

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject CAD/CAM		Code 1010642231010640320
Field of study Mechanical Engineering	Profile of study (general academic, practical) (brak)	Year /Semester 2 / 3
Elective path/specialty Mechatronics	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: Second-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: 2 Classes: - Laboratory: 2 Project/seminars: -		No. of credits 4
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 %) 4 100% 4 100%
Responsible for subject / lecturer: dr hab. inż. Piotr Krawiec prof. PP email: Piotr.Krawiec@put.poznan.pl tel. 61 665 2242 Working Machines and Transportation 60-965 Poznań, ul. Piotrowo 3		Responsible for subject / lecturer: dr inż. Maciej Berdychowski email: Maciej.Berdychowski@put.poznan.pl tel. 61 224 4514 Working Machines and Transportation 60-965 Poznań, ul. Piotrowo 3
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 Office, 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		

<p>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 laboratories, practice the 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.</p>		
<p>Basic bibliography:</p> <ol style="list-style-type: none"> 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 automatyzacji 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 		
<p>Additional bibliography:</p> <ol style="list-style-type: none"> 1. Kiciak P. Podstawy modelowania krzywych i powierzchni : zastosowania w grafice komputerowej WNT 2005 		
<p>Result of average student's workload</p>		
<p>Activity</p>	<p>Time (working hours)</p>	
1. Participation in lectures	30	
2. Consultation on the material given in lectures	2	
3. Exam Preparation	6	
4. Participation in the exam	2	
5. Participation in laboratory exercises	30	
6. Preparing to laboratory exercises	12	
7. Consultation of laboratory exercises	2	
8. Preparation to pass laboratory exercises	10	
9. Participation in passing laboratory	2	
<p>Student's workload</p>		
<p>Source of workload</p>	<p>hours</p>	<p>ECTS</p>
Total workload	96	4
Contact hours	68	2
Practical activities	56	2