# STUDY MODULE DESCRIPTION FORM

| Name of the module/subject | Code |
|---|---|
| **Risk analysis** | **1011101121011122936** |

| Field of study | Profile of study (general academic, practical) | Year /Semester |
|---|---|---|
| **Safety Engineering - Full-time studies - First-** | **(brak)** | **1 / 2** |
| Elective path/specialty | Subject offered in: | Course (compulsory, elective) |
| **-** | **Polish** | **obligatory** |

| Cycle of study: | Form of study (full-time,part-time) |
|---|---|
| **First-cycle studies** | **full-time** |

| No. of hours | No. of credits |
|---|---|
| Lecture: **15** Classes: **30** Laboratory: **-** Project/seminars: **-** | **4** |

| Status of the course in the study program (Basic, major, other) | (university-wide, from another field) |
|---|---|
| **(brak)** | **(brak)** |

| Education areas and fields of science and art | ECTS distribution (number and %) |
|---|---|
| | |

**Responsible for subject / lecturer:**

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**Responsible for subject / lecturer:**

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**Prerequisites in terms of knowledge, skills and social competencies:**

| | | |
|---|---|---|
| 1 | **Knowledge** | Rudimentary knowledge of probability theory and technology fundamentals |
| 2 | **Skills** | Solving easy exercises in probability |
| 3 | **Social competencies** | Ability to work in a group |

**Assumptions and objectives of the course:**

Understanding of certain concepts such as: threat and risk, ability to identify and assess the criticality of events that exist in working environment.; ability to assess risk by means of quality and quantity methods (selection of an appropriate method)

**Study outcomes and reference to the educational results for a field of study**

**Knowledge:**

1. Knows risk assessment methods - [K1A_W09]

**Skills:**

1. When formulating and solving engineering tasks, a student can discern their systemic and non-technical aspects - [K1A_U10]
2. Knows safety rules connected with work in an industrial environment - [K1A_U11]

**Social competencies:**

1. Understands the need to make progress, gain knowledge and acquire new skills - [K1A_K01]
2. Understands the influence of engineering activity on an environment - [K1A_K02]

**Assessment methods of study outcomes**

Formative assessment:

a) Classes: current/ongoing evaluation of the tasks

b) Lectures: evaluations based on questions relating to the presented materials during the current and previous lectures

Collective assessment:

a) Classes: reports presentation (based on classes);

b) Lectures: written test (4 open questions presented during the lecture; the final test pass equals at least 3.0

## Course description

Concepts of risk, misfortunes, initiating events, critical events. Classification of threats. Potential threats. Workplace accidents, failures. Threat assessment and inconveniences in a workplace, industry and services. Occupational risk, process risk, environmental risk. Heuristic methods of risk assessment. Risk estimation. Risk assessment by means of matrix, indicative and graphic methods. Delineating safety loss. Multidimensional risk assessment. Assessment of risk acceptability based on probabilistic methods.

## Basic bibliography:

## Additional bibliography:

## Result of average student's workload

| Activity | Time (working hours) |
|---|---|
| 1. lecture | 15 |
| 2. classes | 30 |
| 3. consultation with a lecturer | 10 |

## Student's workload

| Source of workload | hours | ECTS |
|---|---|---|
| Total workload | 55 | 4 |
| Contact hours | 40 | 2 |
| Practical activities | 30 | 2 |