Technical Mechanics (ZIPAOZ>SI2TM19O)

Name	in	Polish:
Name	in	English:

Technical Mechanics

Information on course:

Course offered by department:	Facu	
Course for department:	Siles	
Term:	Sum	
Cordinator of course edition:	Dr in	

Ity of Organization and Management ian University of Technology mer semester 2020/2021

ż. Andrzej Wieczorek

Default type of course examination report:

ZAL

Name:

Language:

English

Course homepage:

https://platforma.polsl.pl/roz/course/view.php?id=448

Short description:

The main purpose is to deliver basic knowledge in the range of calculations in mechanics in designing components of technical means (machines and devices). Basic on this knowledge student will be able to solve problems connected with engineering mechanics and strenght of materials. This purpose will be achevied by getting acquainted with theoretical basics and methods and techniques of calculation supporting designing of technical means. Their practical utilization at classess and laboratories let to make contact with members of team in company, whose effect will be a design of technical mean and its conceptions will be elaborated basing on executed strenght calculations.

Description:

Lecture

- 1. Fundamentals of mechanics
- 2. Planar convergent and discrepant forces system
- 3. Internal forces
- Friction
- 5. Elements of planar mass geometry
- 6. Basics definitions of the theory of the strength of materials.
- 7. Hook's Law.
- 8. Stretching and squeezing of rod.
- Beam bending.
- 10. Statically indeterminate systems
- Classes
- 1. Flat convergent and divergent force system
- 2. Internal forces
- 3. Geometry of massess.
- Tension and compression of the rod
- 5. Beam bending
- Laboratories
- 1. Flat convergent and divergent force system
- 2. Internal forces
- 3. Geometry of mass.
- 4. Tension and compression of the rod

5. Beam bending

Bibliography:

1. Hendzel Z., Żylski W.: General mechanics. Statics. Oficyna Wydawnicza

Politechniki Rzeszowskiej, Rzeszów 2016.

2. Sawhney G. S.: Mechanics and strength of materials. PHI Learning

Private Limited, Delhi 2015.

3. Skalmierski B., Bachrach J.: Mechanics and strength of materials.

Elsevier, Amsterdam 1979.

Learning outcomes:

Knowledge

He/she knows and understands:

K1A W04: general physics laws, physical quantities and an organized knowledge of the mechanics of the material point and rigid body, solid body physics,, the centre of mass in two dimensions, strength of materials,

K1A W10: selected problems of mechanics, strength of materials, technical draw and building and exploitation of machines.

Skills

Student is able to

K1A U04: solve the indicated task in mechanics and strength of materials.

Social competencies

Student is ready to:

K1A K06: establish professional contact in the team and conduct dialogue with persons responsible for the design, construction and production of technical means in enterprise.

Assessment methods and assessment criteria:

The form and criteria of passing the lecture:

passing the lecture is based on a positive grade in the written test.

the condition for a positive evaluation is obtaining a minimum of 2.51 points

out of 5 possible points (a student may receive a maximum of 1 point for

the answer to each question).

it is possible to improve the test twice and it is done in writing.

The condition for passing the classess is a positive mark from the test (the test consists of 14 questions, for each of them the student can receive a maximum of 10 points. Passing is possible if the number of points is greater than or equal to 80). Retake credit may be carried out twice on the basis of which the credit is given in the first term.

The condition for passing the laboratories is a positive grade from 3 reports.

Information on course	edition:			
Default type of course examination report:				
ZAL				
Bibliography:				
missing bibliography in English				
Details of classes and stu	dy groups			
lecture (15 hours)				
Study groups details				
missing study groups details				
classes (15 hours)				
Study groups details				
missing study groups details				
laboratory classes (30 hours)				
Study groups details				
missing study groups details				
Element of course groups in v	various terms:			
Course group description			First term	Last term
missing group description in English (ZIPAOZ>SI-2-19-O)			2020/2021-L	
Course credits in variou	s terms:			
Management and Production Engineering, full-time first degree engineeri	ng studies 7 sem. (ZI	PAOZ-S	17)	
Type of credits		Number	First term	Last term
European Credit Transfer System (ECTS)		5	2020/2021-L	

European Credit Transfer System (ECTS)