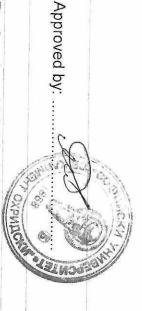


SOFIA UNIVERSITY ST. KLIMENY OHRIDSKI

FACULTY: Physics



CURRICULUM

Professional Field: 4.1 Physics

Educational and Qualification Degree: "Master"

Area of Study: "Nuclear technology and nuclear power"

/Master's Degree Program: "Nuclear power and technology"

Form of Study: part time

Length of Study (number of weeks*/-): 60 weeks (4 semesters)

Professional Qualification: Master of Physics Engineer in Nuclear Power and Technologies

Qualification Description

Master's Degree Program: Nuclear technology and nuclear power

Aims and Educational Objectives

radionuclides in industry, science, technology and medicine. areas of higher education: i) 4. Natural sciences, mathematics and informatics; and ii) 5. Technical Sciences. The aim of the program is to build interdisciplinary specialists in the fields of nuclear energy, radiation protection and radioecology, measurement, research and use of ionizing radiation and The Master's program "Nuclear Energy and Technologies" is aimed at training students who already have a bachelor's degree in the following two

and Nuclear Energy. For this reason, a program is declared for a non-specialist training program. The program is extremely suitable for continuing education of students who wish to retrain from another major to the major of Nuclear Engineering

Admission of students (knowledge and skills required for a successful professional realization; general and theoretical background, specific areas of study, etc.)

The program is designed for a wide range of specialists who have a bachelor's degree in the following fields of higher education: i) 4. Natural sciences, mathematics and informatics; and ii) 5.Technical Sciences. Candidates who have not completed the Bachelor's program "Nuclear Technology credits from elective courses. taught in the Bachelor's degree of this specialty. According to the curriculum, these courses must be chosen in order to achieve the minimum number of and Nuclear Energy" of the Faculty of Physics of the University of Sofia, in the process of their studies, will undergo training in the special courses

program can also be used for bachelor's degrees in the Faculty of Physics of the Sofia University. The interview date will be determined after the documents are submitted. The training in this curriculum is only paid and by correspondence. The The minimum requirements for admission to the specialty are an average grade from the bachelor's degree "Good 4.00" and a successful interview

Description of the educational content (knowledge and skills required for a successful professional realization; general and theoretical background, specific areas of study, etc.)

successful completion is to be highly motivated for professional development and improvement. The engineer-physicist who has completed the Master's program "Nuclear Power and Technologies" will acquire a broad fundamental training from the taught theoretical and applied disciplines, as well as solid professional knowledge in the field of specialization. An additional condition for

covered balanced way: The broad-based preparation is obtained from the engineering-physics orientation of the master's program, in which the following topics are

- basic nuclear physics disciplines such as Neutron Physics, Physics of Nuclear Reactors, Experimental Nuclear Physics, Dosimetry and Radiation Protection, Nuclear Electronics, Introduction to Nuclear Technologies, Computational Methods in Nuclear Technologies
- specialized theoretical and applied disciplines such as operational reactor physics and nuclear safety, reactor analysis, radiochemistry, metrology of ionizing radiation
- engineering-applied courses such as Thermal Physics of NPP, Technical Hydromechanics, Reliability in Nuclear Power, Reactor Materials in

state exam, give a complete look to the educational program These compulsory disciplines, the set of elective courses, and the development and defense of a master's thesis or the successful appearance of

Professional and general competences, specific competences

Masters in "Nuclear Power and Technologies" must be able to:

- conduct research, improve or develop physics-related concepts, theories, practical methods, instrumentation or software;
- magnetism and nuclear physics; communications, power generation and delivery, aerodynamics, optics and lasers, remote sensing, medicine, technological use of sound conduct experiments, tests and analyzes of the structure and properties of matter in fields such as mechanics, thermodynamics, electronics,
- evaluate results of conducted studies and experiments and draw conclusions using mathematical techniques and models
- apply principles, techniques and processes to develop or improve industrial, medical, military and other practical applications and techniques of physics;
- of radiation; advise and consult with medical practitioners and other health professionals to optimize the balance between the beneficial and harmful effects
- develop, implement and maintain standards and protocols for the measurement of physical phenomena and for the use of nuclear technologies for industrial and medical purposes
- prepare scientific reports and reports.
- S Professional realization (according to the National Classification of Occupations in the Republic of Bulgaria /based on the International Standard Classification of Occupations (ISCO)/ and in reference to the place of the future specialists in the National Qualifications Framework for higher education and the European Qualifications Framework for higher education)

program. These positions include: professional qualifications and on the procedure for issuing licenses for specialized training and certificates of legal capacity to use nuclear energy", of the Nuclear Regulatory Agency, where a certain set of positions in the nuclear power industry that could be filled by graduates of the NPP master's "Physicists and Astronomers". Also, professional realization can be found according to the "ORDINANCE on the conditions and procedure for acquiring According to the "National Classification of Professions and Positions in the Republic of Bulgaria", the main opportunity for realization is by classifier

- Head of a structural unit responsible for nuclear safety control of a nuclear power unit or nuclear power plant Head of a structural unit responsible for radiation protection or emergency preparedness of a nuclear power unit or nuclear plant A qualified expert in radiation protection at a nuclear power plant

Operational personnel of research reactors
Management staff of research reactors
According to the national classification for professional realization, these positions correspond to "Managerial positions".

Φ3Я 2 5 2 2 Area of Study "Nuclear technics and nuclear power (NTNP)" / Master's Degree Program "Nuclear power and technologies" (NPT), 4 semesters, part-time training φ3Я 25 22 24

admission winter semester of 2024/2025 academic year

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^{*}The course program is announced at the beginning of the current semester

the undergraduate stage of study. Bachelors who have auditioned for the relevant disciplines do NOT choose these courses. **Courses must be select by students non specialists. Students with bachelor degree in NTNP major do not select these cources.

Ne code Internship O Scientific-research intership (mandatory for students ECTS ECTS Semester ECTS ECTS
code Internship Type- C, E, O Semester

cont.

(with average semestrial grade higher than 4,00) State Exam in Nuclear Power and Technology or Defence of a Master thesis Form of degree completion ECTS credits 2 First State Second State Exam Session Exam Session July September

The curriculum has been approved by the Faculty Council, Record of Proceedings № 17/12.12.2023

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Sofia University "St. Kliment Ohridski"

Curriculum Reference Statement
Area of Study "Nuclear technics and nuclear power (NTNP)" / Master's Degree Program "Nuclear power and technologies" (NPT)
form of study part-time length of study: 4 Semesters

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Record of Proceedings of the Faculty Council Nº 17/12.12.2023	Acquired Professional Qualification: Master of Physics Engineer in Nuclear Power and Tech	grave nighter triait 4,00)	crade higher them 1 00)	State Even in Nicology December 214	i om or degree completion	ПОТВ) об до 1 го 1
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Record of Proceedings of the Faculty Council Nº 17/12.12.2023

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