STUDY MODULE DESCRIPTION FORM

Name of the module/subject **(-)**		Code **1010334571010337152**
Field of study **Information Engineering**	Profile of study (general academic, practical) **(brak)**	Year /Semester **4 / 7**
Elective path/specialty **-**	Subject offered in: **Polish**	Course (compulsory, elective) **obligatory**
Cycle of study: **First-cycle studies**	Form of study (full-time,part-time) **part-time**	
No. of hours Lecture: **20** Classes: **-** Laboratory: **20** Project/seminars: **-**		No. of credits **6**
Status of the course in the study program (Basic, major, other) **(brak)**	(university-wide, from another field) **(brak)**	
Education areas and fields of science and art **technical sciences**		ECTS distribution (number and %) **6 100%**

Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	K_W01: Student has a basic knowledge of mathematics, including algebra, analysis, logic, probability and elements of discrete and applied mathematics K_W05: Student is able to acquire information from literature, data bases and other sources; student is able to integrate acquired information, to interpret it, to draw conclusions and to formulate and justify judgments
2	**Skills**	K_U01: Student is able to acquire information from literature, data bases and other sources; student is able to integrate acquired information, to interpret it, to draw conclusions and to formulate and justify judgmentsK_U04: Student is able to prepare and to demonstrate short presentation of engineering task results K_U10: Student is able to use software platforms and environments for simple programs encoding, running and testing in imperative, object-oriented and declarative programming languages
3	**Social competencies**	K_K01: Student understands the need and knows the possibilities of lifelong learning (second- and third-degree, postgraduate, courses) and improving language professional, personal and social skills

Assumptions and objectives of the course:

Analyse and creation 2D and 3D objects in chosen graphic editors

Tools and methods for human-computer interaction design

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

Knowledge:

1. Student has organized knowledge with theoretical foundations computer graphics and man machine communication - [-K_W10]
2. Student knows common IT engineering technology - [-K_W18]

Skills:

1. Student is able to carry out basic tasks in computer graphics and human-computer communication - [-K_U14]
2. Student is able to create engineer work documentation and to prepare text with the work result discussion - [-K_U03]
3. Student is able to self learning in order to increase professional skills - [-K_U05]

Social competencies:

1. Student understands and is aware of the importance of nontechnical issues related to computer engineer activity. Student understands the responsibility associated to his engineering decisions - [-K_K02]
2. Student is aware of the importance of behavior in a professional manner and comply with the rules of professional ethics and respect for the diversity of views and cultures - [-K_K03]
3. Student is able to self learning in order to increase professional skills - [-K_U05]

Assessment methods of study outcomes
Lecture ? oral or written examination
Laboratory ? experiments, projects and reports assessment

Course description
Content of lecture - computer graphic application, history, equipment for computer graphics, visible light, hue/color, raster and vector graphic, compression algorithms of images, graphic files, algebra of images, 2D & 3D graphics, animation, fractals geometry, perception (sense and organs of senses), sources of communications, interpersonal communication (verbal and unverbal), communication person - computer system, styles of user?s interactions with system, principles of designing interactive systems, characteristic of GUI, interface of internet and mobile application, testing and evaluation of applications? and websites? interfaces, availability, affordance and usability of information
Laboratory exercises ? 2D & 3D modelling, essessment of user interface for chosen system, designing user friendly interface

Basic bibliography:

1. red. Zabrodzki J., Grafika komputerowa. Metody i narzędzia, WNT, Warszawa, 1994
2. Foley J. D., van Dam A., Feiner S. K., Hughes J. F., Phillips R. L., Wprowadzenie do grafiki komputerowej, WNT, Warszawa, 2001
3. Jankowski M., Elementy grafiki komputerowej, WNT, Warszawa, 2006
4. Nielsen J., Projektowanie funkcjonalnych stron internetowych, Helion, 2003
5. Nielsen J. , Tahir M., Funkcjonalność stron WWW. 50 witryn bez sekretów, Helion, 2006
6. Krug S. Nie każ mi myśleć. O życiowym podejściu do projektowania stron internetowych, Helion, 2006
7. Krug S., Przetestuj ją sam! Steve Krug o funkcjonalności stron internetowych, Helion, Gliwice 2010
8. Linderman M., Fried J. Przyjazne witryny WWW, Helion, 2005

Additional bibliography:

1. Dix A., Finlay J. Abowd G., Beale R., Human-Computer Interaction, Prentice Hall, 2004
2. Sharp H., Rogers Y., Preece J. Interaction Design. Beyond Human-Computer Interaction, Wiley, 2005
3. Tidwell J., Designing Interfaces, O'Reilly, 2005
4. Cooper A., Wariaci rządzą domem wariatów, WNT, Warszawa, 2001
5. 3ds Max 2010. Biblia, Murdock K. L., Helion, Gliwice, 2010
6. Barwa w grafice komputerowej, Pastuszak W., PWN, Warszawa, 2000
7. Fraktale i chaos, Kudrewicz J., WNT, 2007

Result of average student's workload

Activity	Time (working hours)
1. Lectures	20
2. Laboratory	20
3. Consultations and exam	35
4. Practical and theoretical preparation for laboratory; reports	45
5. Exam preparation	30

Student's workload

Source of workload	hours	ECTS
Total workload	150	6
Contact hours	75	3
Practical activities	75	3