STUDY MODULE DESCRIPTION FORM

Name of the module/subject **Technologies of information (ECDL)**		Code **1010341711010349394**
Field of study **Mathematics in Technology**	Profile of study (general academic, practical) **general academic**	Year /Semester **1 / 1**
Elective path/specialty **-**	Subject offered in: **Polish**	Course (compulsory, elective) **obligatory**
Cycle of study: **First-cycle studies** **(Polish Qualifications Framework level six)**	Form of study (full-time,part-time) **full-time**	
No. of hours Lecture: **-** Classes: **-** Laboratory: **60** Project/seminars: **-**		No. of credits **3**
Status of the course in the study program (Basic, major, other) **basic**	(university-wide, from another field) **university-wide**	
Education areas and fields of science and art **The sciences** **Mathematical sciences**		ECTS distribution (number and %) **3 100%** **3 100%**

Responsible for subject / lecturer:

dr inż. Karol Gajda
email: karol.gajda@put.poznan.pl
tel.61 665 2805
Faculty of Electrical Engineering
ul. Piotrowo 3A 60-965 Poznań

Responsible for subject / lecturer:

dr Leszek Wittenbeck
email: leszek.wittenbeck@put.poznan.pl
tel. 61 665 2816
Faculty of Electrical Engineering
ul. Piotrowo 3A 60-965 Poznań

Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Basic knowledge of high school. (PQF 4)
2	**Skills**	Computer skills. The ability of effective self-education in the field related to the chosen field of study. (PQF 4)
3	**Social competencies**	Knowledge of the limits of own knowledge and understanding the need for further education. (PQF 4)

Assumptions and objectives of the course:

Obtaining the knowledge, skills and competences in the field of information technologies with special emphasis on the requirements of the European Computer Driving Licence Advanced in the field of advanced word processing, presentation graphics and spreadsheets.

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

Knowledge:

1. has expanded and deep knowledge of mathematical modeling - [K_W02 (P6S_WG)]

2. has the ordered and theoretically founded knowledge of computer science, including numerical methods; knows at least one software package or programming language - [K_W06 (P6S_WG)]

Skills:

1. is able to use devices, tools, etc. in accordance with general requirements and technical documentation; knows how to apply the principles of health and safety at work - [K_U09 (P6S_UW)]

2. is able to use the knowledge and methods and tools to solve typical engineering tasks - [K_U10 (P6S_UW)]

3. is able to prepare documentation or to prepare a presentation with a multimedia presentation related to the implementation of an engineering task using specialized terminology - [K_U12 (P6S_UK)]

4. can work individually and in a team; knows how to estimate the time needed to complete the task ordered; is able to develop and implement a schedule of works to ensure that the deadline is met - [K_U14 (P6S_UO)]

Social competencies:

1. is aware of the level of his knowledge in relation to the conducted research in exact and technical sciences - [K_K01 (P6S_KK)]
2. is aware of deepening and expanding knowledge to solve newly created technical problems - [K_K02 (P6S_KK)]
3. is able to think and act in a creative and entrepreneurial way, taking into account safety, ergonomics of work and its economic aspects, is aware of the need to initiate activities for the public interest and responsibility for the effects of the team and its participants - [K_K03 (P6S_KO)]

Assessment methods of study outcomes

Checking the skills and competences in the form of tests.

Continuous evaluation for each class (awarding bonuses to activity and quality perception).

Get extra points for the activity in the classroom, and in particular for:

- propose to discuss additional aspects of the subject;
- effectiveness of the application of knowledge when solving a given problem;
- the ability to work within a team;
- comments relating to the improvement of teaching materials;
- aesthetic accuracy reports and tasks of the self-study.

Course description

Date of revision: 31/10/2018

Standards in computer science. Hardware. Software. Digital representation of data. Services in computer networks.

Word processing:

- Use advanced text formatting, paragraph, column and table formatting. Converting text into tables and tables in the text.
- Working with references such as footnotes, endnotes, and signatures. Creating a table of contents, links and references.
- Increasing labor productivity through the use of building blocks, templates and forms.
- Efficient use of macros and advanced mail merge options.
- The use and application options in the text linking, connecting and inserting objects to data integration.
- Working with documents main and subordinate. The use of security features document.
- Work with watermarks, sections, headers and footers.

Managerial and presentation graphics:

- The impact of the auditorium and the environment delivering a presentation on the planning and design presentation.
- Ability to create and modify templates and format slide background.
- Ability enrichment presentations using built-in drawing tools and image processing. The ability to insert and modify diagrams and formatting charts at the advanced level.
- The ability to insert music and video files for presentation and use of animation.
- Ability to use links to files, inserting objects embedded in order to link data.
- Create custom slide shows, setting the parameters of the show and control the slideshow.

Spreadsheets:

- Use advanced formatting options such as conditional formatting or define your own numerical formats.
- Using the related operations logical, statistical and financial.
- Create charts and the use of advanced formatting charts.
- Use pivot tables to analyze the data, sorting and filtering data.
- Define scenarios.
- Operations in the worksheet using the names assigned to cell ranges, macros and templates.
- Defining the criteria for validation of data entered into the worksheet.
- The use of links, import the data into the worksheet, change tracking.
- Compare and Merge Workbooks.
- Protecting sheets.

Basic bibliography:

1. Alicja Żarowska-Mazur, Waldemar Węglarz, ECDL Advanced na skróty, syllabus V. 2.0, edycja 2015, Wydawnictwo Naukowe PWN, 2015

Additional bibliography:

1. Mirosława Kopertowska, Witold Sikorski, Przetwarzanie tekstu. Poziom zaawansowany
2. Mirosława Kopertowska, Witold Sikorski, Grafika menedżerska i prezentacyjna. Poziom zaawansowany
3. Mirosława Kopertowska, Witold Sikorski, Arkusze kalkulacyjne. Poziom zaawansowany

Result of average student's workload

Activity	Time (working hours)
1. participation in laboratory classes (30x2 hrs)	60
2. participation in the consultations related to the implementation of the education process, in particular laboratory / project	5
3. completion (within own work) reports on laboratory exercises.	5
4. familiarization with the indicated literature / teaching materials	10

Student's workload

Source of workload	hours	ECTS
Total workload	80	3
Contact hours	65	2
Practical activities	70	3