

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Computer Aided Design I		Code 1010624151010640419
Field of study Mechanical Engineering	Profile of study (general academic, practical) (brak)	Year /Semester 3 / 5
Elective path/specialty Internal Combustion Engines	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 Lecture: - Classes: - Laboratory: 18 Project/seminars: 16		No. of credits 7
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 %) 7 100%
Responsible for subject / lecturer: dr hab inż. Arkadiusz Stachowiak email: arkadiusz.stachowiak@put.poznan.pl tel. 665-2655 WMRIT ul. Piotrowo 3 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Knowledge of technical drawing and numerical methods as carried out in the course of their studies. Knowledge of technical drawings and numerical methods on required area of expertise.
2	Skills	Student can: prepare a scheme of arrangement, choose right components and perform basic calculations using provided calculation procedure.
3	Social competencies	Student understands the need for continuous learning.
Assumptions and objectives of the course: Using AutoCAD as aided tool to create technical documentation. Formation the ability to create computer tools to aid design calculations.		
Study outcomes and reference to the educational results for a field of study		
Knowledge: 1. Student knows basic features and functions of AutoCAD and drawing and modification tools. Student knows how to create basic Delphi code. - [K1A_W12]		
Skills: 1. Student can use Delphi to create computer-aided design tools. Student can create computer program to solve given problem. - [K1A_U13 K1A_U14]		
Social competencies: 1. Student is able to think and act creatively. - [K1A_K05]		
Assessment methods of study outcomes		
Examination based on an ongoing review of the Students preparation.		
Course description		
Knowledge of basic features and functions of AutoCAD. Drawing and modification tools. Working with functions: hatching, filling. Tools to support the dimensioning. Practice of Delphi programming ? creating computer-aided design tools. Features of the Delphi (types of components). Creating basic Delphi code. Use complex instructions in Delphi . Creating computer program based on sample calculation algorithm.		

Basic bibliography:

1. Poradnik niezawodności. T 1. pod red. J. Migdalskiego, Wyd. WEMA, Warszawa 1982r.
2. Poradnik niezawodności. T 2. pod red. J. Migdalskiego, Wyd. WEMA, Warszawa 1996r.
3. Szopa T. Niezawodność i bezpieczeństwo. W: ?Podstawy konstrukcji maszyn? pod red. M. Ditycha. tom 1. PWN Warszawa 1999r.
4. Nadolny K., Tribologia kół zębatych. Zagadnienia trwałości i niezawodności. Biblioteka Problemów Eksploatacji. Wyd. Instytut Technologii Eksploatacji, Radom, 1999r
5. Podstawy modelowania niezawodności materiałów eksploatacyjnych.pod red.K.Nadolnego, Biblioteka Problemów Eksploatacji. Wyd. Instytut Technologii Eksploatacji, Radom, 1999r
6. Szopa T., Niezawodność i bezpieczeństwo. Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa, 2009.
7. Tor A., Excel 2002/XP. Visual Basic. TORTECH, Warszawa 2004.
8. Reisdorph K., Delphi 6 dla każdego. Helion, Warszawa, 2001.
9. Pikoń A., AutoCad 2007 PL. Helion, Warszawa, 2007.

Additional bibliography:

1. Warszyński M., Niezawodność w obliczeniach konstrukcyjnych. PWN. Warszawa 1988r.
2. Radkowski S., Podstawy bezpiecznej techniki. Oficyna Wydawnicza Pol. Warszawskiej, Warszawa 2003.
3. Bobrowski D., Modele i metody matematyczne teorii niezawodności w przykładach i zadaniach, WNT, Warszawa, 1985r.

Result of average student's workload

Activity	Time (working hours)
1. Preparation for laboratory	28
2. Participation in laboratory exercises	30
3. Capturing the content of the lab exercises and a report	29
4. Preparing for classes of design	15
5. Participation in the activities of design	30
6. Preparation of the draft	30
7. Consultation	8
8. Preparing to pass	8

Student's workload

Source of workload	hours	ECTS
Total workload	177	7
Contact hours	68	3
Practical activities	177	7