Course title: Mechanics II

Course Basic Information	
Academic Unit:	Civil Engineering
Course title:	Mechanics II
Level:	Bachelor
Course Status:	C compulsory
Year of Study:	Second (II), Semester III
Number of Classes per Week:	2+2
ECTS Credits:	6
Time /Location:	According to the Timetable
Teacher:	Prof.ass.dr. Ragip Hadri
Contact Details:	Email: ragip.hadri@uni-pr.edu www.fn.uni-pr.edu
Course Description:	This course of Mechanics, is contained of second part – kinematics and the third part dynamics. For learning of kinematics, will be explained material point kinematics and material body kinematics. The dynamic curs will be explained through: material point dynamics, system dynamics and dynamic of the solid body.
Course Goals:	Introduction of necessary basic knowledges, of Mechanics II, for level of first cycle, of scientific fields of Kinematics and Dynamics.
Expected Learning Outcomes:	After finishing of this course /learning module/ student will be able to understand and use properly basic kinematics and dynamics notions, in order to solve problems during and after this basic level of studying.

Student Workload (should be in compliance with student's Learnign Outcomes)			
Activity	Hours	Day/ Week	Total
Lectures	2	15	30
Theory/ Lab Work/Exercises	2	15	30
Practical Work			
Consultations with the teaher	1	15	15
Field Work			
Test, seminar paper	2	3	6
Homework	1	15	15
Self-study (library or home)	2	15	30
Preparation for final exam	2	10	20
Assessment time (test, quiz, final exam)	2	2	4
Projects, presentations, etc.			
Total			150

Teaching Methods:	Lectures, exercises during class using different materials, one project work in group of 2-3 students (independent work), individual homework
Assessment Methods:	Student attendance 5% First estimation: 25% Home works and other activities 10%

	Reilable presence 10% Final exam 50 % Total 100%
Primary Literature:	[1] Fetah Jagxhiu: Mekanika – Dinamika, UP, Prishtinë, 1986 [2] Fetah Jagxhiu: Mekanika – Kinematika, UP, Prishtinë, 1980
Additional Literature:	[3] Hajdin Berisha: Përmbledhje detyrash të zgjedhura nga Mekanika II,2002 [4] Misin Misini: Dinamika e strukturave- leksione të shkruara, FNA, Prishtinë
Designed teaching plan	
Week 1:	General knowledge on kinematics. Material point kinematics. The ways of movement expression. Definition of point velocity and acceleration.
Week 2:	Solid body kinematics. Basic movements of solid body. Translative movement, rotation of solid body around static axis
Week 3:	Plained movement of solid body. Geometric aspect of figure movement on it's plan. Analitic aspect of plane figure movement on it's plan.
Week 4:	Dynamic concern. Basic understands and definations. Material point dynamics. D'Allamber principle on material point . Differential equation of point movement. Basic duties of material point dinamics.
Week 5:	General principles of material point dynamics. Princip of momentum changing. Principle on kinetics moment changing. Principle on changing of kinetics energy. Law on mechanical energy conservation.
Week 6:	Motions at systems with one freedom deggre. Dynamic model . Motions equations. Free motions.
Week 7:	Impossed motions. Types of dynamic loads. Harmonic motions.
Week 8:	Seismic reactions of structures. Basic understands on seismic reactions. Spectral analysis. Standard spectrals of elastic reactions. Plastic Spektrals of design and impacting factors.
Week 9:	Material system dynamics. General principles of material system dynamics. Momentum changing principle. Principle of kinetic changing of moment. Principle on changing of kinetic energy. Conservation law of mechanical energy.
Week 10:	Solid body dynamics. Inertion moments of solid bodies. Inertion moments for some simple bodies. Basic movements dynamics and general theorems of body dynamics.
Week 11:	Knowledges on systems of many freedom deggres and on systems with distributed parameters.
Week 12:	Torsion of asimetric structures. Twisting movements (oscilation). Movement equations. Free and imposed movements. Dinamic excentration impact on seismic efects.
Week 13:	Blow theory, basic understandings. Elementar impuls and full impuls. Impact of blow force on material points. Body blow on surface. Blow of body which rotate around static axis. Central normal matches of two bodies.

Week 14:	Basics of analitical mechanics. Analitical statics. General coordinates and freeedom deggre number. Virtual displacements. Virtual forces work. Ideal joints. Generalised forces. Virtual works principle.
Week 15:	Equilibrum conditions on general coordinates. Application of virtual works principle, on solution of statics problems. Analitical dynamics. General equations. D'Allamberit-Lagrange- principle. Canonic Hamilton equations

Academic Policies and Code of Conduct
We start and finish class on time. *Tools used during class must be cleaned and stored away at the end of class.* *Mobile/smart phones, and other electronic devices (e.g. iPods) must be turned off (or on vibrate) and hidden from view during class time.* *Laptop and tablet computers are allowed for quiet use only; other activities such as checking personal e-mail or browsing the Internet are prohibited.*

Note | If a student has more than 3 class assignements evaluated below 50% he/she loses the right on taking the final exam. Evaluation is done from 0-100 %.