



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Diploma Seminar with introduction to scientific research

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### Course

Field of study

Safety Engineering

Area of study (specialization)

Level of study

First-cycle studies

Form of study

part-time

Year/Semester

4/7

Profile of study

general academic

Course offered in

polish

Requirements

compulsory

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### Number of hours

Lecture

Laboratory classes

Other (e.g. online)

Tutorials

Projects/seminars

20

### Number of credit points

2

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### Lecturers

Responsible for the course/lecturer:

dr hab. inż. Agnieszka Misztal prof. PP

Wydział Inżynierii Zarządzania

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Responsible for the course/lecturer:

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### Prerequisites

Student has knowledge of business processes, design, organisation and implementation production processes as well as in area of design, evaluation, verification and implementation of safety engineering



solutions. 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

To acquaint students with theoretical and practical problems related to development of engineering thesis, essence and principles of appropriate selection research method, proper conduct of research and analysis of data obtained, correct conduct regarding the use and reference to literature, correct interpretation results and proper preparation for presentation work.

### Course-related learning outcomes

#### Knowledge

1. knows issues in field of threats and their effects, as well as human ergonomics and ecology sufficient to undertake solution to problem of security in business practice [P6S\_WG\_03, P6S\_WG\_05]
2. knows 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 [P6S\_WG\_06, P6S\_WG\_07]
3. knows basic 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 [P6S\_WK\_04]
4. knows basic concepts and principles of copyright protection, information security and intellectual property protection in a market economy that relate to the thesis [P6S\_WK\_05]
5. knows problems arising from the activities of enterprises in the market environment that translate into issues analyzed in the thesis [P6S\_WK\_06]

#### Skills

1. 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 [P6S\_UW\_01]
2. is able to use analytical, simulation and experimental methods for solving the diploma problem, also using information and communication methods and tools [P6S\_UW\_04]
3. is able to prepare necessary resources for functioning in an industrial environment while collecting data for the thesis, and knows safety principles related to this thesis and is able to force their application in practice [P6S\_UW\_05]
4. is able to demonstrate by means of appropriate personal issue included in the thesis [P6S\_UK\_01]

#### Social competences

1. is able to see cause-effect relationships in achieving objectives of the thesis and rank importance of alternative or competitive tasks [P6S\_KK\_01]



2. is aware of recognition importance of knowledge in solving problems posed in diploma thesis and continuous improvement [P6S\_KK\_02]
3. is able to initiate activities related to formulation and transfer information in field of security engineering [P6S\_KO\_02]
4. is aware of responsibility for own work for thesis and readiness to comply with rules of teamwork and taking responsibility for jointly implemented tasks [P6S\_KR\_02]

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Formative assessment: based on current progress in area of: formulation research problem and work objectives, selection of literature, selection and justification research methods

Collective assessment:

- written test checking skills of: a) proper reference to source literature b) describing drawings; c) describing tables. (50% rating)
- presentation subject of the thesis (50% of the grade)

### Programme content

Purpose and principles of writing a scientific work. Basic principles onstruction of work (summary, introduction, justification of the topic selection, purpose and scope of the work, literature review, practical and research part, real data of studied enterprise, suggestions for solution problem and summary). Characteristics of work structure, division text into chapters, subchapters, etc.

Basic rules for preparing defense of thesis. Discussing course of diploma exam.

The essence of clearly stating and justifying the research problem, the purpose and scope of work (exercises in groups). Development of the thematic card of the diploma thesis.

Collecting, assessing and selecting literature and other materials used in thesis. Searching for sources in bibliographic databases. The correct way to refer to literature sources in text, descriptions of drawings and tables. Rules for creating a list of literature. Elements of regulation regarding copyright to works and principles of fair use. Regulations regarding anti-plagiarism checks.

The essence of reviewing research methods, establishing criteria for assessing their adequacy in relation to problem raised in thesis and justifying the choice for the needs of the practical part.

The importance of discussing research method, research plan, how to collect and save data.

Guidelines for correct analysis of data for purpose of solving research problem posed (basic analytical tools, correct creation and description of charts, tables, diagrams, drawings, photos).

The essence of interpretation results obtained in context research questions posed. Development of solution concepts, projects and other achievements based on research results.



Requirements for technical preparation and editing of work.

Requirements for proper way of preparing thesis presentation.

Presentations of theses prepared.

### Teaching methods

Problem lecture, talk, explanation, work with a book and magazine, work with bibliographic databases, problem method, workshop method, presentation.

### Bibliography

#### Basic

1. Rozpondek M., Wyciślik A., Seminarium dyplomowe: praca dyplomowa magisterska i inżynierska : pierwsza praca - know how, Wydawnictwo Politechniki Śląskiej, Gliwice 2007.
2. 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.
3. Dudziak A., Żejmo A., Redagowanie prac dyplomowych : wskazówki metodyczne dla studentów, Centrum Doradztwa i Informacji Difin, Warszawa 2008.
4. Kolman R., Zdobywanie wiedzy: poradnik podnoszenia kwalifikacji (magisteria, doktoraty, habilitacje), Oficyna Wydawnicza Branta, Bydgoszcz-Gdańsk 2004.
5. Kłos Z. (red.), Rozprawy naukowe, Wydawnictwo Politechniki Poznańskiej, Poznań 2011.
6. Regulamin realizacji prac dyplomowych oraz przebiegu egzaminu dyplomowego (materiały wewnętrzne Wydziału inżynierii Zarządzania opublikowane na stronie internetowej).

#### 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.
4. Pułło A., Prace magisterskie i licencjackie. PWN, Warszawa, 2001.



### Breakdown of average student's workload

	Hours	ECTS
Total workload	30	2,0
Classes requiring direct contact with the teacher	20	1,0
Student's own work (literature studies, preparation for seminar, preparation of the presentation) <sup>1</sup>	10	1,0

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