COURSE DESCRIPTION CARD - SYLLABUS

Course name
Information and multimedia technologies [S1ETI1>TIiM]

Course

Field of study
Education in Technology and Informatics

Year/Semester
1/1

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
20

Laboratory classes
30

Other (e.g. online)
0

Tutorials
0

Projects/seminars
0

Number of credit points

4,00

Coordinators

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Lecturers

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Prerequisites

Basic information on computer science. Basic use of a Windows computer. Ability to work in a group, active attitude when solving problems

Course objective

The subject is to familiarize students with the design and basic functions of personal computers, the types and capabilities of operating systems and the software used to prepare scientific papers as well as the analysis and presentation of laboratory research results. Practical knowledge and skills in the field of multimedia techniques, taking into account the issues of auditory and visual perception, will also be provided.

Course-related learning outcomes

Knowledge:
1. explain the structure and functions of basic computer components, and explain how computers

process information. - [k1_w05 k1_w14].
2. explain the functions and present the differences and similarities between the currently used operating systems of personal computers. - [k1_w14].
3. present and discuss the principles of presenting the results of scientific research, placing references in the literature and building charts. - [k1_w12 k1_w20].
4. understands the operation and configuration of the computer"s internet connection using a wired or wireless sitting [k1_w15].
5. knows the types of computer software licenses [k1_w07].
6. knows the rules of creating and applying bitmap and vector graphics [k1_w09].

Skills:
1. is able to prepare a properly formatted document which is a research paper, containing references, images, patterns, tables and indexes. - [k1_u01].
2. independently prepare and present a multimedia presentation on scientific topics, containing tables, formulas, pictures. - [k1_u02 k1_u03].
3. can create scientific graphs and analyze the data contained on them using the origin program. - [k1_u03 k1_u19].
4. prepare bitmap graphics of appropriate quality. - [k1_u13].
5. prepare vector graphics of appropriate quality. - [k1_u13].

Social competences:
1. be involved in solving it problems on your own. - [k1_k03].
2. recognize the need for ethical use of computer software in accordance with its licenses. - [k1_k02].

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Learning outcomes presented above are verified as follows:
Lecture - Final test at the last class with 5-10 questions and a multimedia presentation.
Laboratory exercises: 2-3 tests of practical skills with the use of computer and software.

Programme content

Lecture:
- acquaintance with the history of computer science
- types of computers
- methods of encoding and data processing by computers
-review of operating systems
- basic types of applications used on PCs
- types of licenses and rules for licensing and selling computer programs
- principles of ergonomics when working with a computer
- IT dangers: unwanted software, intrusions, protection against them
-operating and operating principles of the PP university network
-Internet: history and modern state.
-Protocols used in communication via the Internet.
-E-mail.
-Searching for information on the Internet.
-Security of Internet use.
-Vector and raster computer graphics. Differences and applications.
-Vector and raster graphics processing. File size optimization.
-Digital audio recording.
-Create and process digital video files.
-Construction of peripherals and software used for digital multimedia processing (scanners, printers, digital cameras).
-Vector and raster graphics. Differences and applications.
Laboratories:
-advanced document creation - LibreOffice
-calculation and processing of measurement results - LibreOffice
-imaging and analysis of measurement results - Originlab Origin
-the basis of a correct scientific presentation, creating it with LibreOffice

- Raster processing. File size optimization.
-Creating vector graphics.
-Vectorization of bitmap graphics.
-Basics of digital audio recording.
-Create and process digital video files.
-Support for peripheral devices and software used for digital multimedia processing (scanners, printers, digital cameras).

Teaching methods

Lecture: multimedia presentation, presentation illustrated with examples given on the board.
Laboratory exercises: practical exercises, conducting experiments, modeling, discussion, team work.

Bibliography

Basic
1. Silberschatz A., Galvin P.B., Gagne G., Podstawy systemów operacyjnych WNT 2006.
2. Origin - Podręcznik użytkownika Gambit 2004.
3. Maria Sokół, Piotr Rajca, Internet - ćwiczenia praktyczne, Helion 2006.
4. Roland Zimek, Łukasz Oberlan, ABC grafiki komputerowej Helion 2005
5. Bartosz Danowski, Komputerowy montaż wideo, Helion 2006.
Additional
Current issues of computer journals.

Breakdown of average student's workload

	Hours	ECTS
Total workload	110	4,00
Classes requiring direct contact with the teacher	62	2,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	63	2,00