COURSE DESCRIPTION CARD - SYLLABUS

Course name

Information Engineering

Course

Field of study

Electric Power Engineering

Area of study (specialization)

common courses

Level of study

First-cycle studies

Form of study

part-time

Year/Semester

1/1

Profile of study

general academic

Course offered in

polish

Requirements

compulsory

Number of hours

Lecture

20

Tutorials

Laboratory classes

10

Projects/seminars

10

Other (e.g. online)

Number of credit points

5

Lecturers

Responsible for the course/lecturer:

dr inż. Andrzej Kwapisz

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phone 616652282

Responsible for the course/lecturer:

Prerequisites

Basic knowledge of computer science.

The ability to use the computer and the operating system. Ability to develop algorithms.

Ability to carry out the tasks in the group. Awareness of the impact of information technology on the surrounding environment.

Course objective

Getting knowledge about structure and configuration of the computer. Understanding rules for computer network design and configuration. The use of computer tools to accomplish tasks and engineering projects. Acquisition and improvement of programming skills. Knowledge of methods of protecting data and computer systems. Utilization of databases for programming task.

Course-related learning outcomes

Knowledge

1. Has knowledge of software programming and utilization of tools for completing engineering tasks.

2. Has knowledge of use the network infrastructure and databases.

Skills

1. Has ability to plan the schedule of individual and team work and skills required for team management.

2. Know how to use available resources for completing task related to conducting and documenting engineering projects.

3. Has a skills required to develop algorithms and applications in different programming environments with miscellaneous software.

4. He can correctly design structures and relationships in databases.

Social competences

1. Can extend his own knowledge and use of modern information technologies.

2. Can use available resources to improve efficiency of engineer's work and growth economic potential of the company.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:
Lecture: assessment of activity in class, assessment of homework, final test in writing at the end of the semester, colloquium includes test questions or problem tasks, written exam covering the subject of the subject assessed on a scale of 0 to 100%, the final grade lectures given by more than one lecturer based on weighted average, final grade for more than one component grade based on weighted average

Laboratory: verification of individual preparation for classes, including material from a single exercise or block of exercises, assessment of individual exercise reports made by the student, colloquium at the end of the semester, colloquium includes test questions or problem tasks, all grades on a scale of 0 to 100%, final grade based on the weighted average of all component ratings

Project: assessment of task performance based on test data, assessment of submitted project documentation

Programme content

Lecture

Construction and operation of a computer, application of office packages, construction and configuration of a local computer network, data and computer systems protection against loss and unauthorized access, structural and object-oriented programming (including visual tools), implementation of engineering calculations in selected environments, use of graphics and databases in www applications. Presentation of alternative sources allowing the student to independently expand his knowledge and skills.

Laboratory

Command line support. Manual and automated creation of raster and vector graphics, development and processing of documents. Development of algorithms, programs and internet applications. Support for teaching through extensive use of publicly available programs (open licenses).

Project

Structural and object-oriented programming, data processing from text and binary sources, use of databases in the application.

Teaching methods

Lecture: multimedia and interactive presentation presenting important issues related to the subject, didactic discussion based on the literature on the subject, informative lecture, problem lecture, case study, work on source materials

Laboratory: implementation of exercises, use of publicly available information and software tools to support the didactic process, encouraging students to independently search for optimal solutions and problem solving

Project: selection of tools for the task, implementation and description of the project task, including the development of an original program, application or algorithm, problem discussion, searching for optimal solutions

Bibliography

Basic

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Additional

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12. Bilski T.: Pamięć. Nośniki i systemy przechowywania danych, WNT, 2008

Breakdown of average student's workload

	Hours	ECTS
Total workload	135	5
Classes requiring direct contact with the teacher	50	2
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, preparation of lab reports, implementation of the project) [1]	85	3

1 delete or add other activities as appropriate