COURSE DESCRIPTION CARD - SYLLABUS

Course name
Technologies of information II [S1MwT1>TI2]

Course

Field of study
Mathematics in Technology

Year/Semester
1/2

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
30

Other (e.g. online)
0

Tutorials
0

Projects/seminars
0

Number of credit points
2,00

Coordinators

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Lecturers

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Prerequisites

Knowledge of the course of Information Technology from the first semester. Computer skills. The ability to effectively self-education in a field related to the chosen field of study. Knowledge of the limits of their knowledge and understanding of the need for further education.

Course objective

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 an advanced database use. Obtaining the knowledge, skills and competence in the typesetting and presentations using TEX/LATEX.

Course-related learning outcomes

Knowledge
• has expanded and deep knowledge of mathematical modeling;
• has the ordered and theoretically founded knowledge of computer science, including numerical methods; knows at least one software package or programming language.
Skills

• 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;
• is able to use the knowledge and methods and tools to solve typical engineering tasks;
• 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;
• 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.
Social competences
• is aware of the level of his knowledge in relation to the conducted research in exact and technical sciences;
• is aware of deepening and expanding knowledge to solve newly created technical problems;
• 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.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

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

Programme content

Database:
– knowledge of basic concepts related to the design and use of databases;
– creating a relational database using advanced functions for creating tables and complex relationships between tables;
– designing and using queries to create tables, update tables, delete and append data using wildcards, parameters and calculations;
– use of controls and subforms to improve the functionality of forms;
– use of controls in reports to perform calculations and create subreports to increase the transparency of the presented data;
– improving productivity through the use of macros and import and data integration functions;
TEX/LATEX:
– creating documents, including diploma theses, using TEX/LATEX;
– creating a presentation using TEX/LATEX.

Teaching methods

• laboratories supplemented with multimedia presentations;
• detailed reviewing of reports by the laboratory chair and discussions on comments;
• using tools that enable students to perform tasks at home;
• demonstrations;
• work in teams;
• computational experiments

Bibliography

Basic
• Alicja Żarowska-Mazur, Waldemar Węglarz, ECDL Advanced na skróty, syllabus V. 2.0, edycja 2015, Wydawnictwo Naukowe PWN, 2015.
• Marcin Borkowski, Bartłomiej Przybylski, LaTeX książka kucharska.
Additional
• Joyce Cox, Joan Lambert, Microsoft Access 2013 Step by step.

Breakdown of average student's workload

	Hours	ECTS
Total workload	55	2,00
Classes requiring direct contact with the teacher	30	1,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	25	1,00