Information sheet for the course: Selected Chapters from the Mechanics of Bodies I

University: Alexander Dubček University of Trenčín

Faculty: Faculty of Industrial Technologies in Púchov

Course unit code: PP-P-15	**Course unit title:** Selected Chapters from the Mechanics of Bodies I

Form, scope and meth od of educational activity:
Form of study: Lecture / Seminar / Laboratory tutorial
Recommended number of lessons (hours):
Weekly: 2 / 2/ 0 **During the semester:** 24 / 24 / 0 **Method of study:** combined

Number of credits: 5

Recommended semester: 3

Degree of study: The 1st degree of study

Course prerequisites:

Assessment methods:
Assessment during the semester:
Summary assessment of work results during the semester = 40 points
Independent work during the semester.
Development and defense of the semester thesis, which consists of the numerical solution of assigned tasks.
A student who obtains at least 20 points in the interim evaluation can apply for the exam.
Final assessment:
Assessment of exam results = 60 points
The exam is conducted in written form.
Grading scale:
Grade A: 91 – 100 points
Grade B: 81 – 90 points
Grade C: 71 – 80 points
Grade D: 61 – 70 points
Grade E: 55 – 60 points
Grade FX: less than 55 points

Learning outcomes of the course unit:
The student is familiar with the issue and can independently solve tasks and use the acquired knowledge in the field of vector mechanics (equilibrium of a point, equilibrium of a body, equilibrium of systems of bodies, rod systems, passive resistances, kinematics of a point and a body).

Course contents:
Basic terms and quantities. Axioms and basic theorems. Power systems. Static links. Equilibrium of a point, a body and a system of bodies. Center of gravity of the body. Rod systems. Friction. Introduction to the kinematics of a point and a body, determining the path, speed and acceleration of a point and a body. Sliding, rotational and general plane movement of the body, spatial movement of the body.

Recommended of required reading:

1. Ferdinand P. Beer, E. Russell Johnston, Jr.: Vector Mechanics for Engineers, Statics and Dynamics, 1988 USA, ISBN 0-07-079923-7.

2. VAVRO JÁN: Kinematic and Dynamic Analysis of Planar Mechanisms by Means of the SolidWorks Software, Tribun EU s. r. o., Brno, 2020.
3. VAVRO, J., KOPECKÝ, M.: Nové prostriedky a metódy riešenia sústav telies I, ZUSI v Žiline 2001, ISBN 80-968605-0-X.
4. Vavro Ján: Mechanika I ,E-learning , Fakulta priemyselných technológií so sídlom v Púchove, TnUAD v Trenčíne, 2011,ISBN 978-80-8075-725-0.

Language:
English

Remarks:
Compulsory course / Profile course

Evaluation history: 0
Total number of graded students:

A	B	C	D	E	FX
0.0	0.0	0.0	0.0	0.0	0.0

Lecturers: prof. Ing. Ján Vavro, CSc.

Last modification: 31.08.2022

Supervisor: doc. Ing. Ján Vavro, PhD.