STUDY MODULE DESCRIPTION FORM

Name of the module/subject **Computer Aided Design I**		Code **1010614151010640419**
Field of study **Mechanika i budowa maszyn**	Profile of study (general academic, practical) **(brak)**	Year /Semester **3 / 5**
Elective path/specialty **Maszyny robocze**	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		ECTS distribution (number and %)

Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Student has knowledge of mechanics, strength of probability and mathematical statistics.
2	**Skills**	Able to perform basic calculations in the field of probability theory and mathematical statistics.
3	**Social competencies**	Understanding of the need for lifelong learning.

Assumptions and objectives of the course:

Become acquainted with the fundamental methods design of reliability at the stage of designing, testing and evaluation reliability assessment in operation of the machines and processes.

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

Knowledge:

1. Has knowledge about the processes of destruction elements, objects and systems. Knows the mathematical models describing the intensity changes of reliability during operation in terms of population. Student has knowledge of the mathematical models of forecasting the reliability in operation. - [K1A_W24]

Skills:

1. Can estimate the reliability of real technical objects. - [K1A_U07]

Social competencies:

1. Recognizes the importance of reliable operation of the technical facilities for performance of their functions in terms of social. - [K1A_K01]

Assessment methods of study outcomes

Written test

Course description

Reliability as a measure of product quality. Basic definitions descriptive and evaluative . The development of the science of reliability. The characteristics of how organizations use technical objects. Objects renewable and non-renewable. A description of the destruction of the elements, objects and technical systems. Definitions of physical failure. (catastrophic) and contractual failure. (parametric). The concept intensity the failure. Mathematical models describe the intensity changes of reliability - population-based approach. Some probabilistic and statistical methods for estimating the reliability of indicators to assess changes technical systems. Elementary and composed structures of reliability. Introduction to describe the structural reliability of complex objects ? systems. Planning of reliability researches. Examples of estimating the reliability of the real technical objects.

Basic bibliography:

Additional bibliography:

Result of average student's workload

Activity	Time (working hours)
1. Participation in the lecture	15
2. Consultation	1
3. Exam Preparation Exam Preparation	7
4. Participation in the exam	2

Student's workload

Source of workload	hours	ECTS
Total workload	105	7
Contact hours	36	2
Practical activities	72	5