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Diplomirani inženir mehatronike/diplomirana inženirka mehatronike (un)

Selected qualifications

Name of qualification	Diplomirani inženir mehatronike/diplomirana inženirka mehatronike (un)
Translated title (no legal status)	Academic bachelor's degree 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,
• 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)

- carry out a set task in accordance with performance standards;
- demonstrate mastery of research methods, procedures and processes in the field of mechatronics:
- design, plan, construct, build and maintain mechatronic products, machines and installations using professional critical judgement, self-critical assessment and responsibility, taking into account professional excellence, social utility, ethical responsibility, a commitment to professional ethics and criteria for the environmental integrity of their creations;
- plan, design and build mechatronic products, machines, devices and complex installations in such a way that they will meet functional, design, quality, cost and environmental criteria on the basis of their acquired fundamental knowledge of basic natural science disciplines and specific knowledge of mechanical/structural engineering, electrical engineering project design and computer programming;
- link theory and practice creatively and innovatively;
- analyse problems, exclude inessential factors, produce a synthesis and foresee possible solutions and consequences;

(subject-specific competences)

- effectively perform activities in the related work process,
- address concrete problems in the planning, management and implementation of complex technical tasks in the mechatronics field and in various jobs and positions ranging from the metal processing industry to the electrical industry, and also for work in engineering offices for the planning of mechatronic products;
- transfer and apply theoretical knowledge in practice for the creative resolution of technical and work-related problems;
- use scientific methods, take advantage of existing knowledge and find new sources;
- show professionalism, critical judgement, initiative and autonomy, and at the same time the ability to communicate within the discipline and across disciplines, and within an organisation and outside it with partners and customers;

- design and build mechatronic systems, assemblies, devices, machines and installations;
- use and develop computer-supported mechanical engineering construction and electrical engineering project design and also modern programming languages and online systems for the remote operation of mechatronic systems,
- use and develop procedures and tools to model, optimise and simulate mechatronic systems,
- devise, develop and use modern mechatronic manufacturing technologies and concepts,
- manage existing mechatronic manufacturing processes and technologies, analyse, assess and evaluate them, and update them as necessary,
- organise, plan and manage a mechatronic manufacturing process,
- ensure that products are of suitable quality by performing relevant quality measurements and checks,
- ensure measures for the faultless operation, maintenance and environmental integrity of products throughout their life cycle,
- demonstrate interdisciplinary understanding of activities in manufacturing systems,
- continuously develop skills in the application of knowledge in a specific professional field,
- demonstrate familiarity with and understanding of the history of mechatronics and its disciplines,
- study and further their knowledge of technical vocabulary in a foreign (world) language, which will enable communication with foreign experts and facilitate participation 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

In order to progress to the second year, students must pass first-year examinations totalling at least 48 ECTS credits.
In order to progress to the third year, students must have passed all first-year examinations (60 ECTS credits) and second-year examinations totalling at least 45 ECTS credits.

Transitions

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

Condition for obtaining certificate

In order to complete the programme, students must complete all course units prescribed by the programme for a total of at least 180 ECTS credits.

Awarding body

Faculty of Electrical Engineering, Computer Science and Information Science; Faculty of Mechanical Engineering, University of Maribor

URL

https://feri.um.si/en/