COURSE DESCRIPTION CARD - SYLLABUS

Course name
Safety systems design

Course

Field of study
Safety Engineering
Area of study (specialization)
Integrated Management of Safety in Organization
Level of study
Second-cycle studies
Form of study
part-time

Year/Semester
1/1
Profile of study
general academic
Course offered in
Polish
Requirements
compulsory

Number of hours

Lecture
10
Laboratory classes
0
Other (e.g. online)
0
Tutorials
10
Projects/seminars
10

Number of credit points

5

Lecturers

Responsible for the course/lecturer:
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Responsible for the course/lecturer:

Prerequisites

Student defines and describes basic notions concerning management systems of occupational health and safety. Student can plan, organize and assess the functioning of management systems. Student can

interpret the results of observation. Student is aware of the meaning of management systems of occupational health and safety. Student is aware of the need to develop safety systems of subjects.

Course objective

Developing understanding of theoretical aspects and practical abilities of auditing management systems of occupational health and safety along with methodology of project management.

Course-related learning outcomes

Knowledge

- knows the basic concepts of the ergonomics, macroergonomics and occupational safety and design methods in line with safety principles (P7S_WG_02, P7S_WG_03),

- knows the basic concepts of the life cycle of industrial products and life cycle of socio-technical systems in the context of ergonomics (P7S_WG_06),

- knows the basic concepts of design in the field of product and process (P7S_WG_07),

- knows the current trends and best practices in safety systems (P7S_WK_03),

Skills

- is able to collect on the basis of the literature of the subject and other sources information on the problem, make critical analysis, assessment and synthesis and provide information in an orderly manner (P7S_UW_01),

- can see the systemic, socio-technical, organizational, economical and non-technical aspects in problem solving tasks and in dealing with engineering problems (P7S_UW_03),

- is apply to the problem within the studied subject the appropriate experimental and measurement techniques, information and communication (P7S_UW_04),

Social competences

- is aware of the importance of knowledge in solving cognitive and practical problems in the scope of safety engineering and continuous improvement of the knowledge (P7S_KK_02),

- is able to planning and managing in a creative way business ventures (P7S_KO_01),

- is aware of responsibility for own work and readiness to comply with the rules of working in a team and taking responsibility for the tasks carried out jointly (P7S_KR_02).

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Rating forming:

a) projects: on the basis of an assessment of the current progress of tasks,

b) tutorials: on the basis of an assessment of the current progress of tasks,

c) lecture: in the range of lectures based on oral answers to questions about the material covered in the current and previous lectures.

Rating summary:

a) projects: grade point average,

b) tutorials: grade point average,

c) lecture: exam, open and closed questions.

Programme content

Lecture:
Methodology of project management. Management systems. Management systems of occupational health and safety. Models of selected safety management systems and their elements. Theoretical aspects and practical abilities of auditing management systems of occupational health and safety. Methodology of project management.

Tutorials:
Case study in the field of methodology of project management in the safety systems design.

Projects:
Engineering project of management system of occupation health and safety for a selected company.

Teaching methods

Lecture: multimedia lecture, case study analysis.

Projects: multimedia lecture, work in teams, problem-solving tasks set by the teacher, presentation of solutions and forum discussion group.

Tutorials: multimedia lecture, work in teams, problem-solving tasks set by the teacher, presentation of solutions and forum discussion group.

Bibliography

Basic

1. Prussak W., Mrugalska B. (2011), Projektowanie systemów bezpieczeństwa, Wydawnictwo Politechniki Poznańskiej, Poznań.
2. PN-ISO 45001:2018, Systemy zarządzania bezpieczeństwem i higieną pracy. Wymagania i wytyczne stosowania.
3. Wirkus M.,Roszkowski H., Dostatni E., Gierulski W. (2014), Zarządzanie projektem. Polskie Wydawnictwo Ekonomiczne, Warszawa.

Additional

1. Cempel C. (2008), Teoria i inżynieria systemów – zasady i zastosowania myślenia systemowego, Wydawnictwo Naukowe Instytutu Technologii Eksploatacji - PIB, Radom.

2. Szymonik A. (2011), Organizacja i funkcjonowanie systemów bezpieczeństwa, Difin, Warszawa.
3. Wójcik J. (2015), Wykorzystanie metody zarządzania projektami w małych i średnich przedsiębiorstwach. Zeszyty Naukowe Politechniki Śląskiej, Seria: Organizacja i Zarządzanie. Zeszyt 78, 529-541.
4. PN-EN ISO 9001:2015, Systemy zarządzania jakością. Wymagania.

Breakdown of average student's workload

	Hours	ECTS
Total workload	60	5
Classes requiring direct contact with the teacher	30	2,5
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) [1]	30	2,5

[1] delete or add other activities as appropriate