



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

German Course [S1MNT1>JNiem1]

### Course

Field of study

Mathematics of Modern Technologies

Year/Semester

1/1

Area of study (specialization)

–

Profile of study

general academic

Level of study

first-cycle

Course offered in

Polish

Form of study

full-time

Requirements

elective

### Number of hours

Lecture

0

Laboratory classes

0

Other

0

Tutorials

60

Projects/seminars

0

### Number of credit points

2,00

### Coordinators

mgr Maja Rakiewicz

maja.rakiewicz@put.poznan.pl

### Lecturers

### Prerequisites

• Knowledge: The already acquired language competence compatible with level B1 (CEFR) -[PQF 4]. • Skills: The ability to use vocabulary and grammatical structures required on the high school graduation exam regarding productive and receptive skills - [PQF 4]. • Social competence: The ability to work individually and in a group; the ability to use various sources of information and reference works.

### Course objective

• advancing students' language competence towards at least level B2 (CEFR); • development of the ability to use academic and field specific language effectively in both receptive and productive language skills; • improving the ability to understand field specific texts (familiarizing students with basic translation techniques); • improving the ability to function effectively on an international market and on a daily basis.

### Course-related learning outcomes

Knowledge:

• knows and understands to an advanced degree terminology in the field of mathematics and selected issues in the field of engineering and technical sciences related to the field of study, also in a foreign language [K\_W03(P6S\_WG)];

- knows and understands the grammar and lexical rules of the German language and uses them effectively in various types of written and oral statements.

#### Skills:

- can use a foreign language to a sufficient extent to communicate, as well as to read and understand mathematical texts, technical documentation and similar documents [K\_U15(P6S\_UK)];
- give a talk on a field specific or popular science topic (in German), and discuss general and field specific issues using an appropriate linguistic and grammatical repertoire;
- express basic mathematical formulas and to interpret data presented on graphs/diagrams.

#### Social competences:

- the student is able to critically assess the level of his knowledge in relation to research in exact and natural sciences as well as engineering and technical sciences [K\_K01(P6S\_KK)];
- the student is able to recognize and understand cultural differences in a professional and private conversation, and in a different cultural environment.

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

#### Tutorials:

- formative assessment: assessment during language classes: oral performance, written assignments, speech/presentation, tests;
- summative assessment: credit.

### Programme content

Creating communicational skills in academic, business and social situations

Academical, offer, report and business e-mails writing

Developing language competence concerning first of all specialistic vocabulary

Understanding grammatical issues on the B2 level

### Course topics

#### Tutorials:

- types of numbers, fraction, decimals;
- mathematical operations, powers, roots, logarithms;
- numbers systems;
- mathematical terms and symbols;
- basic concepts in geometry, plane figures and solids;
- the role of functions in mathematics and technology;
- types of sets.

### Teaching methods

Classroom activities guided by the communicative approach. Multimedia. Text analysis. Brainstorming, Mind Maps.

### Bibliography

#### Basic:

- Steinmetz, M. / Dintera, H.: Deutsch für Ingenieure, Ein DaF Lehrwerk für Studierende ingenieurwissenschaftlicher Fächer, Springer Vieweg, Wiesbaden 2014.

#### Additional:

- Bindner, H.-Buhlmann, R.: MNF Einführung zur mathematisch-naturwissenschaftlichen Fachsprache: Mathematik, Hueber Verlag, München 1992;
- Kotowski, S.: Słownik pojęć i kontekstów matematycznych, wydawnictwo Biła, Rzeszów 2010;
- materiały online.

### Breakdown of average student's workload

|                                                                                                                                            | Hours | ECTS |
|--------------------------------------------------------------------------------------------------------------------------------------------|-------|------|
| Total workload                                                                                                                             | 67    | 2,00 |
| Classes requiring direct contact with the teacher                                                                                          | 60    | 2,00 |
| Student's own work (literature studies, preparation for laboratory classes/<br>tutorials, preparation for tests/exam, project preparation) | 7     | 0,00 |