



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Engineering thesis - team project [S1IBiJ1>PIPZ]

### Course

Field of study

Safety and Quality Engineering

Year/Semester

4/7

Area of study (specialization)

–

Profile of study

general academic

Level of study

first-cycle

Course offered in

Polish

Form of study

full-time

Requirements

compulsory

### Number of hours

Lecture

0

Laboratory classes

0

Other (e.g. online)

0

Tutorials

0

Projects/seminars

90

### Number of credit points

15,00

### Coordinators

dr hab. inż. Agnieszka Misztal prof. PP  
agnieszka.misztal@put.poznan.pl

### Lecturers

### Prerequisites

Student has knowledge of a subject within the standards of education at first-cycle studies in the field of Safety Engineering. Student is able to use knowledge acquired during the studies that enables to describe, analyze, evaluate, design and verify safety problems in practice. Student is responsible, can interact with others and work in a team. Student understands need for lifelong learning and acting in accordance with the rules.

### Course objective

Substantive, methodical and editorial support while writing the diploma thesis as a work confirming the acquisition of knowledge, skills and social competences by the graduate.

### Course-related learning outcomes

Knowledge:

1. The student has expanded knowledge about issues life cycle of products, devices, objects, systems and technical systems, as well as quality engineering in relation to products and processes sufficiently to take up solution to the problem of security in business practice. [K1\_W06]
2. The student knows at an advanced level methods, techniques, tools and materials used in preparation

for conducting scientific research and undertaking research topic in the diploma thesis using information technology, information protection and computer aided. [K1\_W11]

3. The student knows at an advanced level concepts and principles of copyright protection, information security and intellectual property protection in a market economy that relate to the thesis. [K1\_W12]

Skills:

1. The student is able to properly select sources and information derived from them for purpose of their evaluation, critical analysis and synthesis for purposes of the thesis. [K1\_U01]

2. The student is able to use various techniques to communicate in vocational and other environments in order to obtain the data necessary to solve the problem. [K1\_U02]

3. The student is able to use analytical, simulation and experimental methods for solving the diploma problem, also using information and communication methods and tools. [K1\_U04]

4. The student is able to make a critical analysis of the way it functions and assess - in conjunction with Safety Engineering - existing technical solutions, in particular machines, devices, objects, systems, processes and services. [K1\_U06]

5. The student can design an object, system or process that meets the requirements of safety engineering using appropriate methods and techniques and make a preliminary economic assessment. [K1\_U07]

6. The student is able to plan, organize and implement individual and team work and carry out experiments, including computer measurements and simulations, interpret obtained results and draw conclusions. [K1\_U11]

7. The student is able to identify changes in requirements, standards, regulations and technical progress and the reality of the labour market and, on the basis of these changes, to determine the needs for completing knowledge. [K1\_U12]

Social competences:

1. The student is aware of the importance of knowledge for obtaining the ability to effectively solve problems in the field of safety engineering and to obtain opportunities for continuous improvement. [K1\_K02]

2. The student 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 the decisions. [K1\_K03]

3. The student is aware of behavior in a professional manner, compliance with the principles of professional ethics and respect for the diversity of views and cultures. [K1\_K06]

4. The student is aware of the responsibility for own work and readiness to comply with the principles of teamwork and taking responsibility for jointly implemented tasks in the work. [K1\_K07]

## Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Rating forming:

On the basis of ongoing progress in the formulation of the research problem and work objectives and the selection and justification of research methods, student involvement, advancement of research work and independent inference.

Rating summary:

Assessment of the process of preparing the diploma thesis and the results obtained.

passing threshold: 60% of the points.

## Programme content

Preparation of the work plan. Setting goals scope of work. Justification for the choice of topic. Analysis of related literature. Presentation of the research area. Selection and justification of the research method, study plan. Implementation of own research. Formulation of conclusions. Presentation of the prepared thesis.

## Course topics

none

## Teaching methods

Talk, explanation, work with a book and magazine, work with bibliographic databases, problem method, workshop method, presentation

## Bibliography

Basic:

1. Regulamin realizacji prac dyplomowych oraz przebiegu egzaminu dyplomowego (materiały wewnętrzne Wydziału inżynierii Zarządzania opublikowane na stronie internetowej).
2. Czakon W. (red.), Podstawy metodologii badań w naukach i zarządzaniu, Oficyna a Wolters Kluwer business, Warszawa 2015.
3. Majchrzak J., Mendel T., Metodyka pisania prac magisterskich i dyplomowych : poradnik pisania prac promocyjnych oraz innych opracowań naukowych wraz z przygotowaniem ich do obrony lub publikacji, Wydawnictwo Uniwersytetu Ekonomicznego, Poznań 2009.
4. Dudziak A., Żejmo A., Redagowanie prac dyplomowych: wskazówki metodyczne dla studentów, Centrum Doradztwa i Informacji Difin, Warszawa 2008.
5. Kłós Z. (red.), Rozprawy naukowe, Wydawnictwo Politechniki Poznańskiej, Poznań 2011

Additional:

1. Borcz L., Vademecum pracy dyplomowej, Wydawnictwo WSEiA, Bytom 2001.
2. Wójcik K., Piszę akademicką pracę promocyjną, Placet, Warszawa 2005.
3. Szkutnik Z., Metodyka pisania pracy dyplomowej, Wydawnictwo Poznańskie, Poznań 2005.

## Breakdown of average student's workload

	Hours	ECTS
Total workload	375	15,00
Classes requiring direct contact with the teacher	90	4,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	285	11,00