University of Gdańsk

Subject card

Subject name and code	Law in Nuclear Energetics (and Radiological Protection), PG_00198151		
Field of study	Nuclear safety and radiological protection		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2028/2029
Education level	Bachelor's studies	Subject group	Obligatory subject group in the field of study
Mode of study	full-time studies	Mode of delivery	at the university
Year of study	3	Language of instruction	Polish
Semester of study	5	ECTS credits	1.0
Learning profile	academic	Assessment form	credit
Conducting unit	Laboratory of Environmental Analytics and Radiochemistry -> Department of Environmental Chemistry and Radiochemistry -> Faculty of Chemistry -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Alicja Boryło	
	Teachers		

Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	20.0	0.0	0.0	0.0	0.0	20
	E-learning hours included: 0.0						

Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan	Participation in consultation hours	Self-study	SUM
	Number of study hours	20	0.0	10.0	30

Subject objectives	The aim of the classes is to improve skills and familiarize students with all issues mentioned in the lecture program content, which concern legal provisions regulating the production and use of atomic energy as well as nuclear safety and radiological protection in Poland

Learning outcomes

Course outcome	Subject outcome	Method of verification
[BJORL3_K01] Is prepared to critically evaluate own actions, recognizes the limitations of own knowledge, and understands the need for further education.	Understands the need for variability of legal aspects of nuclear safety, monitoring changes in nuclear law and is aware of continuous education	[SK1] oral statement/conversation/ discussion [SK2] presentation/project/paper/ report [SK3] text preparation/written work
[BJORL3_W09] Has general knowledge of the legal and ethical considerations associated with professional activities.	Has basic knowledge of the legal aspects of nuclear safety and radiological protection, is able to use them in his professional work, and is aware of all legal and ethical issues related to them	[SW4] test/exam - oral or written [SW3] text preparation/written work [SW5] implementation of a problem task
[BJORL3_K04] Is prepared to critically evaluate possessed knowledge and to seek expert opinions in cases of difficulty in independently solving a problem.	He knows all legal aspects arising from nuclear law and is able to apply them honestly	[SK1] oral statement/conversation/ discussion [SK2] presentation/project/paper/ report [SK3] text preparation/written work [SK5] implementation of a problem task
[BJORL3_K05] Is ready to initiate activities for the public interest and to popularise radiological protection and nuclear safety.	Has basic knowledge of the needs for the spread and popularization of radiological protection and nuclear safety aspects	[SK1] oral statement/conversation/ discussion [SK2] presentation/project/paper/ report [SK3] text preparation/written work [SK5] implementation of a problem task
[BJORL3_U07] Knows how to present in an accessible way the latest developments in radiological protection and nuclear safety and can analyze their legal aspects.	Knows the latest developments in nuclear safety and analyzes their legal aspects	[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report [SU4] test/exam - oral or written

Subject contents

Nuclear safety and radiological protection permits, nuclear safety and radiological protection and employee health protection, use of ionizing radiation for medical purposes and for non-medical imaging purposes, nuclear facilities, nuclear materials and technologies, sources of ionizing radiation, radioactive waste and spent nuclear fuel, transport of nuclear materials, sources of ionizing radiation, radioactive waste and spent nuclear fuel, import into the territory of Poland, export from the territory of Poland and transit through this territory of radioactive waste and spent nuclear fuel, supervision and control of compliance with the conditions of nuclear safety and radiological protection , assessment of the country's radiation situation, actions in the event of radiation emergencies and in the event of existing exposure

Prerequisites and co-requisites

No prerequisites or additional requirements

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
written work for assessment	51.0%	100.0%

Recommended reading

Basic literature	Bogdan Skwarzec, 2021, Environmental radiochemistry, UG Publishing House, Gdańsk, ISBN 978-83-8206-111-6Areva (edited by Bertrand Barre), 2008, All about nuclear energy. From atom A to zirconium Zr, Communication Section of AREVA, translation by Marcin Rey, Drukarnia Leyko, ISBN 978-83-933964-0-5Jezierski Grzegorz, 2014, Nuclear chemistry yesterday and today, WNT Publishing House, Warszawa, ISBN 978-83-7926-297-7Bogdan Skwarzec, 2002, Environmental radiochemistry and radiological protection, DJ Publishing House, ISBN 83-914707-5-xBogdan Skwarzec, 2005, Polonium, uranium and plutonium in the ecosystem of the southern Baltic Sea, Dissertations and monographs 6/1995, Institute of Oceanology of the Polish Academy of Sciences, ISBN 83-900555-5-4Krzysztof Król, 2024, Radiation safety, PWN Publishing House, Warsaw, ISBN 978-83-01-23564-2 lectures,Act - Atomic Law,implementing acts to the Atomic Law Actpublications of the National Atomic Energy Agency

	Supplementary literature	Official journal of the National Atomic Energy AgencyDraft regulation of the Council of Ministers on the detailed scope of carrying out a preliminary assessment of the area intended for the location of a nuclear energy facility that is a nuclear facility - cases that exclude the possibility of recognizing the area as suitable for the location of a nuclear energy facility that is a nuclear facility and the detailed scope of the preliminary location report for such a facility Krzysztof Król, 2024, Radiation safety, PWN Scientific Publishing House, Warsaw, EAN: 9788301235642 Jezierski Grzegorz, 2014, Nuclear chemistry yesterday and today, Wydawnictwo WNT, Warszawa, ISBN 978-83-7926-297-7 Bogdan Skwarzec, 2020, Environmental radiochemistry, UG Publishing House, Gdańsk, Bogdan Skwarzec, 2002, Environmental radiochemistry and radiological protection, Zeszyty Zielonej Akademia, DJ Publishing House, Bogdan Skwarzec, 2005, Polonium, uranium and plutonium in the ecosystem of the southern Baltic Sea, Dissertations and monographs, Institute of Oceanology of the Polish Academy of Sciences, ISBN 83-900555-5-4
	eResources addresses	
Example issues/ example questions/ tasks being completed	What areas are included in the restricted use area around a nuclear facility Where radioactive waste repositories are built and located Where it is prohibited to export radioactive waste and spent nuclear fuel from the territory of the Poland What is prohibited in the event of a radiation emergency Name the nuclear regulatory authorities When a nuclear facility is put into operation after a shutdown period longer than 12 months How are periodic inspections carried out? What does the obligation to improve the qualifications of people performing diagnostic tests, procedures or treatment using ionizing radiation look like and proceed? What is a fission reaction and what is subcritical behavior? When does a radioactive waste repository receive the status of a National Radioactive Waste Repository? Equivalent dose values for people exposed to ionizing radiation and for people from the general population Define the distance of planning consumption and control of goods and extended planning Define concepts, e.g. transit, harm to human health, stochastic effects, deterministic effects, exposure as a result of medical and non-medical imaging, spent nuclear fuel storage Duties of the President of the Atomic Energy Agency What requirements must be met and what training must be completed to become a nuclear regulatory inspector What are anticipatory intervention actions and immediate intervention actions? Discuss the division of employees into specific categories and supervised and controlled training Define the concept of internal or external zone How radioactive waste and sources are classified Nuclear facilities construction permit Conditions for issuing a permit for the construction of a radioactive waste repository What are the responsibilities of the head of an organizational unit producing high-activity sources Fees resulting from issuing a permit to perform activities involving exposure	
Work placement	Not applicable	

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