

<b>STUDY MODULE DESCRIPTION FORM</b>		
Name of the module/subject <b>Mechanics and Mechatronics</b>		Code <b>1010324361010324775</b>
Field of study <b>Electrical Engineering</b>	Profile of study (general academic, practical) <b>general academic</b>	Year /Semester <b>3 / 6</b>
Elective path/specialty <b>-</b>	Subject offered in: <b>Polish</b>	Course (compulsory, elective) <b>obligatory</b>
Cycle of study: <b>First-cycle studies</b>	Form of study (full-time, part-time) <b>part-time</b>	
No. of hours Lecture: <b>10</b> Classes: <b>10</b> Laboratory: <b>-</b> Project/seminars: <b>-</b>		No. of credits <b>2</b>
Status of the course in the study program (Basic, major, other) <b>major</b>		(university-wide, from another field) <b>from field</b>
Education areas and fields of science and art <b>technical sciences</b> <b>Technical sciences</b>		ECTS distribution (number and %) <b>2 100%</b> <b>2 100%</b>
<b>Responsible for subject / lecturer:</b>  dr hab. inż. Dorota Stachowiak email: dorota.stachowiak@put.poznan.pl tel. 61 665 3950 Faculty of Electrical Engineering ul. Piotrowo 3A 60-965 Poznań		
<b>Prerequisites in terms of knowledge, skills and social competencies:</b>		
1	<b>Knowledge</b>	basic knowledge of physics and mathematics
2	<b>Skills</b>	ability to solve basic problems in physics and mathematics on the basis of their knowledge, the ability to obtain information from sources
3	<b>Social competencies</b>	understanding of the need to expand their competence, readiness to work together as a team
<b>Assumptions and objectives of the course:</b> 1. Teaching students a basic knowledge of mechanics and mechatronics in the field of study. 2. Gaining skills in students mechanical description of equilibrium and motion of complex mechanical systems, and the basic operation of mechatronic systems. 3. Improving the skills of balance and motion description of complex mechanical systems. 4. Teaching students for the design of complex material systems.		
<b>Study outcomes and reference to the educational results for a field of study</b>		
<b>Knowledge:</b> 1. A student can define the basic concepts of mechanics and mechatronics and specify simple examples of their application. - [K_W03++ K_W12++] 2. A student has structured, encouraged by theoretical background knowledge, which allows to determine: the balance and movement of mechanical systems with the laws of mechanics point and rigid body, and the basic design mechatronic systems. - [K_W03++ K_W12++] 3. A student can formulate and explain the fundamental laws, claims, and mechanical and mechatronic concepts as applied to complex systems - [K_W12++]		
<b>Skills:</b> 1. A student can apply the basic laws of mechanics to solve simple problems - [K_U16+ K_U22++] 2. A student can obtain information from literature, databases and other properly selected sources in the field of mechanical engineering and mechatronics, modeling and computer simulation, can integrate the information, make their interpretation, as well as draw conclusions - [K_U05+] 3. A student can prepare and present an oral presentation concerning specific issues in the field of mechanical engineering and mechatronics. - [K_U08+]		
<b>Social competencies:</b>		

1. A student understands the need for lifelong learning; can inspire and organize the learning process of others. - [K\_K01+]  
 2. A student recognizes and understands the importance and effects of non-technical aspects of engineering, including its effects on the environment and the related responsibility for decisions. - [K\_K02+]

### Assessment methods of study outcomes

#### Lectures

- Assess the knowledge and skills demonstrated on the basis of credit in the form of a written test;
- Continuous evaluation for each class (rewarding activity and quality perception).

#### Classes

The current assessment of on each class on the basis of correct solution to the problem - assessing subject knowledge necessary to carry out accounting tasks and the ability to solve the problem

- The final test of a problem terms.

Get extra points for the activity in the classroom, and especially for:

- Propose to discuss further aspects of the subject;
- Comments related to the improvement didactic materials;
- Solution to the problem in the classroom - in this way they are rewarded with a high degree of mastery of the knowledge and practical skills in high resolution of a given problem.

### Course description

1. Statics
2. Kinematics
3. Dynamics

Updating 2017:

Methods of education:

- lecture with multimedia presentation supplemented with examples given on the board,
- interactive lecture with questions to students,
- student activity is taken into account during the course of the assessment process.

#### Basic bibliography:

1. Leyko J. - Mechanika ogólna. Tom 1. Statyka i kinematyka - PWN Warszawa. - 2011
2. Sałata W. - Mechanika ogólna w zarysie. Wydawnictwo Politechniki Poznańskiej Poznań. - 2001
3. Osiński Z. - Mechanika ogólna - PWN Warszawa. - 1994

#### Additional bibliography:

1. Niezgodziński M. E., Niezgodziński T. - Wytrzymałość materiałów - PWN Warszawa. - 1981

### Result of average student's workload

Activity	Time (working hours)
1. Participation in lectures	10
2. Participation in classes	10
3. Participation in consultations	4
4. Doing homework	8
5. Preparing to pass the classes	6
6. Preparing to pass the lectures	10
7. The presence of the exams	4

### Student's workload

Source of workload	hours	ECTS
Total workload	52	2
Contact hours	28	1
Practical activities	0	0