



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Operating of production and service systems

### Course

Field of study

Safety Engineering

Area of study (specialization)

Level of study

First-cycle studies

Form of study

part-time

Year/Semester

2/4

Profile of study

general academic

Course offered in

English

Requirements

compulsory

### Number of hours

Lecture

8

Tutorials

10

Laboratory classes

Projects/seminars

Other (e.g. online)

### Number of credit points

2

### Lecturers

Responsible for the course/lecturer:

Ph.D., Eng. Anna Stasiuk-Piekarska

Mail to: [anna.stasiuk-piekarska@put.poznan.pl](mailto:anna.stasiuk-piekarska@put.poznan.pl)

Faculty of Engineering Management

ul. J. Rychlewskiego 2 60-965 Poznań,

Responsible for the course/lecturer:

dr hab. inż. Marcin Butlewski, prof. PP

Mail to: [marcin.butlewski@put.poznan.pl](mailto:marcin.butlewski@put.poznan.pl)

Faculty of Engineering Management

ul. J. Rychlewskiego 2 60-965 Poznań,

### Prerequisites

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



### Course objective

Presentation and consolidation of knowledge in the field of the functioning of production and service systems in the context of ensuring the safety of the organization's functioning. Presentation of typical problems in the field of technical, logistic, work and image safety.

### Course-related learning outcomes

#### Knowledge

1. The student knows in depth the issues of technical safety, safety systems, occupational health and safety as well as threats and their effects. [K1\_W02 ]
2. The student knows the issues of management and organization as well as marketing and logistics in the context of safety engineering. [K1\_W08 ]
3. The student knows the fundamental dilemmas of modern civilization and development trends as well as the best practices in the field of safety engineering. [K1\_W10]

#### Skills

1. The student is able to properly select the sources and information derived from them, making the assessment, critical analysis and synthesis of this information. [K1\_U01]
2. The student is able to see system and non-technical aspects in engineering tasks, as well as social and technical, organizational and economic aspects. [K1\_U03]
3. The student is able to make a critical analysis of the way of functioning and evaluate, in connection with Safety Engineering, the existing technical solutions, in particular machines, devices, objects, systems, processes and services. [K1\_U06]
4. The student is able to take part in the debate, to present the problem within the framework of safety engineering using properly selected means. [K1\_U09]
5. The student is able to identify changes in requirements, standards, regulations and technical progress and the reality of the labor market, and on their basis define the need for supplementing knowledge. [K1\_U12 ]

#### Social competences

1. The student is aware of the importance of knowledge in solving problems in the field of safety engineering and continuous improvement. K1\_K02 (P6S\_KK\_02)
2. The student and the awareness of responsibility for their own work and readiness to submit to the principles of teamwork and responsibility for jointly performed tasks. K1\_K07 (P6S\_KR\_02)

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Formative assessment:

-lecture: short written form carried out during the lecture 7-8. The course ends with a written test covering the knowledge of the issues presented in the lecture,



- classes: evaluation of the exercises performed and tasks to be performed independently.

Passing on the first and second attempt min. 50% of all points.

### Programme content

Lecture: the concept of the system and systemic, differences and common points in the functioning of production and service systems, issues of ensuring the safety of systems from various points of view, improving the operation of systems.

Classes: tasks related to the systemic approach in the organization, planning the activities of the service and production system, controlling its operation, planning and organizing improvement activities.

### Teaching methods

Lecture: informative and conversational lecture based on a multimedia presentation.

Classes: design exercises in conjunction with the case study analysis.

### Bibliography

#### Basic

1. Stabryła A., [red.], Metodologia projektowania systemów organizacyjnych przedsiębiorstwa, Wyd. C.H.Beck, Warszawa 2015.
2. Rzeszotarska-Wyrwicka M., Organizowanie systemów pracy. Materiały pomocnicze, Wydawnictwo Politechniki Poznańskiej, Poznań 1998.
3. Kasiewicz S. [red.], Zarządzanie zintegrowanym ryzykiem przedsiębiorstwa w Polsce. Kierunki i narzędzia, Oficyna a Wolters Kluwer business, Warszawa 2011.

#### Additional

1. Stasiuk-Piekarska A.K., Wyrwicka M.K., Organizational Risk in Custom Manufacturing of Complex Products [w:] Advances in Manufacturing, Production Management and Process Control Proceedings of the AHFE 2021 Virtual Conferences on Human Aspects of Advanced Manufacturing, Advanced Production Management and Process Control, and Additive Manufacturing, Modeling Systems and 3D Prototyping, July 25–29, 2021, USA, s. 100-107, Stefan Trzcielinski, Beata Mrugalska, Waldemar Karwowski · Emilio Rossi, Massimo Di Nicolantonio (Editors), SPRINGER, 2021.
2. Stasiuk-Piekarska A., Włodarczyk A., “ Innovation in The Pursuit of Sustainable Manufacturing” Proceedings of the 36th International Business Information Management Association (IBIMA), ISBN: 978-0-9998551-5-7, 4-5 November 2020, Granada, Spain., s. 7363-7370.
3. Stasiuk-Piekarska A.K. , Wyrwicka M.K., Organising- still an important function of production management, Research in Logistics & Production. Badania w dziedzinie logistyki i produkcji, Publishing House of Poznan University of Technology, Volume 5, Number 2, April 2015, Poznań 2015, (ISSN:2083-4942), pp.129-142.



4. Bieniok H. i Zespół, Metody sprawnego zarządzania. Planowanie, organizowanie, motywowanie i kontrola. Jak zarządzać w praktyce, Oficyna Wydawnicza Placet, Warszawa 2001.

#### Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2,0
Classes requiring direct contact with the teacher	18	1,0
Student's own work (literature studies, preparation for tutorials, preparation for tests) <sup>1</sup>	32	1,0

<sup>1</sup> delete or add other activities as appropriate