STUDY MODULE DESCRIPTION FORM

Name of the module/subject		Code
CAD/CAM		**1010642121010640320**

Field of study	Profile of study (general academic, practical)	Year /Semester
Mechanical Engineering	**(brak)**	**1 / 2**
Elective path/specialty	Subject offered in:	Course (compulsory, elective)
Mechatronics	**Polish**	**obligatory**

Cycle of study:	Form of study (full-time,part-time)
Second-cycle studies	**full-time**

No. of hours				No. of credits
Lecture: **2**	Classes: **1**	Laboratory: **-**	Project/seminars: **-**	**2**

Status of the course in the study program (Basic, major, other)	(university-wide, from another field)
(brak)	**(brak)**

Education areas and fields of science and art	ECTS distribution (number and %)
technical sciences	**2 100%**

Responsible for subject / lecturer:

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60-965 Poznań, ul. Piotrowo 3

Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Knowledge of modeling in 3D CAD systems Knowledge of the methodology of control programs for simple machine elements in CAD / CAM
2	**Skills**	Efficient use of Microsoft Orfice, the ability to create control programs for simple machine elements in CAD / CAM
3	**Social competencies**	Able to work in a group performing different roles

Assumptions and objectives of the course:

Consolidation methodology design of parts and assemblies in 3D three-dimensional space, and the creation and activation of NC machine control programs. The use of knowledge and skills in the field of Computer Graphics Computer Aided Design.

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

Knowledge:

1. Has an extended knowledge of modern production technologies used in the design of the production process of machine parts and their assembly with the use of CAM tools. - [K2A_W11]

Skills:

1. Is able to program a part manufacturing technological process, including a simple program to control a machine tool - [K2A_U10]

Social competencies:

1. Understands the need for lifelong learning; is able to inspire and organize the learning process of others - [K2A_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, is aware of responsibility for decisions - [K2A_K02]
3. Is able to interact in a group taking on the different roles. - [K2A_K03]

Assessment methods of study outcomes

Lecture, lab credit.

Course description

Areas of application of CAD / CAM. Place CAD / CAM CIM Computer Integrated Preparation. Practical knowledge of activating the ability to create part programs with complex shapes. Learning opportunities associativity between CAD and CAM. During the course exercises + implementation of the design process of a product with a 3D via the 3D model, the development of the NC program verification of the correctness of the developed technology of CNC machine.

Basic bibliography:

1. Przybylski W., Deja M., Komputerowo wspomagane wytwarzanie maszyn. WNT, Warszawa 2007
2. Marciniak K, Putz B., Wojciechowski J., Obróba powierzchni krzywoliniowych na frezarkach sterowanych numerycznie. WNT, Warszawa 1988
3. Marciniak M (red) Elementy automatyzazcji we współczesnych procesach wytwarzania. Wydawnictwo Politechniki Warszawskiej 2007
4. Altinas Y., Manufacturing Automation, Cambridge University Press 2006
5. Honczarenko J. Obrabiarki sterowane numerycznie WNT Warszawa 2008

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. Exam Preparation	5
4. Participation in the exam	2
5. Participation in class exercises	15
6. Preparing to pass exercises	5

Student's workload

Source of workload	hours	ECTS
Total workload	59	2
Contact hours	49	2
Practical activities	0	0