

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Computer Graphic		Code 1010601221010640180
Field of study Mechanical Engineering	Profile of study (general academic, practical) (brak)	Year /Semester 1 / 2
Elective path/specialty -	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: First-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: 2 Classes: - Laboratory: 2 Project/seminars: -		No. of credits 5
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 Technical sciences		ECTS distribution (number and %) 5 100% 5 100%
Responsible for subject / lecturer: dr hab. inż. Piotr Krawiec prof. PP email: Piotr.Krawiec@put.poznan.pl tel. 61 665 2242 Faculty of Machines and Transportation 60-965 Poznań, ul. Piotrowo 3		Responsible for subject / lecturer: dr inż. Jarosław Adamiec email: Jaroslaw.Adamiec@put.poznan.pl tel. 61 665 2254 Faculty of Machines and Transportation 60-965 Poznań, ul. Piotrowo 3
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Knowledge of the structure of classical recording.
2	Skills	Ability to work in a Windows operating system, efficient use of the Microsoft Office.
3	Social competencies	Able to work in a group performing different roles.
Assumptions and objectives of the course: Understanding the design methodology of parts and assemblies in 3D three-dimensional space, the acquisition of the ability to perform the technical documentation and visualization of 2D-designed creations. Use knowledge of classical recording structure.		
Study outcomes and reference to the educational results for a field of study		
Knowledge: 1. Has a basic knowledge of the standardized principles of engineering drawing and engineering graphics. - [K1A_W06] 2. Has an elementary knowledge of the fundamentals of computer science, i.e. computer architecture, - [K1A_W13]		
Skills: 1. Is able to prepare technical documentation (descriptive and graphic) of an engineering task. - [K1A_U04] 2. Has the ability to self-educate using modern teaching tools such as remote lectures, webpages and databases, educational software, - [K1A_U06] 3. Is able to use popular packages for technical drawings edition and 3D modeling in sufficient detail to enable the creation of documentation in accordance with the applicable standards and models of virtual machines in three-dimensional space. - [K1A_U12]		
Social competencies: 1. Understands the need for lifelong learning; is able to inspire and organize the learning process of others. - [K1A_K01] 2. Is aware of and understands the importance and impact of non-technical aspects of mechanical engineering activities and its impact on the environment and responsibility for own decisions. - [K1A_K02] 3. Is aware of the importance of behavior in a professional manner, compliance with the rules of professional ethics and respect for cultural diversity. - [K1A_K03] 4. Has a sense of responsibility for one's own work and is willing to comply with the principles of teamwork and taking responsibility for collaborative tasks. - [K1A_K04]		

Assessment methods of study outcomes		
Lecture, lab credit.		
Course description		
Brief history of CAD, Raster, vector graphics, 3D graphics. Areas of application of CAD, CAM and CAE. Place of computer graphics Computer-Integrated Preparation CIM. Practical learning opportunities parameterization, adaptability, wariantowania in professional CAD systems. During the execution of the laboratory design process of a product with a 3D through a preliminary design, 3D model, 2D documentation, installation team, the animation action of a product.		
Basic bibliography:		
1. 1. Foley J., Dam A., Hughes J., Phillips R., Wprowadzenie do grafiki komputerowej, Warszawa, WNT 2001. 2. Jankowski M, Elementy grafiki komputerowej, WNT Warszawa 1990. 3. Krawiec P. (red), Grafika Komputerowa - laboratorium. Wydawnictwo Politechniki Poznańskiej 2011		
Additional bibliography:		
1. Kiciak P. Podstawy modelowania krzywych i powierzchni : zastosowania w grafice komputerowej WNT 2005		
Result of average student's workload		
Activity	Time (working hours)	
1. Participation in lectures	30	
2. Consultation on the material given in lectures	2	
3. Preparing to pass	10	
4. Participation in the completion	2	
5. Laboratory classes	30	
6. Preparation for laboratory	30	
7. Preparing to pass	30	
Student's workload		
Source of workload	hours	ECTS
Total workload	134	5
Contact hours	64	3
Practical activities	90	4