



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Analysis of ergonomic literature

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### Course

Field of study

Safety Engineering

Area of study (specialization)

Ergonomics and work safety

Level of study

Second-cycle studies

Form of study

full-time

Year/Semester

2/3

Profile of study

general academic

Course offered in

Polish

Requirements

elective

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### Number of hours

Lecture

Laboratory classes

Other (e.g. online)

Tutorials

Projects/seminars

15

### Number of credit points

1

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### Lecturers

Responsible for the course/lecturer:

Ph.D., Eng. Aleksandra Dewicka

Responsible for the course/lecturer:

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### Prerequisites

The student has the ability to acquire knowledge from the indicated sources and is ready to start



teamwork during classes. The student has formed knowledge of ergonomics, ergonomic design. The student has the ability to shape and evaluate guidelines related to the shaping of life safety and hygiene at work.

### Course objective

Providing the student with knowledge in the field of correct analysis of texts contained in the broadly understood Polish and international ergonomic literature. Developing students' skills in seeking ergonomic literature and correct analysis of the data contained.

### Course-related learning outcomes

Knowledge

Student:

1. knows issues in the field of risk analysis, threats and their effects in the work environment [P7S\_WG\_05]
2. knows design issues in relation to products and processes [P7S\_WG\_07]
3. knows the basic methods, techniques, tools and materials used to solve simple engineering tasks in the field of ergonomics and work safety using information technology, information protection and computer support [P7S\_WK\_03]

Skills

Student:

1. is able to properly select the sources and information derived from them, make an assessment, critically analyze and synthesize this information, formulate conclusions and comprehensively justify the opinion [P7S\_UW\_01]
2. is able to notice and formulate system and non-technical aspects as well as socio-technical, organizational and economic aspects in engineering tasks [P7S\_UW\_03]
3. is able to use research, analytical, simulation and experimental methods to formulate and solve engineering tasks, also using information and communication methods and tools [P7S\_UW\_04]
4. is able to make a critical analysis of the way it functions and evaluate - in conjunction with Security Engineering - existing technical solutions, in particular machines, devices, objects, systems, processes and services [P7S\_UW\_06]
5. is able to present, using properly selected means, a problem that falls within the framework of ergonomics and occupational safety [P7S\_UK\_01]
6. can plan and carry out experiments, including computer measurements and simulations, interpret obtained results and draw conclusions [P7S\_UO\_01]



7. is able to identify changes in requirements, standards, regulations, technical progress and the reality of the labor market, and based on them determine the needs to supplement own and other knowledge [P7S\_UU\_01]

Social competences

Student:

1. is aware of the recognition of cause-and-effect relationships in achieving the set goals and ranking the importance of alternative or competitive tasks [P7S\_KK\_01]

2. 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 decisions [P7S\_KK\_03]

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Skills acquired during classes are verified by student presentations, problem groups and situational scenes assessed after each class. The exam is formulated on the basis of the average of the grades obtained after each class.

### Programme content

1. Classes:

Introduction to the subject by detailed discussion of the issues of Polish and international ergonomic literature. Formulating the problem of the subject, dividing students into task groups, presenting requirements for students to prepare for the next practical-problem classes. Discussion of several examples of ergonomic literature developed by employees of the Faculty of Management Engineering, storm of thoughts and Oxford discussion.

2. Classes:

Normalization of ergonomic factors. Group presentations of anthropotechnical standards ("Ergonomics", "Ergonomic design", "Work protection", "Work safety"). Seminar discussion on given issues. Evaluation of the work of the students involved. Information on the necessary preparation of students for the next class.

3. Classes:

The complexity of management processes in the field of ergonomics in selected entrepreneurial industries. Group presentations of Polish and international publications related to this issue. Seminar and round table discussion on presented examples of literature. Evaluation of the work of the students involved. Information on the necessary preparation of students for the next class.

4. Classes:

Problems of shaping ergonomic quality of workplaces. Group presentations of Polish and international publications related to this issue. Seminar and round table discussion on presented examples of



literature. Evaluation of the work of the students involved. Information on the necessary preparation of students for the next class.

5. Classes:

Problems of shaping the ergonomic quality of products and tools of everyday usability. Group presentations of Polish and international publications related to this issue. Seminar and round table discussion on presented examples of literature. Evaluation of the work of the students involved. Information on the necessary preparation of students for the next class.

6. Classes:

The problems of ergonomics of specialized and technological equipment. Group presentations of Polish and international publications related to this issue. Seminar and round table discussion on presented examples of literature. Evaluation of the work of the students involved. Information on the necessary preparation of students for the next class.

7. Classes:

Issues related to the impact of states on pro-economic investment and innovation policy. Group presentations of Polish and international publications related to this issue. Seminar and round table discussion on presented examples of literature. Evaluation of the work of the students involved. Summary of all classes, issuing grades for the subject.

### Teaching methods

Multimedia presentations, group work, practical and problem classes, Oxford, seminar, round table discussions, and a storm of thoughts.

### Bibliography

Basic

1. Polski Komitet Normalizacyjny, Dyrektywy, Rozporządzenia, Normy, <https://www.pkn.pl>.
2. Ergonomia : ocena stanowisk pracy, Małgorzata Wojsznis, Wydawnictwo Politechniki Poznańskiej, Poznań, 2018.
3. Projektowanie ergonomiczne, Edwin Tytyk, Wydawnictwo Naukowe PWN, Poznań, 2001.
4. Komputerowo wspomagane projektowanie systemów antropotechnicznych, Teodor Winkler, Wydawnictwa Naukowo-Techniczne, Warszawa, 2005.
5. Makroergonomia i projektowanie makroergonomiczne : materiały pomocnicze, Aleksandra Jasiak, Agnieszka Misztal, Wydawnictwo Politechniki Poznańskiej, Poznań, 2004.
6. Ergonomia produktu : ergonomiczne zasady projektowania produktów, Jan Jabłoński (red.), Wydawnictwo Politechniki Poznańskiej, Poznań, 2006.



7. Ergonomia w technice, Edwin Tytyk, Marcin Butlewski, Wydawnictwo Politechniki Poznańskiej, Poznań, 2011.

Additional

1. Powszechna historia techniki, Bolesław Orłowski, Oficyna Wydawnicza Mójąki, Warszawa, 2010.

2. Ergonomia w architekturze i urbanistyce : kierunki badań w 2015 roku, Jerzy Charatynowicz (red.), Wydawnictwo Polskiego Towarzystwa Ergonomicznego PTerg, Wrocław, 2015.

3. BHP i ergonomia dla inżynierów : projektowanie ergonomiczne procesów pracy i stanowiska roboczego, Anna Zawada-Tomkiewicz, Borys Storch, Wydawnictwo Uczelniane Politechniki Koszalińskiej, Koszalin, 2017.

4. Ergonomia w projektowaniu stanowisk pracy : podstawy teoretyczne, Ewa Górską, Edwin Tytyk, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa, 1998.

**Breakdown of average student's workload**

	Hours	ECTS
Total workload	25	1,0
Classes requiring direct contact with the teacher	15	0,5
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests, project preparation) <sup>1</sup>	10	0,5

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