Course title: Structure Analysis I

Course Basic Information	
Academic Unit:	**Faculty of Civil Engineering**
Course title:	**Structure Analysis I**
Level:	**Bachelor**
Course Status:	**Mandatory**
Year of Study:	**II-second**
Number of Classes per Week:	**3+2**
ECTS Credits:	**9**
Time /Location:	**According to the Timetable**
Teacher:	**Prof.Asoc.Fatos Pllana**
Contact Details:	e-mail: fatos.pllana@uni-pr.edu www.fn.uni-pr.edu
Course Description:	In this course determinate structures are analyzed, which includes MTN forces, influent lines in frame structures and trusses with static and kinematic method. Also are treated deflections of structures, in linear frame and trusses, and influence lines of deflections
Course Goals:	Main goals of this course are that student to be able to calculate statical determinate structures, linear frames and trusses. To adbot methods which are used to calculate this type of structures, and to adopt knowledge about influence lines. Also, successfully to finish tasks where is included literature. At the end, student should be able to continue the next level of studies.
Expected Learning Outcomes:	To understand statical systems of building structures, to understand to calculate MTN diagrams, influence lines of linear frames and trusses with static and kinematic method, deflections and deflections diagrams of these type of structures, and influence lines of deflections. In this way, to be able to finish complete analysis of frames and trusses.

Student Workload (should be in compliance with student's Learnign Outcomes)			
Activity	**Hours**	**Day/ Week**	**Total**
Lectures	3	15	45
Theory/ Lab Work/Exercises	2	15	30
Practical Work	0	0	0
Consultations with the teaher	4	3	12
Field Work	4	3	12
Test, seminar paper	0	0	0
Homework	5	4	20
Self-study (library or home)	3	15	45
Preparation for final exam	3	15	45
Assessment time (test, quiz, final exam)	2	5	10
Projects, presentations, etc.	2	3	6
Total			**225**

Teaching Methods:	*Lectures, exercises during class using different materials, one project work in group of 2-3 students (independent work), individual homework*
Assessment Methods:	Individual assignments completed in class 30%; Individual assignments completed at home 30%; Exam 40%.
Primary Literature:	Notes tooked during lectures
Additional Literature:	***Jagxhiu F.:****Rezistenca e materialeve (pjesa e parë), Universiteti i Prishtinës, FNA, Prishtinë, 1995* ***Skenderi S.:*** *Statika e ndërtimit I, Revista-Dispenca, Tiranë, 1974* ***Skenderi S.:*** *Statika e ndërtimit II, Revista-Dispenca, Tiranë, 1975* ***Skenderi S.:*** *Statika e ndërtimit III, Revista-Dispenca, Tiranë, 1975* ***Pllana F.:*** *Ligjerata të autorizuaranga lënda "Statika e Konstruksioneve" I, FNA, Prishtinë, 1996* ***Softa F.:****Teoria e Strukturave, Tiranë,1990*

Designed teaching plan	
Week	**Title of the Lecture**
Week 1:	***Introduction*** *MTN diagrams and their meaning* *Example*
Week 2:	Methods of *structural* analysis
***Week 3*:**	Statically indeterminance Loads
Week 4:	Theory of small deformations Kinematic analysis of structures
Week 5:	Arch with three hinges Suspended structures Influence lines Determination of influence lines by analytical methods
***Week 6*:**	Influence lines at secondary beams Influence lines at Gerber beams Influence lines at three hinge arches Influence lines at Suspended structures
Week 7:	Determination of Critical position of moving loads Influence lines at trusses
Week 8:	Construcion of influence lines by kinematic method
Week 9:	Influence lines at three hinge arches by kinematic method Influence lines at trusses by kinematic method
Week 10:	Principle of virtual work Virtual work of internal forces Virtual work of virtual displacement
***Week 11*:**	Method of unit displacement Numerical principles for calculation of generalized displacements
***Week 12*:**	Theorems of reciprocity
***Week 13*:**	Deflection diagrams of linear frames Deflection diagrams of linear trusses
***Week 14*:**	Influence lines of generalized displacements of linear frames Influence lines of generalized displacements of linear trusses
***Week 15*:**	Resume of all the units

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 assignments evaluated below 50% he/she loses the right on taking the final exam. Evaluation is done from 0-100 %.