



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Internship [S1MNT1>Prakt]

Course

Field of study

Mathematics of Modern Technologies

Year/Semester

3/6

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)

160

Tutorials

0

Projects/seminars

0

Number of credit points

6,00

Coordinators

dr Leszek Wittenbeck

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Lecturers

Prerequisites

Student has basic knowledge, skills and social competences resulting from the realisation of the study programme for Mathematics and data analysis. Student is familiar with the rules of practical placement and the conditions of their passing.

Course objective

To verify the student's theoretical knowledge and to gain new professional experience in real working conditions.

Course-related learning outcomes

Knowledge:

K_W09(P6S_WG), K_W11(P6S_WG), K_W13(P6S_WK)):

- knows and understands the relationship between mathematics and other disciplines, including from engineering sciences, in particular the use of mathematical tools as a basis for the description of technical phenomena and problems;
- knows and understands theoretical and practical principles concerning the design, construction, operation and exploitation of devices, systems, etc., as well as processes occurring during their life cycle;

- knows and understands the impact of social and civilisational changes on the lifestyle of society;
- knows and understands the principles of ergonomics, health and safety at work;
- knows and understands the social / ethical / economic / legal / other non-technical determinants of engineering activities;
- knows and understands the basic concepts and principles of intellectual property protection / data protection / copyright protection or patent law;
- knows and understands the basic legal / economic conditions related to professional activity, including the principles of creation and development of forms of individual entrepreneurship.

Skills:

K_U 12(P 6S_U W), K_U 13(P 6S_U W), K_U 14(P 6S_U K), K_U 15(P 6S_U K), K_U 16(P 6S_U O), K_U 17(P 6S_U U)):

- is able to apply, to an advanced degree, knowledge of mathematics related to the field of study;
- is able to apply knowledge from other disciplines including engineering sciences related to the field of study;
- is able to operate equipment, tools, etc. in accordance with general requirements and technical documentation / is able to apply the principles of safety and hygiene at work;
- is able to select appropriate sources of knowledge and obtain the necessary information and critically analyse and evaluate complex engineering solutions and problems;
- is able to formulate an engineering problem, carry out detailed research using analytical / simulation / experimental methods, interpret the results obtained and formulate appropriate conclusions;
- is able to perceive non-technical aspects, including environmental / economic / ethical / legal aspects when formulating and solving engineering problems;
- is able to design, build and test a simple system / object / device etc. using appropriate methods / techniques / tools;
- is able to prepare documentation or prepare a speech with a multimedia presentation on the implementation of an engineering task, using specialised terminology;
- is able to present the obtained results in the form of a presentation or a report using data visualisation / computer graphics, using specialist terminology, also in a foreign language;
- is able to work individually and in a team, is able to estimate the time needed to complete a given task and to complete it in accordance with a prepared schedule ensuring meeting the deadline;
- is able to independently plan and educate himself/herself in order to improve and update his/her competences.

Social competences:

- is ready for further education due to awareness of the limitations of his/her own knowledge;
- is ready to improve and update his/her competence in IT tools, in particular programming language / programming environment / software package;
- is ready to formulate questions precisely in order to deepen his/her own understanding of a given issue or to find missing elements of reasoning;
- is ready to apply current knowledge and acquired mathematical skills, including logical thinking, to solve cognitive and practical problems;
- is ready to support other academic units/industry etc. in mathematical modelling/statistical inference / data analysis and processing for the benefit of the social environment;
- is ready to undertake work in a specific position with an awareness of responsibility for its results;
- is ready to act ethically/respect intellectual property in his/her own actions and to inspire others to observe professional ethics;
- is ready to fulfil his/her social role as a graduate of a technical university, including communicating popular scientific content to the public and identifying and solving basic problems concerning the field of study and promoting mathematics as a basis for analytical reasoning and precise formulation of correct conclusions.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Projects/seminars: credit for internships based on:

- completion of the tasks set out in the internship programme;
- a report on the course of the placement certified by the placement supervisor;
- a certificate of completion of the practical placement issued by the host entity;
- questionnaires describing the achieved learning outcomes.

Programme content

Update: 01.06.2023r.

Projects/seminars:

- training in health and safety at work and fire regulations;
- familiarity with the applicable work regulations and conditions for the protection of professional secrecy;
- familiarisation with the structure and functioning of the company;
- implementation of the individual training programme;
- preparation of a report on the course of the internship.

Course topics

The training in health and safety rules and fire regulations.

The familiarization with the applicable regulations and the terms of employment protection, state and official secrets.

The familiarization with the company structure.

The implementation of individual internship program.

The preparation of the internship report.

Teaching methods

Projects/seminars:

Bibliography

Basic:

- Regulamin organizacji praktyk studenckich objętych programem studiów na Wydziale Automatyki, Robotyki i Elektrotechniki Politechniki Poznańskiej;
- Regulamin studiów pierwszego i drugiego stopnia oraz jednolitych magisterskich uchwalony przez Senat Akademicki Politechniki Poznańskiej (uchwała Nr 154/2016-2020 z dnia 24 kwietnia 2019r.).

Additional:

- Rozporządzenie Ministra Pracy i Polityki Socjalnej z dnia 26 września 1997 r. w sprawie ogólnych przepisów bezpieczeństwa i higieny pracy (Dz.U. 2003 nr 169 poz. 1650);

Breakdown of average student's workload

	Hours	ECTS
Total workload	160	6,00
Classes requiring direct contact with the teacher	160	6,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	0	0,00