



COURSE DESCRIPTION CARD - SYLLABUS

Course name

The effects of hazards in production systems

Course

Field of study

Safety Engineering

Area of study (specialization)

Level of study

First-cycle studies

Form of study

full-time

Year/Semester

2/4

Profile of study

general academic

Course offered in

Polish

Requirements

compulsory

Number of hours

Lecture

15

Laboratory classes

Tutorials

15

Projects/seminars

Other (e.g. online)

Number of credit points

2

Lecturers

Responsible for the course/lecturer:

Ph D., Eng. Anna Stasiuk-Piekarska

Responsible for the course/lecturer:

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Faculty of Engineering Management

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Prerequisites

The student has a basic knowledge of safety. He knows the selected safety systems. Understands system dependencies in organizations.

Course objective

Strengthening knowledge and acquiring skills in identifying threats and their effects in the area of the organization's production systems. Acquisition of competences necessary to support proactive security of production systems and support in organizing the operation of these systems.

Course-related learning outcomes

Knowledge

1. The student knows issues related to engineering issues (physics, chemistry, materials science, manufacturing technologies, material strength, mechanics) [P6S_WG_01]



2.The student knows issues in the field of threats and their effects, risk assessment in the work environment as well as occupational accidents and diseases [P6S_WG_03]

Skills

1. The student is able to properly choose the sources and information derived from them, based on them to analyze, synthesize and evaluate problems in the field of shaping a safety culture [P6S_UW_01]

2.The student is able to see in engineering tasks systemic and non-technical aspects as well as socio-technical, organizational and economic aspects, which affect the need to model employee behavior towards a high safety culture [P6S_UW_03]

3.The student is able to use various research methods to formulate and solve engineering tasks, taking into account the human factor in shaping the desired level of security, including cultural differences [P6S_UW_04]

4.The student is able to present, using properly selected means, a problem related to the process of shaping a security culture, barriers in this process and possible ways of overcoming them [P6S_UK_01]

5.The student is able to identify changes in requirements, standards, regulations and technical progress and the reality of the labor market, and based on them determine the need to supplement knowledge [P6S_UU_01]

Social competences

1.The student is aware of the understanding of non-technical aspects and effects of engineering activities, including its impact on the environment and the associated responsibility for the decisions taken [P6S_KK_03]

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Formative assessment:

- tutorials: assessment of the exercises performed and tasks to be carried out independently (60% of the final grade), written test (40% of the final grade);
- lecture: short written form carried out on 7-8 lectures. The subject ends with a written credit covering knowledge of the issues presented in the lecture.

Passing threshold: 50% of points.

Programme content

Lecture: Production system activities. Management, its functions and levels. Cause-effect relationships between working conditions and work safety. Threats to the operation of production systems (technical, organizational, social, etc.) and their effects. Hazards related to the working environment and their effects. Corrective and corrective actions.



Exercises: Operation of selected production systems - case study (analysis of threats and their effects). Hazard analysis at production sites and their effects. Planning improvement activities

Teaching methods

Lecture: information and conversation lecture based on multimedia presentation.

Exercises: simulation method in conjunction with case study analysis.

Bibliography

Basic

1. Stabryła A. (red.), Metodologia projektowania systemów organizacyjnych przedsiębiorstwa, Wydawnictwo CH Beck, Warszawa 2015.
2. Monkiewicz J., Gąsioriewicz L. (red.), Zarządzanie ryzykiem działalności organizacji, Wydawnictwo C.H. Beck, Warszawa 2010.
3. Szymonik A., Bielecki M., Bezpieczeństwo systemu logistycznego w nowoczesnym zarządzaniu, Wyd. Difin, Warszawa 2015.
4. Pajak E., Zarządzanie produkcją. Produkt, technologia, organizacja, Wyd. Naukowe PWN, Warszawa 2006.

Additional

1. Zawila-Niedźwiecki J., Ryzyko i bezpieczeństwo operacyjne [w:] Monkiewicz J., Gąsioriewicz L. [red.], Zarządzanie ryzykiem działalności organizacji, Wyd. C.H. Beck, Warszawa 2010, s. 153-168.
2. Stasiuk-Piekarska A.K., Wyrwicka M.K., Hadaś Ł., Kastomizacja jako czynnik ryzyka organizacyjnego, Zeszyty Naukowe Politechniki Poznańskiej, seria: Organizacja i Zarządzanie, nr 78, r. 2018, s. 187-200.
3. Stasiuk-Piekarska A.K., Hadaś Ł., Wyrwicka M.K., Piekarski J., Use of network thinking methodology for analyzing factors affecting organizational risk management in customized manufacturing systems, 24th International Conference on Production Research (ICPR 2017) ISBN: 978-1-60595-507-0, DOI:10.12783/dtetr/icpr2017/17617.
4. Stasiuk-Piekarska A. K., Zarządzanie ryzykiem w kontekście nauk o organizowaniu [w:] Mempel-Śnieżyk A., Duskocz J., Kardasz P. [red.], Innowacje w polskiej nauce w obszarze nauk ekonomicznych. Przegląd aktualnej tematyki badawczej, wyd. Nauka i Biznes, Wrocław 2016, s. 13-22.
5. Stasiuk A.K., Werner- Lewandowska K., Rola ryzyka w zarządzaniu produkcją [w:] Innowacje w zarządzaniu i inżynierii produkcji, Knosala R. [red.], Oficyna Wydawnicza Towarzystwa Zarządzania Produkcją, Opole 2013, s.515-523.



Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2,0
Classes requiring direct contact with the teacher	30	1,0
Student's own work (literature studies, preparation for tutorials, preparation for tests, task preparation) ¹	20	1,0

¹ delete or add other activities as appropriate