

<b>STUDY MODULE DESCRIPTION FORM</b>		
Name of the module/subject <b>Ergonomic analysis of arduous work</b>		Code <b>1011105231011100209</b>
Field of study <b>Engineering Management - Part-time studies -</b>	Profile of study (general academic, practical) <b>(brak)</b>	Year /Semester <b>2 / 3</b>
Elective path/specialty <b>Quality Systems and Ergonomics</b>	Subject offered in: <b>Polish</b>	Course (compulsory, elective) <b>elective</b>
Cycle of study: <b>Second-cycle studies</b>	Form of study (full-time, part-time) <b>part-time</b>	
No. of hours Lecture: <b>14</b> Classes: <b>12</b> Laboratory: <b>-</b> Project/seminars: <b>-</b>		No. of credits <b>3</b>
Status of the course in the study program (Basic, major, other) <b>(brak)</b>		(university-wide, from another field) <b>(brak)</b>
Education areas and fields of science and art		ECTS distribution (number and %)
<b>Responsible for subject / lecturer:</b>		
<p>Adam Górný, Ph.D., Eng.                      email: adam.gorny@put.poznan.pl                      tel. 61 665 3408                      Faculty of Management Engineering                      ul. Strzelecka 11, p. 318c, 60-965 Poznań</p>		
<b>Prerequisites in terms of knowledge, skills and social competencies:</b>		
1	<b>Knowledge</b>	Basic information on safety management systems according to standards OHSAS-18001 and series PN-N-18000. Knowledge of methods of occupational risk assessment.
2	<b>Skills</b>	Ability to analyze the working environment.
3	<b>Social competencies</b>	Awareness of health and safety at work.
<b>Assumptions and objectives of the course:</b>		
The aim of the course is to familiarize students with the basic safety and health management systems at work.		
<b>Study outcomes and reference to the educational results for a field of study</b>		
<b>Knowledge:</b>		
1. Has knowledge of the subject regarding contextual sciences in relation to the management sciences, ergological sciences, the applied research methods as well as common and specific conceptual apparatus in relation to management sciences - [K2A_W01] 2. Can use the theoretical knowledge to describe and analyse the causes and processes social phenomena (cultural, political, legal, economic) as well as can formulate their own opinions and choose critical data and methods of analysis - [K2A_W06]		
<b>Skills:</b>		
1. Is able to correctly interpret and explain the phenomenon of cultural, social, political, legal, economic), and mutual relationships between social phenomena - [K2A_U01] 2. Can use the theoretical knowledge to describe and analyze the causes, the course of processes and social phenomena (cultural, political, legal, economic), as well is able to formulate his own opinions, select critical data or methods of analysis - [K2A_U02] 3. Is able to predict, model some complex social processes that involve phenomena from different areas of social life (cultural, political, legal, economic) using advanced methods and tools in the field of economic sciences and a discipline of management sciences - [K2A_U04] 4. Has the ability to use knowledge gained in different areas and forms, extended by a critical review of the effectiveness and suitability of the applied knowledge - [K2A_U06] 5. Has the ability to independently propose solutions to a specific management problem and to carry out a resolution procedure, in this regard - [K2A_U07]		
<b>Social competencies:</b>		

1. Can perceive causal relationships in the achievement of goals and rank the significance of alternative or competitive tasks - [K2A\_K03]
2. Can contribute to a factual input in the preparation of the social projects and manage the ventures resulting from these projects - [K2A\_K05]
3. Is aware of the interdisciplinary character of knowledge and skills that are needed to solve complex problems of an organization and a necessity to create interdisciplinary teams - [K2A\_K06]

### Assessment methods of study outcomes

**Formative assessment:**

Classes: on the basis of a report in a class,

Lectures: on the basis of information check from previous lectures

**Collective assessment:**

Classes: average of the grades achieved report preparation

Lectures: written test, in which at least one answer in correct (scored 0,1) or written answers to open questions (scored 0-3); Credits will be given after achieving at least 51% of points.

### Course description

The nature and objectives of safety management system and health of workers in enterprises. Characteristics of the basic models of safety management systems and health at work. Costs of occupational safety. Methods for assessing the functioning of the occupational safety management. Methods risk assessment in occupational safety management systems. Computer tools to help manage occupational safety.

The lecture is conducted in the form of a conventional lecture.

During the exercise there is the round table discussion. During the discussion, the case study and situational method are used. Preparing for classes requires a student's self-study, including work with a book.

**Basic bibliography:**

1. Dahlke G., Górny A., Horst W. (2013), Zarządzanie uciążliwością i bezpieczeństwem pracy, Wydawnictwo Politechniki Poznańskiej, Poznań.
2. Górny A. (2011), Zarządzanie ryzykiem zawodowym, Wydawnictwo Politechniki Poznańskiej, Poznań.
3. Górnska, E., Lewandowski, J. (2010), Zarządzanie i organizacja środowiska pracy. Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa.
4. Karczewski J.T., Karczewska, K.W. (2012), Zarządzanie bezpieczeństwem pracy, ODiDK, Gdańsk.

**Additional bibliography:**

1. prac. zb. (2013), Zarządzanie. Teoria i praktyka, PWN, Warszawa
2. Bryła R. (2011), Bezpieczeństwo i higiena pracy, Elamed, Katowice.
3. Górny A. (2009), Kształtowanie warunków oświetleniowych jako czynnika minimalizacji uciążliwości pracy, [w:] J. Charytonowicz (red.), Wybrane kierunki badań ergonomicznych w 2009 roku, ss. 59-70, Wydawnictwo Polskiego Towarzystwa Ergonomicznego PTErg, Oddział we Wrocławiu, Wrocław.
4. Górny A. (2011), Kryteria SMART w planowaniu działań podejmowanych po ocenie ryzyka zawodowego, [w:] J. Charytonowicz (red.), Zastosowania ergonomii. Wybrane kierunki badań ergonomicznych w 2011 roku, ss. 75-86, Wydawnictwo Polskiego Towarzystwa Ergonomicznego PTErg, Oddział we Wrocławiu, Wrocław.
5. Górny A. (2008), Wykorzystanie FMEA w procesie identyfikacji zagrożeń i oceny ryzyka zawodowego, [w:] J. Charytonowicz, W. Pilecki (red.), Zastosowania Ergonomii / Wybrane kierunki badań ergonomicznych w 2008 roku, ss. 75-86, Wydawnictwo Polskiego Towarzystwa Ergonomicznego PTErg, Oddział we Wrocławiu, Wrocław.
6. Górny A., Ogrodowczyk P. Górny A. (2008), Wykorzystanie elementów systemowego zarządzania bezpieczeństwem pracy w doskonaleniu warunków pracy, [w:] E. Kowal (red.), Inżynieria Ergonomii, t. II: Zarządzanie warunkami pracy, ss. 15-24, Uniwersytet Zielonogórski, Zielona Góra.

### Result of average student's workload

Activity	Time (working hours)
1. Participation in lectures	14
2. Participation in classes	12
3. Preparation for classes	25
4. Consultations with a supervisor	15
5. Preparation for the final exam	20

### Student's workload

<b>Source of workload</b>	<b>hours</b>	<b>ECTS</b>
Total workload	86	3
Contact hours	26	2
Practical activities	12	1