

THE CARD OF DESCRIPTION THE EDUCATION MODULE			
Name of course/module INFORMATION TECHNOLOGY			Code AU_K_1.4_007
Main field of study ARCHITECTURE AND URBAN PLANNING		Education profile (general academic, practical) general academic	Year / Semester II/4
Specjalization -		Language of course: Polish	Course (core, elective) core
Hours Lectures: 15 Classes: - Laboratory classes: 30 Projects / seminars: -			Number of points 3
Level of qualification: I	Form of studies (full-time studies/part-time studies) Full-time studies and part-time studies	Education area(s) Technical Sciences	ECTS division (number and %) 3 100%
Course status in the study program (basic, directional, other) directional		(general academic, from other field of study) general academic	
Responsible for course/lecturer: dr inż. arch. Borys Siewczyński e-mail: borys.siewczynski@putpoznan.pl tel. 61 665 32 90 Faculty of Architecture ul. Nieszawska 13C, 61-021 Poznań tel.: 061 665 32 55			
Prerequisites of knowledge, skills, social competences:			
1	Knowledge:	-student has basic knowledge of principles of safe using the computer hardware, -student has basic knowledge in the scope of graphic programs,	
2	Skills:	-student can acquire information from field specific literature, data bases and other properly selected sources, can integrate the acquired information, interpret and critically assess the said information, as well as draw conclusions and come up with opinions supported with satisfactory reasons, -student is able to use the computer hardware,	
3	Social competences:	-student can correctly identify and resolve the dilemmas related to profession,	
Objective of the course:			
<ul style="list-style-type: none"> ▪ The objective of the course is provide basics of current knowledge: theoretical and practical in the scope of computer-aided design. ▪ During classes are presented basics of knowledge related to computer-aided design in the context of architectural workshop. During classes are executed the specific design tasks – graphic for obtain knowledge typical for discussed topics related to contemporary, information technology workshop of work. Introduction to their execution are classes introducing to handle individual design applications. 			
Learning outcomes			
Knowledge:			
number	Having completed the course, student can:		Reference

(symbol)		to the outcomes of the learning process in the area of technical sciences
W01	Student has basic practical knowledge of architectural and urban planning computer-aided design.	AU1_W01
W02	Student knows the basic methods, techniques and tools used at solving tasks of architectural and urban planning computer-aided design.	AU1_W05
Skills:		
number (symbol)	Having completed the course, student can:	Reference to the outcomes of the learning process in the area of technical sciences
U01	Student can acquire information from field specific literature, data bases and other properly selected sources in Polish and English, can integrate the acquired information, interpret and critically assess the said information, as well as draw conclusions and come up with opinions supported with satisfactory reasons.	AU1_U01
U02	Student can communicate using different IT techniques in the professional environment.	AU1_U05 AU1_U08 AU1_U10 AU1_U17
U03	Student has self-education skills.	AU1_U02
Social competences:		
number (symbol)	Having completed the course, student can:	Reference to the outcomes of the learning process in the area of technical sciences
K01	Student understands the need for lifelong learning; can inspire and organize process of learning other people.	AU1_U03 AU1_U02
K02	Student can respectively determine priorities for the execution of goals set by himself/herself or by others in the scope of computer-aided design.	AU1_U04 AU1_U01
Methods of check the learning outcomes:		
Forming evaluation:		
<ul style="list-style-type: none"> ▪ Lectures: Colloquium - test checking the knowledge. ▪ Laboratory classes: Partial grades including: graphic work in the DTP program, practical work – technical drawing in the CAD program, 		
practical work – computer visualization,		

colloquium – test of mastering CAD program

Grading scale: 2,0; 3,0; 3,5; 4,0; 4,5; 5,0

Summary score:

The final grade – summary includes:

- the average of partial grades issued by teacher on the basis of forming evaluations,
- lectures: colloquium grade.

Final grading scale: 3,0; 3,5; 4,0; 4,5; 5,0

Course contents

During classes are presented basics of knowledge related to computer-aided design in the context of architectural workshop.

During classes are discussed examples of practical use the contemporary computer instrumentarium. There are also presented theoretical basics related to computer-aided design. There are discussed issues related to wide spectrum of use the software and computer hardware. There is discussed engineering and architectural practice in relation to presented issues of information technology. There are introduced such elements of contemporary workshop as raster graphics, vector graphics, theoretical and practical basics of use the drafting and object-oriented software. There are also presented issues related to use the instrumentarium of information technology in spatial planning.

Particular emphasis is given to indication the role of visual presentation of design works in the context of design and usable graphics and visualization. Attention is also drawn to the important role of information technology techniques in the field of coordination and exchange the design data.

Individual issues are discussed on the examples of specific design applications. Discussed issues have character, which is the basis to own and creative search carried out by students in direct reference to laboratory classes of course.

The objective of the course is provides the basics of current knowledge: theoretical and practical in the scope of computer-aided design. Lectures are simultaneous the theoretical introduction to practical classes carrying on within the laboratory classes.

During lectures are presented the following issues:

Introductory issues, computer-aided design in the workshop of architect work.

Autocad as design environment. Discussion of practical issues in the context of laboratory classes.

Architectural engineering applications, selected aspects of connection the traditional and contemporary workshop.

Computer raster graphics, an introduction to the use in architectural work.

Computer vector graphics in engineering workshop.

Engineering software, building structures, tools of information technology and intersectoral coordination.

Architectural visualization in the design process, discussion of practical issues in the context of laboratory classes.

Spatial economy and computer-aided design.

Summation, trends in development of software and architect workshop.

Basic bibliography:

1. Pikoń A., *AutoCAD 2006 i 2006 PL*, HELION, Gliwice, 2006
2. Pikoń A., *AutoCAD 2006. Pierwsze kroki*, HELION, Gliwice, 2006
3. Pasek J., *3ds max 8. Ćwiczenia praktyczne*, HELION, Gliwice, 2006
4. Jeremy Birn, *Cyfrowe oświetlenie i rendering*. Wydanie II, HELION, Gliwice, 2008
5. Roland Zimek, Łukasz Oberlan, *ABC grafiki komputerowej*. Wydanie II, HELION, Gliwice, 2004
6. Bruce Fraser, Chris Murphy, Fred Bunting, *Profesjonalne zarządzanie barwą*. Wydanie II, HELION, Gliwice, 2008

Complementary bibliography:

1. **Myrda G.**, *GIS czyli mapa w komputerze*, HELION, Gliwice, 1997
2. Zimek R., Oberlan Ł., *ABC grafiki komputerowej. Wydanie II*, HELION, Gliwice, 2005
3. Don Sellers , *Nie daj sie, czyli jak komputer może cię wykończyć*, HELION, Gliwice, 2008
4. Gawrysiak P.; *Cyfrowa Rewolucja. Rozwój cywilizacji informatycznej*, Wydawnictwo Naukowe PWN S.A., Warszawa 2008

The workload of student

Form of activity	Hours	ECTS
Total workload	83	3
Activities that require individual contact with the teacher	48	2
Activities of practical	35	1

Balance the workload of the average student

Form of activity	Number of hours
participation in lectures	15 h
participation in classes/ laboratory classes (projects)	30 h
preparation for classes/ laboratory classes	15 x 1 h = 15 h
preparation to colloquium	12 h
participation in consultation related to realization of learning process	3 x 1 h = 3 h
preparation to the colloquium (lectures)	8 h
attendance at exam	0 h

Total workload of student:

3 ECTS credits**83 h**

As part of this specified student workload

- activities that require direct participation of teachers::

$$45 \text{ h} + 3 \text{ h} = \mathbf{48 \text{ h}}$$