SLOVENSKO
OGRODJE
KVALIFIKACIJ

Doktor znanosti/doktorica znanosti s področja jedrske energetike in tehnologije

Selected qualifications

Name of qualification	Doktor znanosti/doktorica znanosti s področja jedrske energetike in tehnologije
Translated title (no legal status)	Doctor of Philosophy in the field of nuclear energy and technology
Type of qualification	Diploma tretje stopnje
Category of qualification	Izobrazba
Type of education	Doctoral education
Duration	3 years
Credits	180 credits

Admission requirements

Enrolment in the third-cycle PhD study programme Nuclear Energy and Technologies is open to candidates who have completed:
• a second-cycle study programme, or
• an academic higher education programme, adopted prior to 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 credits will be determined for such candidates. They also need to pass the examinations in different subjects (depending on individual study programme and determined by the scientific research commission for each individual student) in the fields of mathematics, physics, chemistry and civil engineering of the study programmes at faculties of engineering or natural sciences;
• a study programme leading to professions regulated by EU directives, or another integrated master's study programme consisting of 300 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,
- lead, direct and manage procedures in a society where the key component (cause and consequences) of activities is related to the field of radioactive radiation;
- make judgements for the adoption of decisions in nuclear energy systems and processes,
- independently apply acquired theoretical knowledge to solve problems in practice in the management of (mostly but nor exclusively) of nuclear energy and other radiation systems;
- demonstrate mastery of the most modern technological methods, 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 nuclear energy systems and processes,
- develop communication skills, in particular constant communication in the international environment in the nuclear energy sector and other types of radiation activities;
- 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 nuclear (i.e. fission and fusion) energy systems and processes;
- demonstrate an ethical reflection and a deep commitment to professional ethics that will be evaluated in an international environment;

- show cooperativeness and the capacity of functioning in a group;
- lead large technical groups and research teams;
- show curiosity and an inclination for training for continuous study;
- 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)

- Demonstrate knowledge of independent critical evaluation in the world of offered responses to problems related to nuclear energy, the related technologies and the connected radiation activities;
- Understand and apply methods of critical analysis in new knowledge development ad in resolve specific work problems and procedures in the field of the technology of (nuclear) energy systems and other radiation activities;
- demonstrate autonomous and confident mastery of basic knowledge for planning of, testing and managing the systems and components of nuclear radiation parts and devices that serve as energy, medical, research and technical means;
- Demonstrate knowledge of modern technological procedures, operations, methodology and organisation of work in the field of radiation activities and relating to the use in the field of energy, healthcare and safety at work;
- integrate knowledge from various fields and build it into specific applications in organisations, particularly those in the energy sector,
- Plan most demanding tasks in the field of detection, monitoring and prevention of the abuse of radioactive substances and activities arising from it;
- Design systems, parts and devices, based on the use of the origins of radioactive radiation, or incurring as a consequence of relevant nuclear reactions;
- Demonstrate knowledge of the procedures of safe disposal of radioactive substances and research of conditions for it;
- formulate independent expert opinions on the functioning of the energy system,
- cooperate with the environment in the preparation and implementation of investment work in the field of energy systems and other radiation devices;
- resolve the most complex problems in the field of nuclear radiation activities by testing and improving known solutions,
- demonstrate knowledge for the determination of tasks, the study and modelling of internal processes and relations and optimisation of nuclear energy systems and devices statuses,
- use information and communication technologies and information management systems intensively and constantly in nuclear 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;
- discover new solutions to manage the most complex work systems and research projects in a broad professional or scientific research field;
- develop critical reflection.

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

Progression through the programme is possible if the student completes the course units prescribed by the study programme and meets other requirements of the Statute of the University of Maribor.

Conditions for progression to the second year: Students of the doctoral programme progress in the second year if by passing examinations of the first year they accumulate at least 50 credits, while they also must pass an examination in a basic elective subject in the extent of 10 credits and carry out Individual research work 1 (10 credits).

Conditions for progression to the third year: 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 10 ECTS credits.

In order to progress to the third year students must perform individual research work I and II (for a total of 40 credits). Conditions for completing the studies.

Condition for obtaining certificate

Students complete the studies when they accumulate 180 credits, defend their doctoral dissertation and provides a verification of a publicly published article or of the findings of the doctoral thesis in the magazine of the AI group.

Awarding body

University of Maribor, Faculty of Civil Engineering

URL

https://www.fgpa.um.si/studij/