



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Operating of production and service systems [N1IBiJ1>FSPIU]

### Course

Field of study

Safety and Quality Engineering

Year/Semester

3/5

Area of study (specialization)

–

Profile of study

general academic

Level of study

first-cycle

Course offered in

Polish

Form of study

part-time

Requirements

compulsory

### Number of hours

Lecture

9

Laboratory classes

0

Other

0

Tutorials

9

Projects/seminars

0

### Number of credit points

2,00

### Coordinators

dr inż. Anna Stasiuk-Piekarska

anna.stasiuk-piekarska@put.poznan.pl

### Lecturers

### 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 has expended knowledge of the life cycle of production and service systems, including the issues related with ensuring the safety of systems [K1\_W06].
3. The student knows the issues of management and organization as well as marketing and logistics in the context of operating of production and service systems [K1\_W08 ].

#### Skills:

1. 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 ].
2. The student is able to make a critical analysis of the way of functioning and evaluate, in connection with Safety and Quality Engineering, the existing technical solutions, in particular of production and service systems [K1\_U06 ].
3. The student is able to identify changes in requirements, standards, regulations related with the issues of ensuring the safety of production and service systems 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 can see the cause-and-effect relationships in the implementation of set goals of improving the operation of systems and use ranks in relation to the importance of alternative or competitive tasks. [K1\_K01]
2. The student is aware of the importance of knowledge in solving problems in the field of the systemic approach in the organization, planning the activities of the service and production system and continuous improvement. [ K1\_K02 ]
3. 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 ]

### 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

The subject covers the functioning of production and service systems, with particular emphasis on the need for a systemic approach to the organization.

### Course topics

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	75	3,00
Classes requiring direct contact with the teacher	18	0,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	57	2,50