SLOVENSKO
OGRODJE
KVALIFIKACIJ

Diplomirani gospodarski inženir (un)/diplomirana gospodarska inženirka (un)

Selected qualifications

Name of qualification	Diplomirani gospodarski inženir (un)/diplomirana gospodarska inženirka (un)
Translated title (no legal status)	Bachelor of Science in industrial engineering
Type of qualification	Diploma prve stopnje (UN)
Category of qualification	Izobrazba
Type of education	Academic bachelor's education
Duration	4 years
Credits	240 credits

Admission requirements

• Matura or
• vocational matura in any secondary school programme and an examination in one of the following matura subjects: mechanics, physics, mathematics, computing, electrical engineering, chemistry, biology, foreign language; the selected subject may not be a subject which the candidate has already taken in the vocational matura
• school-leaving examination prior to 1 June 1995

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)

- demonstrate understanding of the connection between an engineering/technological field and economic/business expertise,
- apply interdisciplinary knowledge in current business environment in order to resolve complex engineering and business issues,
- think creatively,
- think and act innovatively in the context of all business processes in an undertaking,
- demonstrate understanding of the functioning of organisations in the environment and their modes of governance,
- demonstrate understanding of relationships and connections between processes and people, at various levels of operation of organisations,
- demonstrate understanding of the influences of the external environment (economic, political, cultural, ethical, legal, social, etc.) at various levels (local, international, global) on the development and management of organisations,
- demonstrate understanding of markets, customers, finance, people, operations, information systems, information and communication technologies, business policies and strategies, modern and current economic and social issues, processes and emphases in the development of the economy, such as business innovation, the development of e-commerce, enterprise, knowledge development and management, globalisation, business ethics, values and rules of behaviour, etc.
- demonstrate critical thinking and understanding, including analysis and synthesis, and take an effective and comprehensive approach to problem-solving and decision-making, with the support of modern quantitative and qualitative methods,
- communicate effectively, both orally and in writing,
- analyse, interpret and use quantitative data and models,
- use information and communication technologies effectively,

- efficiently manage own time, plan, motivate, apply own initiative and enterprise;
- show openness and understanding towards others and diversity (of cultures, people, organisations),
- work effectively in a team and develop interpersonal skills (effective listening, negotiation, persuasion and presentation),
- conduct research in the field of engineering, operations and management,
- demonstrate understanding of the European dimensions of engineering, management and environment.

(subject-specific competences)

CONSTRUCTION

- autonomously and creatively perform management functions in construction companies in the context of management work in the engineering and commercial departments of such companies,
- plan, manage and lead construction projects in engineering undertakings, for developers, in administrative bodies and elsewhere,
- manage and lead construction projects in the sense of suitable quality, timeliness and cost-effectiveness,
- communicate within an organisation and outside it with partners and customers,
- use information and communication technologies and systems in a specific technical field,
- demonstrate knowledge and understanding of the foundations and history (development) of the fundamental discipline,
- resolve specific work problems through the application of scientific methods and procedures,
- demonstrate coherent mastery of basic knowledge, integrate knowledge from various fields and apply it in a real environment,
- demonstrate understanding of and apply the methods of critical analysis and the development of theories and apply them to resolve specific work problems,
- place new information and interpretations in the context of the fundamental discipline.

MECHANICAL ENGINEERING

- devise, develop and use modern manufacturing technologies, automation of manufacturing and new manufacturing concepts,
- manage information, material and energy flows in the planning, design, construction, building and maintenance of products,
- manage existing manufacturing processes and technologies, analyse, assess and evaluate them, and update them as necessary,
- organise and manage the manufacturing process,
- apply knowledge of manufacturing technologies in relation to metal and non-metal products and apply acquired technological knowledge to product development and design,
- demonstrate understanding of available modern manufacturing technologies and the ability to select the most economical manufacturing technology,
- demonstrate mastery of computer-integrated manufacturing,
- ensure that products are of suitable quality by performing relevant quality measurements and checks,
- demonstrate interdisciplinary understanding of activities in manufacturing systems,
- demonstrate understanding of work processes, working media, concepts of heat and work, concepts of flux and density,
- demonstrate mastery of simple engineering problems in the field of energy installations;
- design and build machine parts relating to turbines, aerodynamics, noise reduction and environmental protection problems,
- demonstrate knowledge of construction for the development of new products,
- demonstrate proficiency in determining the dimensions of mechanical structures;
- apply various types of basic knowledge in a combined manner in order to address engineering

problems in the field of structural engineering, energy and production engineering;
- continuously develop skills in the application of knowledge in a specific professional field,
- use modern computer, information and communication technologies and systems in the professional field,
- develop a product with simultaneous mastery of both technical/technological and economic/commercial aspects,
- demonstrate mastery of fundamental issues in the fields of economics, organisation, marketing, accounting and management,
- show fundamental market thinking in their engineering environment,
- demonstrate mastery of projects and project methodology,
- demonstrate understanding of the content of basic financial statements,
- demonstrate mastery of the fundamental organisational and managerial aspects of enterprises and other organisations,
- demonstrate understanding of the fundamental principles governing a modern enterprise.

ELECTRICAL ENGINEERING

- demonstrate understanding of the basic laws in the field of electrical engineering and mastery of modern technological solutions in the narrower fields of automation and robotics, electronics and power systems engineering,
- plan electrical engineering components and devices that will meet required technical specifications in practice, while taking into account broader socio-economic consequences and restrictions,
- co-create and use information technology in various fields (planning, systems management, communication),
- demonstrate understanding of the historical development of the profession,
- integrate knowledge from various electrical engineering disciplines in new technological solutions, products and services and
- for further study in compatible master's programmes.

Assessment and completion

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

CONSTRUCTION
In order to progress to the second year, students must pass first-year examinations totalling at least 45 ECTS credits, which must include examinations in the following subjects: Mathematics A and Basics of economics.
In order to progress to the third year, students must have passed all first-year examinations and second-year examinations totalling at least a further 40 ECTS credits, which must include the following second-year subjects: Organisation of construction production and Basics of organisation and management.

MECHANICAL ENGINEERING
In order to progress to the second year, students must pass first-year examinations totalling at least 45

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 40 ECTS credits.

ELECTRICAL ENGINEERING
In order to progress to the second year, students must have passed first-year examinations totalling at least 54 ECTS credits.
In order to progress to the third year, students must have passed all first-year examinations and second-year examinations totalling at least a further 54 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 Civil Engineering; Faculty of Mechanical Engineering; Faculty of Electrical Engineering, Computer Science and Information Science; Faculty of Economics and Business, University of Maribor

URL

https://www.fgpa.um.si/eng/Pages/default.aspx