



SEMICONDUCTOR SCIENCE AND TECHNOLOGY (SST)

Programme type	Master's studies (university)
Field of study	Physics
Study area	Physical Sciences
Qualification awarded	Master in Physical Sciences
Length of programme	2 years
Scope of programme (ECTS)	120
Language of instruction	English
Location	Vilnius, Lithuania
Starting date	1 st of September
Tuition fee EU students	3236 EUR/year
Tuition fee Non-EU students	3900 EUR/year

PROGRAMME DESCRIPTION

This program is aimed at preparing qualified specialists with technological skills in materials science, who have strong background in the physics of inorganic and organic semiconductors and are specialized in frontiers of photovoltaics, novel electronic and optoelectronic devices, semiconductor nanotechnology, solid-state lighting systems and new disruptive technologies enabled by the current development of the state-of-the-art semiconductor science and technology.

The graduates will be able to:

- *analyse scientific, technological and production issues of semiconductor technologies;*
- *assess and solve problems, generalize conclusions, suggest and apply scientific and technological innovations, and perform management at technological level, while working at research laboratories, high tech companies, and public institutions associated with electronics and optoelectronics industries;*
- *continue their education in semiconductor physics and technologies at PhD level.*

- *The key knowledges and skills of the graduates of the SST study program are focused on the research, development and production of electronic and optoelectronic materials and devices. The graduates of this program are in high demand in global and national high-tech industries, academy, and governmental institutions.*
- *Graduates of the programme will be able to pursue further PhD level studies in Lithuania or abroad.*

KEY LEARNING OUTCOMES

Graduates of this program are expected to gain:

- an in-depth understanding of the physics of semiconductors and semiconductor nanostructures, the processes of light-material interaction, the operation principles, variety, advantages and disadvantages of the electronic and optoelectronic devices currently in use and prospective for future development;
- knowledge in materials science, semiconductor technologies, and material characterization techniques;
- ability to use modern investigation techniques to study semiconductor structures and devices and apply up-to-date models for characterization of their properties;
- experience in planning experiments and interpreting their results, and applying mathematical models to describe the processes under study;
- up-to-date outlook of the global trends in semiconductor science, technology and industry based on the close involvement of the Lithuanian, European, and worldwide companies into the study process.

COURSE INFORMATION

The programme has the following structure

Course Type	1st Semester	2nd Semester	3rd Semester	4th Semester
Compulsory Courses	Novel Materials and Technologies (10 ECTS)	Modern Electronic and Optoelectronic Devices (10 ECTS)	Photonics and Adaptive Optics (5 ECTS)	Master's Thesis (30 ECTS)
	Semiconductor Optics (10 ECTS)	Nanotechnologies (5 ECTS)	Solar Cell Technologies (5 ECTS)	
	Microelectronic Devices (5 ECTS)	Energy -Saving Semiconductor Technologies (5 ECTS)	Organic Optoelectronics (5 ECTS)	
	Research Project I (5 ECTS)	Research Project II (10 ECTS)	Electronics and Photonics Marketing (5 ECTS)	
			Research Project III (10 ECTS)	

GRADUATION REQUIREMENTS

Successfully completed study program and publicly defended master's thesis.

ADMISSION REQUIREMENTS AND SELECTION CRITERIA

- Bachelor's degree or its equivalent in Physics;
- English language proficiency – the level not lower than B2 (following the Common European Framework of Reference for Languages (CEFR)).

Academic contact	Admission contact
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