SLOVENSKO
OGRODJE
KVALIFIKACIJ

Doktor znanosti/doktorica znanosti s področja energetike

Selected qualifications

Name of qualification	Doktor znanosti/doktorica znanosti s področja energetike
Translated title (no legal status)	Doctor of Philosophy in the field of power engineering
Type of qualification	Doktorat
Category of qualification	Izobrazba
Type of education	Doctoral education
Duration	3 years
Credits	180 credits

Admission requirements

Enrolment in the third-cycle study programme is open to candidates who have completed:
• a second-cycle study programme;
• an academic higher education programme adopted before 11 June 2004;
• a professional higher education programme adopted prior to 11 June 2004 and a study programme to obtain a specialised qualification. Prior to enrolment in the programme, course units totalling 45 ECTS credits will be determined for such candidates. They must complete pass the following examinations in subjects from the second-cycle master's programme: Operational research, Optimisation of energy systems, Systems maintenance I, Supply of industrial facilities, Sensor systems, High voltage and high current engineering, Nuclear and radiation installations, Power engineering and power installations, Marketing and market research, Energy and the environment, Energy supply, Non-destructive nuclear testing methods;
• a study programme leading to a profession regulated by EU directives, or another integrated master's programme consisting of 300 ECTS credits.

ISCED field

Field
Tehnika, proizvodne tehnologije in gradbeništvo

ISCED subfield

subfield elektrotehnika in energetika

Qualification level

SQF 10
EQF 8
Third level

Learning outcomes

Qualification holders are qualified to:

(general competences)

- demonstrate in-depth understanding of theoretical and methodological concepts,
- make judgements for the adoption of decisions in energy systems and processes,
- autonomously apply acquired theoretical knowledge to resolve energy system management problems in practice,
- demonstrate mastery of research methods, procedures and processes in energy systems, processes and functions,
- continuously develop critical and self-critical assessment in a focused manner when making decisions in the dynamics of energy systems and processes,
- develop communication skills, in particular constant communication in the international environment in the energy sector,
- work and create in an international environment, with an emphasis on the exploitation of all conventional and alternative energy sources,
- demonstrate mastery of state-of-the-art technological methods, procedures and processes in energy

processes,
- demonstrate autonomy and self-confidence in research work and continuously develop critical and self-critical assessment in a focused manner when making decisions in the dynamics of energy systems and processes,
- demonstrate a capacity for ethical reflection and a deep commitment to professional ethics that will be evaluated in an international environment,
- show cooperativeness and the capacity to work in a group,
- lead large technical groups and research teams,
- show curiosity and an inclination for training for continuous study,
- develop communication skills and expertise, in particular constant communication in the international environment,
- show cooperativeness, work in a group,
- formulate independent expert opinions on the functioning of the energy system,
- demonstrate understanding of the methods of critical analysis and the development of theories and apply them in the development of new knowledge and in the addressing of specific work problems,
- develop critical reflection,
- work and create in an international environment,
- act as mentor to younger colleagues at institutes, universities, companies, etc.,
- demonstrate effectiveness in the use of the available resources: own creative and intellectual abilities; available intellectual capital (colleagues), other tangible and intangible resources (money, equipment, space and time).

(subject-specific competences)

- rationally resolve specific work problems in the field of energy systems technology,
- constantly address specific work processes through the application of modern scientific methods and procedures,
- demonstrate understanding of new information and interpretations and place them in the context of the fundamental discipline;
- demonstrate familiarity with and understanding of the foundation and history of the development of the fundamental discipline,
- demonstrate understanding of the systemic approach,
- demonstrate understanding of the basic structure of the fundamental discipline and the links between its sub-disciplines,
- use information and communication technologies intensively and constantly in energy systems,
- use information management systems intensively and constantly in their specific field of work in the process of operation and management of an energy system,
- demonstrate autonomous and confident mastery of basic knowledge,
- demonstrate familiarity with modern technological processes, operations, methodologies and organisation of work in their own specific working environment,
- integrate knowledge from various fields and build it into specific applications in organisations, particularly those in the energy sector,
- plan, lead and manage major investment projects in the development of energy systems (repair, expansion or construction of a power plant),
- cooperate with the environment in the preparation and implementation of investment work in the field of energy systems,
- resolve the most complex problems by testing and improving known solutions,
- discover new solutions to manage the most complex work systems and research projects in a broad professional or scientific research field,
- demonstrate knowledge for the determination of tasks, the study and modelling of internal processes and relations and optimisation of energy systems statuses,
- demonstrate familiarity with the placing of new information and interpretations in the context of the fundamental discipline,
- demonstrate familiarity with and understanding of the foundation and history of the development of

the fundamental discipline,
- demonstrate understanding of the systemic approach and thus of the basic structure of the fundamental discipline and the links between its sub-disciplines,
- use information and communication technologies and information management systems intensively and constantly in energy systems,
- demonstrate in-depth understanding of theoretical and methodological concepts,
- independently develop new knowledge,
- resolve the most complex problems by testing and improving known solutions,
- build and plan energy systems,
- discover new solutions to manage the most complex work systems and research projects in a broad professional or scientific research field.

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 have completed first-year course units totalling at least 40 ECTS credits, which must include a successfully passed examination in Research Methods and completion of Seminar 1. Students progress to the third year if they have completed all first-year examinations and accumulated at least 40 additional ECTS credits by completing second-year examinations. They must also complete Seminar 2.

Condition for obtaining certificate

Students complete their studies when they have successfully met all prescribed requirements of a study programme.

Awarding body

Faculty of Energy Technology, University of Maribor

URL

http://www.fe.um.si/en/