Syllabus	
Course code	
Course name	**Computer graphics and ergonomic design of the product**
Course version	1
A. The location of the course in the study system	
Level of education	2
Degree level	-
A form of study	Erasmus Exchange
Field of study	Management Engineering
Profile of study	general academic
Specialization	-
Unit administrating course	Faculty of Management
Unit implementing course	Faculty of Management
Course coordinator	Skierniewska Marta
B. General characteristics of the course	
Block	General
Group of courses	-
Level of the course	Basic
Course status	elective
Course language	English
Semester	-
Academic year	2020/21
Prerequisities	Knowledge of the basics of graphic design, knowledge of the principles of product design in line with the principles of ergonomics.
The minimum number of students	no limits for students (lecture) from 25 students, up to the limit of seats in the room (exercise)
C. Learning outcomes and teaching methods	
Aim of the course	The aim of the course is to make the student, after participating in it: • understood the essence of graphic design and ergonomic design of the product for the client, both in the context of graphic design and in a commercial context; • knew the scope of activities undertaken as part of commercial and commercial design for the client, taking into account the principles of ergonomics;
Assessment methods	**A. Lecture**: *1. Formative assessment*: form of lectures and presentations. *2. Summative assessment:* pass the subject in the form of open questions (evaluation in the scope of 2-5). An assessment of> = 3 is required. **B. Exercise**: *1. Formative assessment*: assessment of the correctness of the implementation of the project task during the consultation of projects, ongoing discussion of projects. *2. Summative assessment:* assessment of the implementation of the design task based on documentation and presentation (evaluation in the scope of 2-5). An assessment of> = 3 is required.
Learning outcomes	See Table 1

Form of classes and weekly dimension (number of hours per semester)	lecture 10 exercise 20 laboratories 0 projects 0
The course content	**A. Lecture**: 1. Explanation of the terms color, color and contrast. 2. Basics of graphic design, learning design and its definitions. 3. Basics of ergonomic product design methods – theory. 4. Decisions and criteria in ergonomic design – theory. 5. The structure of the ergonomic design process – theory. **B. Exercise**: 1. Work with a design brief. 2. Basics of ergonomic product design methods – practice. 3. The scope of activities undertaken as part of graphic and commercial design for the client, taking into account the principles of ergonomics. 4. Decisions and criteria in ergonomic design. 5. The structure of the ergonomic design process. 6. Sources of problems and project tasks. 7. Costs of obtaining project quality and the phase of the product's existence. 8. Project team as a design system. 9. Supporting the ergonomic design of the product. 10. The importance of design for people with disabilities. 11. The general model of the design process for people with disabilities. 12. System design principles for people with disabilities 13. Case studies of the use of product design and design principles for people with disabilities.
Learning outcomes	See Table 1
Exam	N
Literature	*Obligatory:* 1. Soares M.M., Rebelo F., 2016, *Ergonomics in Design: Methods and Techniques*, Boca Raton, London, New York: CRC Press, Taylor & Francis Group. 2. Karwowski W., Soares M.M., Stanton N.A., 2011, *Handbook of Human Factors and Ergonomics in Consumer Product Design, 2 Volume Set*, Boca Raton, London, New York: CRC Press, Taylor & Francis Group. *Supplementary:* 3. Nemeth Ch.P., 2004, *Human Factors Methods for Design*, Boca Raton, London, New York: CRC Press, Taylor & Francis Group. 4. Gomes J., Velho L., Sousa M.C., 2012, *Computer Graphics: Theory and Practice*, Boca Raton, London, New York: CRC Press, Taylor & Francis Group.
Course website	www.olaf.wz.pw.edu.pl
D. The student workload	
Number of ECTS credits	4 ECTS
Total hours of student work related to the learning outcomes achievement (description):	4 ECTS 10h lecture + 20h exercise + 5h consultations + 10h literature studies + 10h projects + 10h projects implementation + 10h preparation for exercises + 10h self-study + 10h case discussion + 5h preparation for presentation = 100h
The number of ECTS credits for courses that require the direct participation of teachers	1,4 ECTS 10h lecture + 20h exercise + 5h consultations = 35h

The number of ECTS credits that the student obtains during the practical classes	3,6 ECTS 20h exercise + 5h consultations + 10h literature studies + 10h projects + 10h projects implementation + 10h preparation for exercises + 10h self-study + 10h case discussion + 5h preparation for presentation = 90h
E. Additional Information	
Remarks	-
Date of last update	28.02.2019

Table 1

General academic profile			
Subject effects		Reference to the 2nd degree of PRK characteristics	Reference to the 1st degree of PRK characteristics
Knowledge – student knows and understands			
Effect:	główne trendy rozwojowe w zakresie grafiki komputerowej i ergonomicznego projektowania produktu		
Effect code:	I2_W09	I.P7S_WG.o	P7U_W
Verification:	praca nad projektem (kontekst ekonomiczny i socjologiczny)		
Effect:	zasady ochrony własności intelektualnej i prawa autorskiego oraz prawnych uwarunkowań funkcjonowania przedsiębiorstw.	I.P7S_WK	P7U_W
Effect code:	I2_W11		
Verification:	Praca na ćwiczeniach i projektem		
Abilities – student can			
Effect:	identyfikować, interpretować i wyjaśniać złożone zjawiska i procesy społeczne oraz relacje między nimi z wykorzystaniem wiedzy z zakresu innowacyjności	I.P7S_UW.o	P7U_U
Effect code:	I2_U04		
Verification:	Zadania na ćwiczeniach		
Effect:	Student potrafi projektować nowe rozwiązania, jak również doskonalić istniejące, zgodnie z przyjętymi założeniami ich realizacji i wdrożenia.	I.P7S_UW.o III.P7S_UW.o	P7U_U
Effect code:	I2_U17		
Verification:	zadanie projektowe		
Social Competence – student is ready for			
Effect:	uznawania znaczenia wiedzy w rozwiązywaniu problemów poznawczych i praktycznych oraz konieczności samokształcenia się przez całe życie	Student jest gotów do uznawania z wiązywaniu problemów poznawcz I.P7S_KK	P7U_K
Effect code:	I2_K02	I1_K02	
Verification:	praca nad zadaniami ćwiczeniowymi i projektem	praca nad zadaniami laboratoryjny	