STUDY MODULE DESCRIPTION FORM

Name of the module/subject		Code
Multimedia and information technology		**1010401111010411147**
Field of study	Profile of study (general academic, practical)	Year /Semester
EDUCATION IN TECHNOLOGY AND	**general academic**	**1 / 1**
Elective path/specialty	Subject offered in:	Course (compulsory, elective)
-	**Polish**	**obligatory**
Cycle of study:	Form of study (full-time,part-time)	
First-cycle studies	**full-time**	
No. of hours		No. of credits
Lecture: **30** Classes: **-** Laboratory: **30** Project/seminars: **-**		**4**
Status of the course in the study program (Basic, major, other)	(university-wide, from another field)	
other	**university-wide**	
Education areas and fields of science and art		ECTS distribution (number and %**)**

Responsible for subject / lecturer:

dr inż. Marek Nowicki
email: marek.nowicki@put.poznan.pl
tel. 61 665-32-33, 61 665-3236
Wydział Fizyki Technicznej
ul. Nieszawska 13A 60-965 Poznań

Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Basic knowledge of computer science.
2	**Skills**	Basic computer skills with Windows OS.
3	**Social competencies**	Ability to work in a group, active in solving problems

Assumptions and objectives of the course:

The course is designed to acquaint students with the structure and basic functions of personal computers, types and capabilities of operating systems and software used for the preparation of the scientific and the analysis and presentation of the results of laboratory tests. Will be transferred to the practical knowledge and skills in multimedia technology including issues auditory and visual perception.

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

Knowledge:

1. Explain the structure and function of basic computer components, and explain how computers process information. - [K_W05 K_W08 K_W14]
2. Explain the functions and demonstrate the differences and similarities between today used personal computer operating systems. - [K_W07 K_W13]
3. Present and discuss the principle of presenting the results of research, publishing literature references and building plots. - [K_W20]
4. List and describe the hazards and risks to which it is exposed to the computer user. - [K_W05 K_W15]
5. Explain the structure and operation of the Internet. Describe the protocols used to transmit data over the Internet. - [K_W15 K_W07]
6. Objaśnić zastosowanie technologii informatycznych w życiu i pracy współczesnego człowieka. Wytłumaczyć zasadę działania i budowę urządzeń podłączanych do komputera. - [K_W05]
7. Present and discuss the rules for the establishment and use of bitmap and vector graphics - [K_W07 K_W09]
8. Display technologies used in the recording and processing of multimedia content. - [K_W07 K_W09]

Skills:

1. He can prepare properly formatted document which scientific work, including literature references, images, designs tables and indexes. - [K_U01 K_U13]
2. Prepare and present a multimedia presentation of a scientific, containing tables, formulas, images. - [K_U02 K_U03]
3. It can create graphs and analyze scientific data content using Origin. - [K_U03 K_U19]
4. It can protect your data against unauthorized access. It can protect your computer against unwanted programs - [K_U14 K_U25]
5. Properly set up your Internet connection by wired or wireless network - [K_U12 K_U13]
6. Prepare quality bitmap graphics. - [K_U03]
7. Prepare quality vector graphics. - [K_U03 K_U06]
8. Prepare a media clip containing video, - [K_U03]

Social competencies:

1. Engage in self-solving IT problems. - [K_K01 K_K03]
2. Recognize the need for ethical use of computer software in accordance with its license. - [K_K06 K_K09]

Assessment methods of study outcomes

Lecture - final test contains 5-10 questions and multimedia presentation.
Laboratory exercises: 2-3 tests practical skills using a computer and software.

Course description

Lecture:
-Introduction to the history of science
-Types of computers
-ways of encoding and processing by computers
-an overview of operating systems
-basic types of applications running on the PC
-types of licenses and the licensing and sale of computer programs
-ergonomic principles when working with a computer
-emergency information - unwanted software, hacking, protect against them
MSDN-AA license acquisition in the student account on PP, service and operation of a network of university PP
-Introduction to the Internet: the history and present state.
-The protocols used for communication over the Internet.
-E-mail.
-Searching for information on the Internet.
-Security using the Internet.
-Computer Graphics Vector and Raster. Differences and use.
-Processing of vector and raster graphics. Optimize file size.
-Digital sound recording.
-Creation and processing of digital video.
-Construction of peripheral equipment and software used to process digital media (scanners, printers, digital cameras).
-Computer Graphics Vector and Raster. Differences and use.

Laboratory:
-Advanced Document Creation - Microsoft Word
-calculation and processing of measurement results - Microsoft Excel
-imaging and analysis of results - OriginLab Origin
-basis for the correct presentation of scientific, create it with a Microsoft Powerpoint
Raster-processing. Optimize file size.
-Create vector graphics.
-Trace bitmap graphics.
-Fundamentals of digital audio.
-Creation and processing of digital video.
-Supports peripherals and software used to process digital media (scanners, printers, digital cameras).

Basic bibliography:

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 bibliography:

1. Aktualne numery czasopism komputerowych.

Result of average student's workload

Activity	Time (working hours)
1. participation in lectures	30
2. participation in laboratories	30
3. guide the content of the previous lecture, the analysis of other lectures, laboratory exercises analysis	8
4. prepare to pass the lecture and laboratory	10
5. participation in consultations related to the implementation of the training	2
6. Practical exercises using a computer at home	30

Student's workload

Source of workload	hours	ECTS
Total workload	75	4
Contact hours	40	1
Practical activities	45	1