



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Internship [S2EiT1>PRAKT]

### Course

Field of study

Electronics and Telecommunications

Year/Semester

1/1

Area of study (specialization)

–

Profile of study

general academic

Level of study

second-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

3,00

### Coordinators

dr inż. Janusz Kleban

janusz.kleban@put.poznan.pl

### Lecturers

dr inż. Janusz Kleban

janusz.kleban@put.poznan.pl

### Prerequisites

The student has knowledge of basic and major courses (modules) included in the programme for the Electronics and Telecommunications study field. Knows the basic principles of occupational health and safety, understands the need for further training. Is able to perform tasks adapted to the skills of a student of Electronics and Telecommunications, in accordance with the implementation of the study program in the field of basic and major subjects. Knows the principles of organization and implementation of internships contained in the following documents: (1) Rules and regulations for student internships at Poznan University of Technology; (2) Credit Awarding Procedure for Student Internships under the Curriculum of the Faculty of Computing and Telecommunications of PUT; (3) Credit Awarding Procedure for Student Internships under the Curriculum of the Faculty of Computing and Telecommunications of PUT on the Basis of Professional Experience.

### Course objective

To develop the knowledge acquired at university courses and to learn how the theoretical knowledge can be used in solving practical problems with a research component. Developing interests in the areas in which students intend to write master's theses. Improving the ability to organize own and team work, as well as shaping responsibility for the work performed and decisions made.

## Course-related learning outcomes

Knowledge 1. Basic knowledge of management.

2. The student has knowledge, together with a necessary practical background, of basic and major courses (modules) taught in the Electronics and Telecommunications study field.

3. Basic knowledge on the design, construction and repair of electronic, optical and optical electronic devices, telecommunication networks and assessment of electromagnetic fields.

4. Knowledge on the design and architecture of programmable digital circuits and their practical applications in studying multimedia systems and mechanisms used in ICT networks.

5. Knowledge on network security and data security.

6. Knowledge on satellite communications.

7. Knowledge in the field of optimization, signal processing and simulation.

Skills 1. The student is able to practically apply the knowledge gained during the academic curriculum.

2. Can effectively implement the occupational health and safety principles.

3. Ability to use digital programmable circuits in practice.

4. Ability to configure network devices and various security solutions.

5. Ability to evaluate the parameters and configuration of satellite systems.

6. Practical skills in the application of optimization, numerical methods and simulations.

Social competences

1. Awareness of the need for a professional approach to solving technical problems and being responsible for proposed technical solutions.

2. Sense of responsibility for the designed electronic and communication systems and awareness of possible threats to other people or society if they are designed or built inappropriately.

3. Understands the dilemmas related to working in electronics and telecommunication. Is able to think and act in a businesslike way.

## Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Achievement of learning outcomes is verified by the internship supervisor on the basis of the following documents: (1) report on internship completion, in which the achievement of the assumed learning outcomes was confirmed by the internship supervisor in the enterprise; (2) certificate of internship completion - if it was issued by the institution hosting the student for the internship.

If the student completes the internship on the basis of professional experience, the following documents provided by the student are analyzed: (1) report on internship completion - completed and signed by a representative of the enterprise, (2) original document confirming employment. The professional work performed must guarantee the achievement of the learning outcomes assumed for student internships.

## Programme content

The basic tasks of the trainee should include:

1. Completing health and safety training according to the regulations applicable to the employees of the department in which the student is taking up the internship.

2. Acquaintance with the profile of activities and principles of work organization in the enterprise, organizational structures, division of competences, work planning and control procedures as well as document circulation and information flow.

3. Getting to know the company's IT infrastructure, how is used the Internet techniques in the company's operations, and technical data protection problems.

4. Active participation in solving practical problems consisted (depending on the specificity of the workplace), among others of:

a) performing an independent project task or a task that is part of a team project, taking into account the level of knowledge of the trainee in the field of electronic, optical or optoelectronic systems, telecommunications networks, electromagnetic fields, etc. and set account for this task;

b) performing an independent project (or part of a team task) or simulation using programmable digital circuits in the area of multimedia systems and services, as well as computer or telecommunication networks;

c) performing independent tasks or project in the field of security systems, in particular related to network security and secure data transmission, e.g. configuration of network equipment and protocols;

d) performing independent tasks regarding satellite telecommunication systems;

e) performing research tasks in the field of optimization, signal processing and simulation to improve practical skills related to optimization implementation, numerical methods and simulations, as well as to

gain a broad view of the problems faced by electronics and telecommunications.

5. Preparation of the report on internship completion.

## Teaching methods

Depending on the location of the internship and the tasks carried out, the following teaching methods can be used: (1) problem or conversation lecture; (2) exchange of ideas (brainstorming); (3) project method or expert tables; (4) observation, measurement in the field.

## Bibliography

### Basic

1. Study regulations of full-time and part-time first and second cycle and long-cycle studies adopted by the Academic Senate of Poznań University of Technology

2. Rules and regulations for student internships at Poznan University of Technology

3. Credit Awarding Procedure for Student Internships under the Curriculum of the Faculty of Computing and Telecommunications of PUT

4. Credit Awarding Procedure for Student Internships under the Curriculum of the Faculty of Computing and Telecommunications of PUT on the Basis of Professional Experience

Documents [2, 3, 4] can be downloaded from the website: <https://cat.put.poznan.pl/harmonogramy/praktyki-i-staze/procedura-i-dokumenty>.

### Additional

1. B. Rączkowski, BHP w praktyce. Gdańsk: ODDK, 2014

## Breakdown of average student's workload

	Hours	ECTS
Total workload	160	3,00
Classes requiring direct contact with the teacher	0	0,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	160	3,00