maintenance and environmental integrity of products throughout their lifetime,
- ability to interdisciplinary understanding of activities in production systems,
- ability to constantly develop skills and abilities in the application of knowledge in a certain professional field,
- knowledge and understanding of the history of mechatronics development and its disciplines,
- study and deepening of the professional foreign world language, which will enable them to communicate with foreign experts as well as easier intervention in the world treasury of knowledge.

Assessment and completion

Students' knowledge is assessed by means of practical exercises and seminar papers, and also via products, projects, performances, services, etc. and by examinations. Examination performance is scored as follows: 10 (excellent); 9 (very good: above-average knowledge but with some mistakes); 8 (very good: solid results); 7 (good); 6 (adequate: knowledge satisfies minimum criteria); 5–1 (inadequate). In order to pass an examination, a candidate must achieve a grade between adequate (6) and excellent (10).

Progression

Conditions for progression to the second year:

Students progress to the second year if they collect at least 48 ECTS by passing the first year exams.

Students who do not meet all the obligations for advancement may, at their request, be granted enrollment in the second year by the University Study Affairs Committee if they have more than half of the first year study obligations (more than 30 ECTS), if the obligations could not to be fulfilled for justified reasons set out in the Statute of the University of Maribor, and if it is expected that they will fulfill the obligations.

Conditions for progression to the third year

Students progress to the third year if they have passed all the exams of the first year (60 ECTS) and collect at least 45 ECTS credit points with the passed exams of the second year.
Students who do not meet all the obligations for advancement may, at their request, be granted enrollment in the third year by the University Study Affairs Committee, if they have passed all first year exams (60 ECTS) and more than half of the second year study obligations have been met (more than 30 ECTS), if the obligations could not be fulfilled for justified reasons, which are determined in the Statute of the University of Maribor, and if it is expected that they will fulfill the obligations.

Transitions

Second-cycle master's study programmes (SQF level 8)

Condition for obtaining certificate

Students who complete all the obligations prescribed by the study programme and thus collects at least 180 ECTS credits complete the study.

Awarding body

University of Maribor, Faculty of Electrical Engineering and Computer Science and Faculty of mechanical engineering

URL

https://www.fs.um.si/en/study/study-programme/first-cycle/univerzitetni/mehatronika/
https://feri.um.si/en/study/programmes/first-cycle/un/meh/