POLITEHNICA University of Bucharest (**UPB**)
Faculty of Engineering and Management of Technological Systems (**IMST**)
Study Programme: Industrial Engineering (**IE**)
Form of study: Licence (Bachelor)

COURSE SPECIFICATION

Course title:	Technical Mechanics	***Semester:***	1
Course code:	UPB.06.D.01.O.001	***Credits (ECTS):***	5

Course structure	Lecture	Seminar	Laboratory	Project	Total hours
Number of hours per week	2		2		4
Number of hours per semester	28		28		56

Lecturer	Lecture	Seminar / Laboratory / Project
Name, academic degree	Adrian Motomancea, Ph. D., Associate Professor	Adrian Motomancea, Ph. D., Associate Professor
Contact (email, location)	motom@deltainfo.ro	motom@deltainfo.ro

Course description:

The course demands to earn solid knowledge's concerning the mechanics of rigid body systems in accordance with the academic engineering level in order to use these knowledge's for solving technical problems. The goal is to built a logic system of analyze for concrete situations, to use the theorems and principles in specific situations and to model by mathematical algorithms in a way that the solution of the problem and the results have minimum errors with respect to the reality. The course contents the 3 divisions of classical mechanics, Statics, Kinematics and Dynamics, each division including general theorems and specific principles for study phenomena such as repose or motion.The main analytical methods are presented in the study of mechanical phenomena, and certain graphic-analytical methods, suggestive in some cases regarding the qualitative side of the expected results.

Seminar / Laboratory / Project description:

The applications have the aim to posses all the mechanical methods and principles as well as the fundamental theorems in order to apply them for solving the problems concerning bodies and systems of bodies. The challenge is that the students earn by this way a logic common sense for different situations starting from mechanical fundaments applied in all the possible directions.

Intended learning outcomes:

The course aim is to prepare an analytical thinking and a correct approach and interpretation of mechanical phenomena, preparing the ground for acquiring knowledge of Strength of Materials

and Machine Parts.

Assessment method:	% of the final grade	Minimal requirements for award of credits
Written exam	40	20
Report / project	-	-
Homework	25	12
Laboratory	20	10
Other	15	8

References:

1. Voinea, R., Voiculescu, D., Simion, F. P., Introducere *in Mecanica Solidului cu Aplicatii in Inginerie*, EdituraAcademiei Romane, Bucuresti, 1989.
2. Radoi, M., Deciu, E., *Mecanica*, Editura Tehnica, Bucuresti, 1983.
3. Motomancea, A., Elemente de dinamica, Editura BREN, Bucuresti, 2001.
4. Stroe, I., Motomancea, A., Bugaru, M. s.a., *Probleme de Statica pentru studentii din invatamantul superior tehnic*, Editura PRINTECH, Bucuresti, 2000.
5. Stroe, I., Bugaru, M. s.a., *Probleme de Cinematica pentru studentii din invatamantul superior tehnic*, Editura PRINTECH, Bucuresti, 2000.
6. Stroe, I., Motomancea, A., Bugaru, M. s.a., *Probleme de Dinamica pentru studenti*
7. Ceausu, V. , Enescu, N. , Probleme de Mecanica, Statica si Cinematica, Editura Corifeu, Bucuresti.
8. Ceausu, V. , Enescu, N. , Probleme de Mecanica, Dinamica si Mecanica Analitica, Editura Corifeu, Bucuresti.

Prerequisites:	***Co-requisites*** ***(courses to be taken in parallel as a condition for enrolment):***
Mathematical analysis, Algebra	

Additional relevant information:

Date: 18.07.2016
Ph. D. Adrian Motomancea
Associate Professor