STUDY MODULE DESCRIPTION FORM

Name of the module/subject **Computer Graphic**	Code **1010604121010640180**

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) **part-time**

No. of hours	No. of credits
Lecture: **19** Classes: **-** Laboratory: **18** Project/seminars: **-**	**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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Responsible for subject / lecturer:

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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, adaptywności, 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	19
2. Consultation on the material given in lectures	2
3. Preparing to pass	8
4. Participation in the completion	2
5. Laboratory classes	18
6. Preparation for laboratory	10
7. Preparing to pass	6

Student's workload		
Source of workload	**hours**	**ECTS**
Total workload	92	6
Contact hours	43	3
Practical activities	46	3