



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Nuclear security culture and management [S2EJ1>KBiZwEJ]

Course

Field of study

Nuclear Power Engineering

Year/Semester

1/1

Area of study (specialization)

–

Profile of study

general academic

Level of study

second-cycle

Course offered in

polish

Form of study

full-time

Requirements

elective

Number of hours

Lecture

15

Laboratory classes

0

Other (e.g. online)

0

Tutorials

0

Projects/seminars

0

Number of credit points

1,00

Coordinators

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Lecturers

Prerequisites

1 Knowledge: Student has a basic knowledge of nuclear security, understands the significance of nuclear security issues, in particular the risks involved and how to improve nuclear security. 2 Skills: Student knows how to obtain information from a variety of sources and integrate the information obtained, interpret it, and make inferences and formulate and justify opinions. Student knows how to apply the acquired knowledge in different scopes and forms. 3 Social competences: Awareness of the need to constantly update and supplement knowledge and skills. Communication skills in interpersonal relations.

Course objective

To master the basic knowledge of security culture and management in the nuclear power industry. To understand the nature and importance of nuclear security culture. To prepare for conducting a nuclear security culture survey.

Course-related learning outcomes

Knowledge:

Student has the knowledge necessary to understand and describe security management issues in the nuclear power industry.

Student has knowledge of the role of the state, organisations and other actors in nuclear security. Student has a structured and theoretically underpinned knowledge of nuclear security culture and understands the importance of nuclear security culture. Student has a basic knowledge of the nuclear security culture self-assessment process, knows the methods and tools for security culture self-assessment. Student has knowledge of non-technical aspects of nuclear security, in particular nuclear security culture, and understands its essence and importance.

Skills:

Student analyses proposed solutions to specific nuclear security management problems and proposes appropriate solutions, in this respect.

Student has the ability to understand and analyse social phenomena.

Student has the ability to apply the knowledge acquired in different scopes and forms, extended by a critical analysis of the effectiveness and usefulness of the knowledge applied.

Social competences:

Student is aware of the importance of, and understands the non-technical aspects and implications of the engineer's activities, including their impact on nuclear security.

Student is aware of the importance of behaving in a professional manner, following nuclear security rules and procedures.

Student is able to make a substantive contribution to the preparation of a self-assessment of the nuclear security culture.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lectures

Written test during the last class of the semester. The assessment is intended to test the student's knowledge and involves answering several questions. The condition for obtaining credits for lectures is to obtain at least 50% of the maximum number of points.

Programme content

Lectures

The role, importance and objectives of security management in the nuclear power industry.

Nuclear safety and nuclear security culture. The human factor in nuclear security.

The role and responsibility of the state, organisations, managers, personnel, society and the international community in the development of a nuclear security culture.

Characteristics of a nuclear security culture. IAEA model of nuclear security culture. Elements of management systems. The role of leadership, motivation and staff behaviour.

Security culture self-assessment process. Security culture self-assessment methodology.

Case studies.

Teaching methods

Lecture delivered remotely using synchronous access methods.

Lectures: multimedia presentation.

Bibliography

Basic:

1. Security management of radioactive material in use and storage and of associated facilities. Technical guidance, IAEA Nuclear Security Series No. 43-T, IAEA Vienna 2022.
2. Enhancing nuclear security culture in organizations associated with nuclear and other radioactive material, IAEA Nuclear Security Series No. 38-T, IAEA Vienna 2021.
3. Nuclear Security Culture, IAEA Nuclear Security Series No. 7, Implementing Guide, IAEA Vienna 2008.

Additional:

1. Murray R.L., Nuclear Energy (6th Ed.), Elsevier, Amsterdam 2009.

Breakdown of average student's workload

	Hours	ECTS
Total workload	30	1,00
Classes requiring direct contact with the teacher	15	0,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	15	0,50