UNIVERSITY OF PRISHTINA
"HASAN PRISHTINA"

FACULTY OF CIVIL ENGINEERING

DEPARTMENT CONSTRUCTION – MSc.

2014 – 2017

2.1 Master Study Program in Evaluation: Construction

2.1.1 Base line data for the study program

Description (name) of the academic program	**Construction**
NFQ Level (BA, MA, PhD, doctorate programme, university course)	**Level 7** **MA**
Academic degree or certificate, spelled out in full and in abbreviated form	**Master of Civil Engineering-Study Program: Constructions** **Msc. Civil Engineering- Program Study Construction**
The area of study *Erasmus Subject Area Codes* (ESAC)	**06.04 (Civil Engineering)**
Profile of the academic program / Scientific position	**Constructions**
Minimum period of study	**Minimum 2 years of study**
Type, structure and cycle (full time or part time)	**Full time present**
Number of ECTS	**120 ECTS ,** **60 ECTS , one year**
Program (short overview)/Courses	**Obligatory:** **Sem. I** 1. Scientific Research Methodology 2. Steel Constructions III 3. Concrete Constructions III 4. Project Management **Sem. II** 1. Construction Management 2. Dynamic of Structures 3. Bridges **Electives:** **Sem. I** 1. Laminated Wood Constructions 2. Polymer and Bituminous Materials 3. Mathematical Methods in Engineering 4. The Method of Finite Elements 5. Theory of Slabs and Shells 6. Technical English Lanuage I 7. Technical German Lanuage I **Sem. II** 1. Prefabricated Elements of Concrete Structures 2. Pre-stressed Concrete

	3. Light Steel Constructions 4. Theory of Plasticity 5. Special Foundations 6. Nonlinear Analyses of Structures 7. Stability of Structures 8. Technical English Lanuage II 9. Technical German Lanuage II **Sem. III** 1. Concrete Constructions IV 2. Examinations of Structures 3. Masonry structural Design 4. Design of Steel Bridges 5. Design of Concrete Bridges 6. Fundamentals of Earthquake Engineering 7. Special Structures 8. Repairing and Strengthening the Existing Structures 9. Bearing Masonry Structure 10. Rheological Characteristics of Concrete 11. Engineering Economics
Number of student places	40 students
Person in charge of the academic programme	Prof. ass. Dr. Misin Misini
Scientific/artistic staff (number per staff category)	8 professors; 3 lectures and 10 teaching assistants
Tuition fees	According the fee from UP 250 Euro /semester

2.1.2 Rationale of the Programme for Labor Market

Construction development trends in our country are at the highest point of the activities being compared to the last 10-20 years. Demand for the new inhabited area at the urban rural areas is growing on the yearly basis. New Urban lopment projects show an increase need for new urban areas of residential, public and other buildings. The private sector economy is having positive growth at the last decade. This sociaety demand directly creates new demand for new constructions, sites and areas. Our country has very low urban and rural development and there is a permanent need for additional foreign investment by the various entities. Configuration of Kosovo , its assets , the relation towards the population always have enough potential for capital investments in many sectors such are: industry, transport , tourism , small economy - individual sector etc.

All these requirements can be converted to the need for new specialised staff in the field of Civil Engineering, Construction Engineering Hydro and Road Infrastructure Engineering as well.

2.1.3 International comparison of study program

The Study program in field of the structure it is based in the south-east European region and particularly on the civil faculties as are: Zagreb (Croatia), Ljubljana (Slovenia), Tirana (Albania) and Skopje (Macedonia).
Comparing the general subjects as are the foreign lang uction management and economy, structure theory, then comparing specific subjects as follow; timber structure, steel structure, concrete structure, dynamic of structure it is very easily to identify that the subjects are in compliance with the above mentioned study programs for the regional country and also they are in coherence wi the several programs from European University's.

2.1.4 Target group that is dedicated the study program

The master study level for structure, it is offered for the group of candidates who have finish the undergraduated level of bachelor degree in three years study with 180 ECTS. The group of candidates who are offered this program of study are came from the bachelor degree in the field as follow: structural and different technical fields as are mechanical, architectural etc. (regarding this case, were candidates are from different field the students are have additional exams in accordance with the approved regulation from the Civil Faculty).

2.1.5 Study Program Relation With Leading Principles Of Institution

Study program Constructions present the base of study in Department of Civil Engineering and is on the orientation with the mission for development of Faculty, adequate with the main principle of management of institution.

2.1.6 Goal and Profile of Study Program: Constructions - Master Level

The aim of this master program in Construction is to create the necessary professionals with competencies in the field of Construction. The course contents, syllabuses are organized within three semesters and the diploma thesis work give to students competencies in the field of Design, Supervision, and Management of Construction.

- To deepen the knowledge in study field offer in this study
- To offer the adequate skilled people for Kosovar work and also for manage and solve the technical problems in civil engineering.
- To offer the adequate solutions for solve the problems in civil engineering
  To acquired the knowledge for continuing study or research works for PhD level.

2.1.7 Learning Outcomes

- To be familiar with Civil Engineering fields in different structures.
- To apply the Theoretical knowledge in practical and experimental Civil Engineering works.
- To know to solve the different problems based on the k wledge of science and to offer the adequate methods for solving the problems.

- With the level of knowledge to help on the improving t l engineering works adequate requested standards.

2.1.8 The Ratio between theoretical and practical parts/ or experimental

The master study for structure are developed in base of subjects program (no modular) and the ratio between theoretical, practical, laboratories and exams part are predicted inside of the subject. The average of those ratio, based from the different subjects are as follow; theoretical part 30%, numerical part 30%, laboratory and experimental (examination) part 40%.

2.1.9 Calculation of ECTS

According to the Statute of the UP, for 1 ECTS are calculated per 25 studying hours. An example of working load calculation that reflects into assigning the ECTS to a course.

Activity	Orë	Ditë	Javë	Gjithsejt
Lectures	2		15	30
Theoretical excercises/laboratory	2		15	30
Practical work	1		15	15
Contacts with lecturer/consultations	1		15	15
Field excercises				
Colocfiums, seminars				
Home work	1		10	30
Self study time (in library or at home)	2		10	20
Final preparation for the exam				20
Time spent on evaluation (tests, quizzes, final exam)	1		10	10
Projects, presentations, etc.				
Total				150

150/25 = 6 ECTS

2.1. 10 Practical work – internship

The Civil Engineer Faculty, civil department has agreement cooperation's with local company structural enterprise, through which the selected groups of students are reach the professional skills. The internship part it is imp mented as a part of the diploma thesis, precise the interconnection and implementation of theoretical part in the site construction part.
The achievements of agreements are as follow:

- Bechtel –Enka, with the number of students 5
- Kompania Al Trade with the number of students 10
- Izolimi, with the number of students 5
- New-Premix, with the number of students 2
- Fitorja, with the number of students 5

2.1.11 Planed research program / programs in assessment

The researches are oriented in several directions:

- Existing building assessment based on European Standards
- Structural Strengthening and increase of the structural bearing capacity thru FRP materials
- Behaviour of masonry structure under the earthquake action.

2.1.12 Requirements for admission of students and selection procedures

The selection of applicants is based on the following criteria:

- The students with GPA = 7.5 , directly without the entry exam and ranking ti l the request number
- The students with GPA < 7.5 will submit the entry exam to complete the free spaces, till the request number.
- The ranking will be for the request number.

2.1.13 Study plan:

First Year						
Sem I			**Hours/ Week**			
Nr.	**O**	**Subjects**	**L**	**E**	**ECTS**	**Professor**
1.	O	Scientific Research Methodology	2	1	3	Prof. Asoc. Dr. Violeta Nushi
2.	O	Steel Constructions III	2	2	6	Mr.Sc. Faik Hasani, senior lecturer
3.	O	Concrete Constructions III	2	2	6	Mr.Sc.Kadri Morina, lec.
4.	O	Project Management	2	0	3	Prof. DDr. Davorin Kralj/ Mr.Sc. Ilir Rodiqi
		Totali	**8**	**6**	**18**	
Nr.	**O**	**Subjects**	**L**	**E**	**ECTS**	**Professor**
1	E	Laminated Wood Constructions	2	2	6	Prof.ass.dr.Florim Grajcevci
2	E	Polymer and Bituminous Materials	1	1	3	Prof. Dr. IR. Dyonis van Gemeerts/ Prof.asoc.dr.Naser Kabashi
3	E	Mathematical Methods in Engineering	2	2	3	Prof.dr.Isak Hoxha
4	E	The Method of Finite Elements	2	1	3	Prof.asoc.dr.Misin Misini
5	E	Theory of Slabs and Shells	3	2	6	Prof.dr.Musa Stavileci
6	E	Technical English Language I	2	0	3	Nedime Belegu, lek
7	E	Technical German Language I	2	0	3	Prof.ass. Dr. Milote Sadiku
Sem. II						
Nr.	**O**	**Subjects**	**L**	**E**	**ECTS**	**Professor**
1	O	Dynamics of Structures	3	2	6	Prof.dr.Musa Stavileci
2	O	Construction Management	2	2	6	Prof. DDr. Davorin Kralj/ Mr.Sc. East Gashi

3	O	Bridges	3	0	6	Mr.Sc. Shaban Perjuci, lect.
		Total	**8**	**4**	**18**	
Nr.	**O**	**Subjects**	**L**	**E**	**ECTS**	**Professor**
1	E	Prefabricated Elements of Concrete Structures	2	2	3	Mr.sc.Kadri Morina, ligj.
2	E	Pre stressed concrete elements	2	2	6	Mr.sc.Kadri Morina, ligj.
3	E	Light Steel Constructions	2	2	3	Mr.sc.Faik Hasani, senior lecturer
4	E	Theory of Plasticity	2	2	3	Prof.asoc.dr.Misin Misini
5	E	Special Foundations	2	2	3	Prof.dr.Fikret Ahmedi
6	E	Nonlinear Analyses of Structures	2	2	3	Prof.ass.dr.Fatos Pllana
7	E	Stability of Structures	2	2	3	Prof.ass.dr.Fatos Pllana
8	E	Technical English Language II	2	0	3	Nedime Belegu, lek
9	E	Technical German Language II	2	0	3	Prof.ass. Dr. Milote Sadiku

Second Year

Sem. III			**Hours/ Week**			
Nr.	**E**	**Subjects**	**L**	**E**	**ECTS**	**Professor**
1	E	Concrete Constructions IV	2	3	6	Mr.sc.Kadri Morina, ligj
2	E	Examinations of Structures	2	2	6	Prof.asoc.dr.Naser Kabashi
3	E	Design of Steel Bridges	1	3	6	Mr.sc. Shaban Perjuci, ligj/Mr.Sc. Ali Muriqi
4	E	Design of Concrete Bridges	2	2	6	Mr.Sc.Shaban Perjuci,ligj
5	E	Fundamentals of Earthquake Engineering	2	2	6	Prof.asoc.dr.Misin Misini
6	E	Special Structures	2	2	6	Prof.ass.dr.Florim Grajçevci
7	E	Repairing and Strengthening the Existing Structures	2	2	6	Prof.asoc.dr.Naser Kabashi/Prof.dr.Luc Courard/
8	E	Bearing Masonry Structure	2	2	6	Prof.ass.dr.Florim Grajcevci
9	E	Rheological Characteristcis of Concrete	2	0	3	Prof.ass.dr.Hajdar Sadiku
10	E	Engineering Economics	2	2	6	Prof. Dr. Enver Kutllovci/ Mr.Sc. Ilir Gjinolli
		Total to be selected			**30**	
Sem. IV						
1		Diploma Thesis			30	
		Totali			**30**	

2.1.14 COURSE DESCRIPTIONS

SCIENTIFIC RESEARCH METHODS

Introduction: Collection, study and systematization of information. Meaning, types and verification of hypotheses. Meaning, scope and elements characteristic of the seminar notes.Data collection. Analysis of the data. Methods of research work. Modelling methods. Statistical method. Mathematical methods. Experimental methods. Communications Theory as method. The case study method. Visual methods. Method of survey and interviews

Outcoming learning: After completion of the course candidates will be able to write different reports , different texts and will be able to complete the narrative aspect of scientific work including the Master thesis

Teaching and learning form: lecture, seminar and individual work

Learning Methods /Forms: Lecturing, preparation of studies case, and presentation. Assessment, 10 % from presence, 30% first colloquium-test, 30% second colloquium-test and 30% semester work paper. Exercises.

Concretization tools: projector, table, marker, notes.

Ratio between theoretical and practical part:

Theoretical part	Practical part
60 %	40 %

Volume and engagement of works for this course: 2+1, 3 ECTS

Activity	Hours	Day	week	Total
Lecture	2	1	15	30
Theoretical exercises/Laboratory	1	1	15	15
Practical work				
Contract with lecturer / consultation	1	1	3	3
Field practice				
Test and seminars	1	1	10	10
Home work				
Independent study (library or at home)	1	1	5	5
Preparing for final exam	2	5	1	10
The time present during the evaluation (tests, quiz and final exam)	3	1	1	3
Projects; presentation and ect	2	1	1	2
Total				78

Primary literature: Zelenika R. Methodology and technology prepared the research work, Rijeka 1999;Fellows,R.; Liu, A. Research Methods for Constructions, Oxford: The Blackwell Science, 1997; Holt.D.G.: A guide to succeful dissertation study for students of the built environment.

STEEL CONSTRUCTIONS III

Introduction , history of tall metallic buildings; Choice of tall b lding base form ; foundations of tall buildings : flat slab ; corrugated b and slab with gallery; overview of bearing constructive system (horizontal and vertical systems, bracing elements); Basis configuration and disposition of columns; Floor structure: overview of elements and function.

Learning outcomes: Students are able to complete independently: the general disposition of a tall building with metallic construction, the loading analysis (dead loads, wind, snow, temperature, etc), the statically system of main girders with loading scheme for most disadvantageous cases and statically calculation and determination of geometry of main elements of bearing construction

Teaching and learning form: lecture, seminar and individual work

Learning Methods /Forms: Lecturing, preparation of studies case, and presentation. Assessment, 10 % from presence, 30% first colloquium-test, 30% second colloquium-test and 30% semester work paper. Exercises.

Concretization tools: projector, table, marker, notes.

Ratio between theoretical and practical part:

Theoretical part	Practical part
95 %	5 %

Volume and necessary quantity of work (hours by semester 2+2, 6 ECTS)

Activity	hour	Day	week	total
Lecture	2		15	30
Theoretical/laboratory exercice	2		15	30
Practical work	4	2	2	8
Contact with professor/consult	1	8	8	8
Outdoor exercises	/	/	/	/
Colloquium, seminar	2	2	2	4
Homework	2	4	4	8
Time of personal study work (library or at home)	2	15	15	30
Final preparation for exam	4	4	4	16
Time for evaluation (tests, quiz, final exam)	4	1	1	4
Projects, presentation ,etc	2	2	2	4
Total				142

Basic literature:Steel building Structures, prof.dr. Afrim Vokshi
Celicne Konstrukcije (Zaric,Budjevac dhe Stipanic)
Konstruksionet mikse çelik-beton nga Drago Horvatic;
Normativat Eurocode 1,2,3 dhe 4

CONCRETE STRUCTURES III

Introduction: Reinforced concrete high beams, reinforced concrete circular slab, concrete protective walls, elements suggested to longi dinal buckling, calculation of longitudinal bending, slope bending , serviceability limit state analysis , most disadvantageous but possible load combination, stress limit states, cracks limit states and deflection limit states for reinforced concrete elements. Calculation of stresses according to EC-2.

Outcoming learning: Extension of knowledge in the field of concrete constructions from previous courses. Knowledge of concrete constructions elements ; calculation and determination of their geometry . Students will be able to calculate and dimension, to complete reinforcement details; to propose adequate di nsions for elements depending of the building destination. To calculate and determinate geometry of reinforcement details for elements of construction. To ndle buckling problem of elements with longitudinal bending, To handle in detai problems of cracking for reinforced concrete elements, To calculate deflections of reinforced concrete elements for time 0 and 8 according to EC-2

Teaching and learning form: lecture, seminar and individual work

Learning Methods /Forms: Lecturing, preparation of studies case, and presentation. Assessment, 10 % from presence, 30% first colloquium-test, 30% second colloquium-test and 30% semester work paper. Exercises.

Concretization tools: projector, table, marker, notes.

Ratio between theoretical and practical part:

Theoretical part	Practical part
50 %	50 %

Volume and necessary quantity of work (hours by semester 2+2, 6 ECTS)

Activity	Hours	Day	week	total
Lecture	2	1	15	30
Theoretical/laboratory exercise	2	1	15	30
Practical work	/	/	/	/
Contact with professor/consult	1	15	15	15
Outdoor exercises	2	2	2	4
Colloquium, seminar	2	1	2	4
Homework	2	8	8	16
Time of personal study work (library or at home)	3	8	8	24
Final preparation for exam	6	5	1	30
Time for evaluation (tests,quiz,final exam)	4	2	1	8
Projects, presentation ,etc	1	3	1	3
Total				164

Basic literature:

K. Morina, H. Sylejmani dhe N. Hoxha, Ligjerata te au prej Konstruksionet e betonit I

K.Negovani dhe N. Verdho Konstruksionet prej betoni I I EC-1 , Ec-2

J.Radic: Betonske konstrukcije, Zagreb

PROJECT MANAGEMENT

Introduction: Basic principles of management: what is the management, who are managers. Development of the management, management de pment, management functions. Working persistance; definition of Determination, the problems and errors in decision making, methods of forecasting. Project management: definition, project leader, project goals, type of project. The composition of the economy and his circle; basics of organization management, organizational goals, organizational structure, technological aspects, economic and social organization, the impact of district organizational structure, job specifications of the participants in construction. Planning the working process: nature, reason and purpose of management planning process. Leadership in working processes, leadership, motivation, communication worki determination, attitude to work. Financial control of construction project.

Outcoming learning: After completing of this course ,student will be able to understand and properly use in practice definitions of management, major principles of organization and operational management of one project. Other main of this subject in particular is that future engineers and experts easily to overpass difficulties of one project in regard to the management.

Volume and engagement of works for this course: 2+0, 3 ECTS

Teaching and learning form: lecture, seminar and individual work

Learning Methods /Forms: Lecturing, preparation of studies case, and presentation. Assessment, 10 % from presence, 30% first colloquium-test, 30% second colloquium-test and 30% semester work paper. Exercises.

Concretization tools: projector, table, marker, notes.

Ratio between theoretical and practical part:

Theoretical part	Practical part
80 %	20 %

Volume and engagement of works for this course: 2+1, 3 ECTS

Activity	Hours	Day	week	Total
Lecture	2	1	15	30
Theoretical exercises/Laboratory				
Practical work				
Contract with lecturer / consultation				
Field practice	1	1	5	5
Test and seminars				
Home work				
Independent study (library or at home)	1	3	5	15
Preparing for final exam	3	2	3	18
The time present during the evaluation (tests, quiz and final exam)	3	1	1	3
Projects; presentation and ect	10	4	1	4
Total				75

Primary literature: Menadžent za inzenjere, Mariza Katavic, Sveucilište u Zagrebu, Gradevinski Fakuletet, Zagreb 2006. Literatura e propo Menagement for the Construction Industry, Stephen Lavender, Longman and T Institute of Building, Eseex, England 1996.

CONSTRUCTION MANAGEMENT

Introduction: Investment plans, project evaluation and contrction laning methods, Construction law, Construction standards, time management, planing techniques , programming in construction engineering, crtical path thod, PERT method, control of construction, Theory of Construction Management, construction project finances, budgeting, human resources in construction projects, Construction techniques, specifications in projects,drawings, BoQ,BoP, Literature: Kralj D. Construction Management, Halpin W. Daniel Construction Management , fourth edittion John Wiley & Sons, Oct 18, 2010.

Learning Outcome: After completion of this course the Student will be ab to understand principles of the Construction Management starting from early stages of one project such are feasibility and resource planning. Another important element of this course is knowledge which student/future Engineer will gain on project scheduling and follow up of such plans during the construction

Teaching and learning form: lecture, seminar and individual work

Learning Methods /Forms: Lecturing, preparation of studies case, and presentation. Assessment, 10 % from presence, 30% first colloquium-test, 30% second colloquium-test and 30% semester work paper. Exercises.

Concretization tools: projector, table, marker, notes.

Ratio between theoretical and practical part:

Theoretical part	Practical part
50 %	50 %

Volume and engagement of works for this course: 2+2, 6 ECTS

Activity	Hours	Day	week	Total
Lecture	2	1	15	30
Theoretical exercises/Laboratory	2	1	15	30
Practical work				
Contract with lecturer / consultation	1	1	10	10
Field practice	2	1	10	20
Test and seminars	2	1	15	30
Home work				
Independent study (library or at home)	1	3	5	15
Preparing for final exam	3	5	1	15
The time present during the evaluation (tests, quiz and final exam)	3	1	1	3
Projects; presentation and ect	2	1	1	2
Total				155

Primary literature: - Kralj D. Construction Management, Halpin W. Daniel Construction Management , fourthe edittion John Wiley & Sons, Oct 18, 2010.

DYNAMICS OF STRUCTURES

Introduction::In aspect of the applicative way will be analyses the problems for calculating of engineering structures (beams, frames; trusses), under the dynamical loads .The analyzing problems will be presented such a systems with: gle degree of freadomt; multi degree of freedom and method of dissipate parameters.

Aim of learning: Depth the knowledge for analyses and n the engineering structures under the dynamic loads.

Outcoming learning: After the finishing the course the student will be able to know, to use and to understand the principles of dynamic of structures and also to apply directly during tha analyses of structures. During this course student will take the more information for continuing study in this field.

Teaching and learning form: lecture, seminar and individual work

Learning Methods /Forms: Lecturing, preparation of studies case, and presentation. Assessment, 10 % from presence, 30% first colloquium-test, 30% second colloquium-test and 30% semester work paper. Exercises.

Concretization tools: projector, table, marker, notes.

Ratio between theoretical and practical part:

Theoretical part	Practical part
100 %	0 %

Volume and engagement of works: 3+2, 6 ECTS

Activity	Hours	Day	week	Total
Lecture	3		15	45
Theoretical exercises/ Laboratory	2		15	30
Practical work				
Contact with lecturer / consultation				8
Field practice				
Tests and seminars				14
Home work				20
Independent study (library or at home)				20
Preparing for final exam				20
The time presented during the evaluation (tests; quiz and final exam)				8
Projects , presentation and ect				
Total				165

Literature using: Niko Pojani: Teoria e strukturave DINAMIKA, shblu, Tiranë, 2002
Stavileci M.: Dinamika e konstruksioneve, leksione të shkruara, UP, FNA, Prishtinë 2000
Clough R., Penzien J.: Dynamics of Structures, McGraw-Hill, 2ndEd 1993
Chopra A.: Dynamacis of Structures-Theory and Aplications to Earthquake Engineering, Prentice-Hall, New York, 1996

BRIDGES

Introduction: The course deals with concrete bridges as whole structures starting with the history of the bridges, most typical types of brid ypes of constraints and criteria for their overcome. Afterwards are explored the possib nd types of cross sections as well, when and which are preferred. Then the types of the load are described, which are applied according to EN norms and methods for dimensioning the elements of the bridge.

Outcoming learning: basic training for designing and calculation princip bridge. Learning outcomes: After completing the course the student will be able to identify, understand and make use of the basic elements of a bridge, to inspect the implementation of the project and to design basic brid ll.

Teaching and learning form: lecture, seminar and individual work

Learning Methods /Forms: Lecturing, preparation of studies case, and presentation. Assessment, 10 % from presence, 30% first colloquium-test, 30% second colloquium-test and 30% semester work paper. Exercises.

Concretization tools: projector, table, marker, notes.

Ratio between theoretical and practical part:

Theoretical part	Practical part
60 %	40 %

Volume and required work time: 3+2, 6 ECTS

Activity	Hours	Day	Week	Total
Lecture	2		15	30
Theoretical exercise/laboratory	3		15	45
Practical work				
Consultation with the lecturer				10
Field work				5
Midterms, seminars				
Homework				20
Self-study (at the library or at home)				20
Preparations for the final exam				20
Time spent on assessment (tests, quiz, final exam)				8
Projects, presentations, etc.				
Total				168

Basic literature:

Shaban Perjuci: Reinforced concrete bridges – authorised lectures
Jure Radiq: The massive bridges

GLUED LAMINATED TIMBER STRUCTURE II

Introduction: Main technical rouls for glued laminated timber elements. Calculation - design of glulam different structural elements. Design ulam Structure, conections of structural elements, different mounting details and Stability of glued laminated timber Structure frame system.

Outcoming learning: A module that enables the students to recognize glued laminated timber materials and their technical performances of capability the different Structure, design and calculations of different type of timber Structure. Design the external action in the glulam timber Structure, Read the partial safety coefficients from EC-1 and EC-5 norme, Lists and explain technological activity to create the glued laminated timber Structure, their structural featuries. Design the different simply static structural elements like beams, frame systems. Design the Structural glula timber elements of different static systems as are the arc. Design the diferent sup lulam structure. Design and calculation of the necessary bracing for ti ber structure.

Teaching and learning form: lecture, seminar and individual work

Learning Methods /Forms: Lecturing, preparation of studies case, and presentation. Assessment, 10 % from presence, 30% first colloquium-test, 30% second colloquium-test and 30% semester work paper. Exercises.

Concretization tools: projector, table, marker, notes.

Ratio between theoretical and practical part:

Theoretical part	Practical part
60 %	40 %

The volume and amount of work needed are 2+2 and 5 ECTS.

Activities	Hour	Day	Week	Total
Lectures	2	1	15	30
exercises / laboratory	2	1	15	30
Tutorial work	0	0	0	0
Contacts with the teacher/consultation	2	1	2	4
Field exercises	0	0	0	0
Colloquies, Seminars	2	3	3	6
Homework	2	1	15	30
Own study time Student (at the library or at home)	2	1	15	30
Preparation for final exam	4	1	5	20
Time spend on assessment (tests, screak, final exam)	2	3	3	6
Projects, Presentations, etc..	1	1	7	7
Total	26	/	/	163

Basic Literature:

1. F. Grajcevci, Glulam Structure,(Authorised Lecture) FCEA, Prishtinë
2. Werner, Zimmer., “Holzbau 2”, Dach- und Hallentragwerke nach DIN und Eurocode, Berlin Aufl.-1999
Eurocode 1; Eurocode 5

THEORY OF SLABS AND SHELLS

Introduction: The course is devided in two main parts: Theory of flexure of thin slabs and theory of shells. In first part are rectangular slabs and circular slabs. In second part are analyses the rotative shells and cylindrical rotative shells and also the general forms.

Outcoming learning: Information with the basic knowledge in specified fiel bs and shells.

After the finished the course student will be possible to know; to understand and to used in properly way to use the basic knowledge of engineering science and in specified fields in slabs and shells for continuing the next step of studies.

Teaching and learning form: lecture, seminar and individual work

Learning Methods /Forms: Lecturing, preparation of studies case, and presentation. Assessment, 10 % from presence, 30% first colloquium-test, 30% second colloquium-test and 30% semester work paper. Exercises.

Concretization tools: projector, table, marker, notes.

Ratio between theoretical and practical part:

Theoretical part	Practical part
60 %	40 %

Volume and engagement of works: 3+2, 6 ECTS

Activity	Hours	Day	week	Total
Lecture	3		15	45
exercises/ Laboratory	2		15	30
Practical work				
Contact with lecturer / consultation				8
Field practice				4
Tests and seminars				4
Home work				10
Independent study (library or at home)				30
Preparing for final exam				20
The time presented during the evaluation (tests; quiz and final exam)				8
Projects , presentation and ect				
Total				159

Basic literature :

Musa Stavileci: Teoria e sistemeve sipërfaqësore, UP, FNA, në, 1997
Stavileci M.: Teoria e sistemeve sipërfaqesore – detyra të zgjidhura, UP, FNA Prishtinë, 1997
Girkman K.: Flachentragwerke, Wien, 1959
Timoshenko S.: Theory of plates and Shells, New York,1965

POLYMERS AND BITOMINOUS MATERIALS

Introduction: General informations for Polymer Materials.Main properties of Polymers.Types of Polymers and using such a construction materials.Concrete polymers, properties comparing with usually concrete. Bitominous Materials, properties and examinations of main properties.Asphalt and the main properties such a building material.

Outcoming learning: After completion of the course candidates will be able to: To inform the students with Polymers Materials, definitio d the properties. the possibility to apply the polymer materials in improvement of properties of other constraction materials: concrete; asphalt, etc. to create the conditions for informations and examinations of main properties

Outcomin learning of course; to know the properties of polymer materials, origin and basic definitions, to know the properties of bitominous materials and behavior under the different conditions , to know to apply the polymer and bitominous matrials to improve the properties of other building materials, to have the possibilities for new knowlwdge in techonological development of those materials based on he request Standards.

Teaching and learning form: lecture, seminar and individual work

Learning Methods /Forms: Lecturing, preparation of studies case, and presentation. Assessment, 10 % from presence, 30% first colloquium-test, 30% second colloquium-test and 30% semester work paper. Exercises.

Concretization tools: projector, table, marker, notes.

Ratio between theoretical and practical part:

Theoretical part	Practical part
60 %	40 %

Volume and engangment of of works: 1+1, 3 ECTS

Activity	Hours	Day	week	Total
Lecture	1	1	15	15
Theoretical exercises/ Laboratory	1	1	15	15
Pratctical work	4	1	1	4
Contact with lecturer / consultation	1	1	8	8
Field practice	8	1	1	8
Tests and seminares	1	4	4	4
Home work	1	8	8	8
Independent study (library or at home)	1	15	15	15
Preparing for final exam	8	2	2	16
The time presented during the evaluation (tests; quiz and final exam)	2	1	1	2
Projects , presentation and ect	1	1	1	1
Total	29	/	/	96

Basic Literature:

1. N.Kabashi, Materialet polimere dhe bituminoze FNA, Prishtine
2/Z.Simunic: Polimeri u graditeljstvo, Zagreb
3. Sergiy Minko: Responsive polymer materials

NUMERICAL METHODS IN ENGINEERING

Introduction: The subject contains the following main parts: differential equations of first order, differential equations of higher orders, operating systems of linear differential equations, Laplas transformations, numerical series, functional series, Fourie series and double integrals.

Outcoming learning*:* After completion of this course/ subject/ student will be able to solve the differential equations of various orders to treat the nature of the series and to calculate double integrals, and make different mathematical models from the profession pertaining to, and then do their solution.. Acquisition of techniques for solving differential equations of different orders, researching the convergence of infinite series and the calculation of double integrals.

Teaching and learning form: lecture, seminar and individual work

Learning Methods /Forms: Lecturing, preparation of studies case, and presentation. Assessment, 10 % from presence, 30% first colloquium-test, 30% second colloquium-test and 30% semester work paper. Exercises.

Concretization tools: projector, table, marker, notes.

Ratio between theoretical and practical part:

Theoretical part	Practical part
50 %	50 %

-Volume and quantity of work required (hours for semester 2+2, 6 ECTS)

Activity	Hours	Days	Weeks	Total
Lecture	2	15	15	30
/ Laboratory exercises	2	15	15	30
Tutorial				
Contact with the professor/ Consultations				8
Exercises in the field				
Exams, seminars				10
Homework				15
Own study time (at the library or at home)				25
Final preparation for the exam				24
Time spent on assessment (tests, quizzes, final exam)				8
Projects, presentations ,etc				
Total				150

Basic Literature: A.Zejnullahu , F.Berisha , Matematika III , 1997 ,Prishtinë

METHOD OF FINITE ELEMENTS

Introduction: During the analyse are presented the general informations in physics-geometrical concepts of metod of finite elements. The havior of material is limited under the statical and dynamic analyses. In many examp llustrated with numerical examples . The first part is Theoretical base knowledge and app in analyses of structures , and second part is dynamic analyses of the structures.

Outcoming learning: Basic knowledge of MFE and apply in analyzing the statical and dynamical behavior of engineerin structures. After finished this course students will be able to know, to use and to understand the basic pricipes of civil engineering science in general, and in statical and dynamic fields individualy, and to create the enough results for continuing the study.

Teaching and learning form: lecture, seminar and individual work

Learning Methods /Forms: Lecturing, preparation of studies case, and presentation. Assessment, 10 % from presence, 30% first colloquium-test, 30% second colloquium-test and 30% semester work paper. Exercises.

Concretization tools: projector, table, marker, notes.

Ratio between theoretical and practical part:

Theoretical part	Practical part
100 %	0 %

Volume and engagement of of works: 2+2, 5 ECTS

Activity	Hours	Day	week	Total
Lecture	2		15	30
Theoretical exercises/ Laboratory	2		15	30
Practical work				
Contact with lecturer / consultation				7
Field practice				
Tests and seminars				10
Home work				10
Independent study (library or at home)				20
Preparing for final exam				10
The time presented during the evaluation (tests; quiz and final exam)				8
Projects , presentation and ect				
Total				125

Basic Literature:

Musa Stavileci, Niko Pojani: Metoda e elementëve të fundëm në Mekanikën e Strukturave, UP, FNA, Prishtinë, 2006

Wilson E.L.: Three-Dimensional Static and Dynamic Analysis of Structures, Computers and Structures, inc Third Edition, 2002

Zienkiewiecz O.: The Finite Element Method, McGraw-Hill, New York, 1994

PRESTRESSED CONCRETE

Introduction: Methods of prestressing , prestressing types of reinforced concrete element, losses of prestressing force in the case of prestressing with adhesion and funicular . Losses from anchorage slip and friction an wobbling effects,losses from elastic strains, from steel relaxation, from deform time an deflection of concrete.

Outcoming learning: understanding of prestressed concrete priorities, by ucing tension stresses in reinforced concrete structures; knowledge of types and methods of prestressing and of their application in building practice, ability of students to design in details a prestressed element with different cross sections: T, TT, I, U, or different hollowed cross section.

Results of learning (competences, knowledge dhe skills) :Students will have more informations and will deal with design of reinforced concrete problems; they will be able to propose, in the right time, in first phasis of design , adequate concept of shoice of the structure; they will be able to design completely to details, a roof shelter, a roof main girder, or a prestressed girder.

Teaching and learning form: lecture, seminar and individual work

Learning Methods /Forms: Lecturing, preparation of studies case, and presentation. Assessment, 10 % from presence, 30% first colloquium-test, 30% second colloquium-test and 30% semester work paper. Exercises.

Concretization tools: projector, table, marker, notes.

Ratio between theoretical and practical part:

Theoretical part	Practical part
50 %	50 %

Volume and necessary quantity of work (hours by semester 2+2, 6 ECTS)

Activity	hours	day	week	Total
Lecture	2	1	15	30
Theoretical/laboratory exercice	2	1	15	30
Practical work				
Contact with professor/consult	1	1	15	15
Outdoor exercises	2	1	2	4
Colloquium, seminar	1	1	2	4
Homework				
Time of personal study work (library or at home)	4	3	3	12
Final preparation for exam	6	5	1	30
Time for evaluation (tests,quiz,final exam)	4	2	1	8
Projects,presentation ,etc	1	3	1	3
Total				136

Basic Literature:

H. Sylejmani, K. Morina, N. Hoxha, Ligjerata te atoriz gaBetini i ParanderurK. Morina & Agron Gjinolli, Permbledhje detyrash te zgjid ura nga Betoni i ParanderurI. Tomocic, Predapregnuti Beton

TECHNICAL ENGLISH LANGUAGE I

Introduction: Introduction to Technical English Language course . nzhinieria construction as a profession . Reasons for choosing in hinjerisë as a profession . The main principles of building materials . Creating modern structures . Environmental Inzhinjeria . Bridges and tunnels . High buildings . Compilation of sentences using technical vocabulary.

Outcoming learning: After completion of the course candidates will be: Check the knowledge of English , acquired in previous education ith emphasis on English grammar , Improve and increase to a higher level of English, wit n emphasis on the language used in the professional literature and business correspondence .

Teaching and learning form: lecture, seminar and individual work

Learning Methods /Forms: Lecturing, preparation of studies case, and presentation. Assessment, 10 % from presence, 30% first colloquium-test, 30% second colloquium-test and 30% semester work paper. Exercises.

Concretization tools: projector, table, marker, notes.

Ratio between theoretical and practical part:

Theoretical part	Practical part
100 %	0 %

- Volume and quantity of work required (hours per semester ECTS)

Activities	Hours	Days	Week	Total
Lectures	2	0	15	30
exercises / laboratory	0	0	0	0
Tutorial work	0	0	0	0
Contacts with the teacher/consultation	2	0	15	30
Field exercises	0	0	0	0
Colloquies, Seminars	2	0	2	4
Homeworkk	1	0	15	15
Own study time Student (at the library or at home)	1.5		15	23,5
Preparation for final exam				20
Time spend on assessment (tests, screak, final exam)	2			6
Projects, Presantations, etc..	1			1
Total				

Basic Literature:

- Lectures offered by his teacher

Internet - Sites Big Building program, Brantacan, ASCEN

TECHNICAL GERMAN LANGUAGE I

Introduction: "Technical German Language" is practical subjects that enable students to become familiar with German terminology in the field of technology, where besides the grammatical structures and vocabulary typically used for communication in technical professions . The purpose of this course is to expand students' knowledge about the field of technical terminology and develop their powers of general language . Students will be introduced to the professional field of language technology will be introduced to the structure of scientific texts will be read and interpret professional texts , as well as techniques and strategies work.

Outcoming learning: After completion of the course candidates will be: to enable students to communicate in German in their professional field of technology, enhance their professional competence, to provide students with strategies that help them understand unfamiliar words, to derive important information from scientific texts and develop their own texts, eg formal reports or letters to develop receptive and productive skills of students in the field of engineering.

Teaching and learning form: lecture, seminar and individual work

Learning Methods /Forms: Lecturing, preparation of studies case, and presentation. Assessment, , 50% first colloquium-test, 50% second colloquium-test and 30% semester work paper. Exercises.

Concretization tools: projector, table, marker, notes.

Ratio between theoretical and practical part:

Theoretical part	Practical part
100 %	0 %

Volume and quantity of work required (hours per semester ECTS)

Activities	Hours	Days	Week	Total
Lectures	2	0	15	30
exercises / laboratory	0	0	0	0
Tutorial work	0	0	0	0
Contacts with the teacher/consultation	2	0	15	30
Field exercises	0	0	0	0
Colloquies, Seminars	2	0	2	4
Homework	1	0	15	15
Own study time Student (at the library or at home)	2		15	24
Preparation for final exam				20
Time spend on assessment (tests, screak, final exam)	2			6
Projects, Presentations, etc..	1			1
Total				130

Basic Literature: Rosemarie Buhlmann , Anneliese Fearns (2013): Technisches Deutsch für Ausbildung und Beruf: Lehr- und Arbeitsbuch. Europa Lehrmittel, Goethe Institut; Peter Giloy, Stephan Kumpf (2000): Deutsch für Techniker

.SPECIAL FOUNDATIONS

Introduction: pile foundation, bearing capacity of single pile, bearing capacity of single pare fronm static pentrration, Negative skin friction, vior of group piles, Excavation with screen, Cutt-off wall (diaphragm wall), Foundation on difficult soils.

Outcoming learning: Reason of approved of deep foundation, Information of methods of dep foundation, determination of dimensions of foun n and base technic for design of deep foundations and reinforcement of excavated walls. After completion of the course candidates will be able to know characteristics of deep foundation, To know to determinate the dimensions of elements of deep foundation, To know to choose type of deep foundation,expecially loads from structure, geotechnical profile of terein, engineering characteristics of soils, ground water table, allowable load of soils and settlement, To know to do stability control of foundation.

Teaching and learning form: lecture, seminar and individual work

Learning Methods /Forms: Lecturing, preparation of studies case, and presentation. Assessment, 10 % from presence, 30% first colloquium-test, 30% second colloquium-test and 30% semester work paper. Exercises.

Concretization tools: projector, table, marker, notes.

Ratio between theoretical and practical part:

Theoretical part	Practical part
60 %	40 %

Volume and engangment of of works (2+2, 6 ECTS)

Activity	Hours	Day	week	Total
Lecture	2		15	30
Theoretical exercises/ Laboratory	2		15	30
Practical work	1		15	15
Contact with lecturer / consultation	1		15	15
Field practice				
Tests and seminars				
Home work	1		10	30
Independent study (library or at home)	2		10	20
Preparing for final exam				20
The time presented during the evaluation (tests; quiz and final exam)	1		10	10
Projects , presentation and etc.				
Total				150

Basic Literature:

Ahmedi, F., Fondamente 2 , Universiteti i Prishtinës, Prishtinë, 2005, Nonweiller, E., Mehanika tla i temeljenje Gradjevina, Zagreb, 1985, Braja, M.D., Shallow foundations, bearing capacity and settlement, Sacramento, 1999.

STABILITY OF STRUCTURES

Introduction: The course is devided in two part : Linearising theory of second level and Stability of structures with some of elements,. The analyse will be study with the analytical and numerical methods. Also will be analyses the stability of slabs, imperfection of slabs, and different modes of stability.

Outcoming learning: At the end of this cours the student will be able to: know, to understand and to use the main concepts for analyses the elements and structures under the critical force and to analyse the stability of elements of structures. Also to have the enough informations for continuing study.

Teaching and learning form: lecture, seminar and individual work

Learning Methods /Forms: Lecturing, preparation of studies case, and presentation. Assessment, 10 % from presence, 30% first colloquium-test, 30% second colloquium-test and 30% semester work paper. Exercises.

Concretization tools: projector, table, marker, notes.

Ratio between theoretical and practical part:

Theoretical part	Practical part
100 %	0 %

Volume and engangment of of works: 2+2, 3 ECTS

Activity	Hours	Day	week	Total
Lecture	2		15	30
Theoretical exercises/ Laboratory	2		15	30
Pratctical work				
Contact with lecturer / consultation				7
Field practice				
Tests and seminares				4
Home work				4
Independent study (library or at home)				10
Preparing for final exam				10
The time presented during the evaluation (tests; quiz and final exam)				8
Projects , presentation and ect				
Total				103

Basic Literature:

Musa Stavileci: Teoria e strukturave STABILITETI, UP FNA Prishtinë 2003
Chen W.F.,Lui E.M.: Structural Stability Theory and implementation, Isevier, Neww-York-Amsterdam-London
Softa F.: Teoria e strukturave Qëndrueshmëria, Pllakat, Membranat, Tiranë, 1990

CONCRETE STRUCTURES IV

Introduction: Frame structures; dilatation joints, expansion joints, deflection joints , types of joints;calculation of cross sections according to theory of plasticity, method of Forfeter, Method of Caquot, Prefabricated reinforced concrete constructions, positive and negative attributes of montage system, montage elements, slabs, beams, columns, walls and foundations, connections of prefabricated constructions;caisson shelter, slab and ribs construction, design of caisson slab with approximate method, calculation and reinforcement of caisson slab, shelter without girders (mushroom) ,positive and negative attributes of this slab, minimal dimensions according to EC2

Outcoming learning: After completion of the course candidates will be able to: understanding of structure design starting with proposal of structure concept, choice and appropriation of optimal constructive system variant; knowledge of concrete constructions, as frames , structures with reinforced concrete wall or diaphragm, mixed/dual structures etc; ability to design in details a concrete structure, prefabricated or all in one, including analysis, preliminary final calculations, with diagram of details made with software or manual method; ability to propose adequate solutions depending on the building destination and according to the conditions of project duty.

Teaching and learning form: lecture, seminar and individual work

Learning Methods /Forms: Lecturing, preparation of studies case, and presentation. Assessment, 10 % from presence, 30% first colloquium-test, 30% second colloquium-test and 30% semester work paper. Exercises.

Concretization tools: projector, table, marker, notes.

Ratio between theoretical and practical part:

Theoretical part	Practical part
50 %	50 %

- Volume and necessary quantity of work (hours by semester, ECTS)

Activity	hour	day	week	Total
Lesson	2	1	15	30
Theoretical/laboratory exercice	3	1	15	45
Practical work				
Contact with professor/consult	2	1	15	30
Outdoor exercises	2	1	2	4
Colloquium, seminar	1	1	2	4
Homework				
Time of student work (library or home)	5	3	15	225
Final preparation for exam	8	5	1	40
Time for evaluation (tests,quiz,final exam)	4	2	1	8
Projects,presentation ,etc	1	3	1	3
Total				

Basic Literature:

K. Morina, H. Sylejmani dhe N. Hoxha, Ligjerata te atorizuara nga Projektimi i Strukturave BA;
K.Negovani dhe N. Verdho Konstruksionet prej betoni I, II;
EC-1 , Ec-2 ; Ivan Tomicic: Betonske konstrukcije Zagreb; V. Hasanovic: Betonske konstrukcije Sarajeve; Geothard Franz: Konstruktionslehre des stahlbetons New York; Andrej Spasov : Betonske konstrukcije, Shkup; Ž. Radosavljevic : Betonske konstrukcije I, II dhe III Beograd

EXAMINATIONS OF STRUCTURES

Introduction: Basic knowledge for the behavior the materials and elast-plastic properties. Direct correlations of property of materials in result of examinations of structures. Main strain and stresses and main directions. The theory of instruments: deformeters,clinometers;strain gauges and main princip g the instruments. The deformabile properties: moduls of Elasticity;Poisson ratio, etc. Model analyses, model such a element for analyzing the structures. The methods for evaluation of properties of materials in structures: nondestructive hods and destructive methods.Apply of different methods for “in situ” analyses of bridges under the loads.

Outcoming learning: After completion of the course candidates will be able to: inform the students for indicate the properties of materials in thery of elasticity during the examinations of structure;. have the informations about the theory of Instruments, and directly apply in examinations of structures; have the chance , directly in laborator and in field to apply the methods for examinations; know to apply the theory of elasticity in measurement methods; to know the theory of instruments and to apply in directly measurement of deflections;deformations and the results to apply for calculations of stress and strain in elements or structures; to understand the basic parameters of optical analyses of stresses; to know to analyse the behavior of the structures under statical and dynamic loads

Teaching and learning form: lecture, seminar and individual work

Learning Methods /Forms: Lecturing, preparation of studies case, and presentation. Assessment, 10 % from presence, 30% first colloquium-test, 30% second colloquium-test and 30% semester work paper. Exercises.

Concretization tools: projector, table, marker, notes.

Ratio between theoretical and practical part:

Theoretical part	Practical part
60 %	40 %

Volume and engagement of works: 2+2, 6 ECTS

Activity	Hours	Day	week	Total
Lecture	2	1	15	30
Theoretical exercises/ Laboratory	2	1	15	30
Pratctical work	8	2	1	8
Contact with lecturer / consultation	1	1	15	15
Field practice	8	1	1	8
Tests and seminares	2	2	2	4
Home work	1	8	8	8
Independent study (library or at home)	2	15	15	30
Preparing for final exam	8	3	3	24
The time presented during the evaluation (tests; quiz and final exam)	2	2	2	4
Projects , presentation and ect	2	1	1	2
Total	38	/	/	163

Basic Literature: 1. N.Kabashi, Shqyrtimet e Konstruksioneve,(ligjerata te autorizuara), FNA, Prishtine. 2. Vukotic: Ispitivanje Konstrukcija, Beograd; 3. J.P.Holman: Experimental Methods for Engineers

BEARING MASONRY STRUCTURE

Introduction: Technical elementary roles for construction of masonry bearing walls. Structural calculations of particular elements created from reinforced and unreinforced concrete and also with the different elements. Forming the masonry bearing structure from the different materials, their connections, continues, bearing capacity. Structural stability of the masonry Structure made from the different materials and reinforced concrete.

Outcoming learning: After completion of the course candidates will be able to recognize, understand and use the fundamental notions of masonry structure, in order to afford as are possible expect difficulties during and after these studies; analysis and Design of the Structure with bearing masonry wall.; calculate the actions on masonry Structure, Identify the type of partial security coefficient base on the EC-1 (EN 19991) and EC-6 (EN 1996). Arrange and descript the method statement the forming of masonry Structural elements, show the performance of masonry structure and the technical roules referring to the masonry Structure; Calculating the single elements as a part of masonry structure, bearing capac of units and part of masonry. Organize and design of the bearing walls in to the requests from the horizontal elements – slabs. Design and calculate the bracing from the horizontal loads for the masonry structure.

Teaching and learning form: lecture, seminar and individual work

Learning Methods /Forms: Lecturing, preparation of studies case, and presentation. Assessment, 10 % from presence, 30% first colloquium-test, 30% second colloquium-test and 30% semester work paper. Exercises.

Concretization tools: projector, table, marker, notes.

Ratio between theoretical and practical part:

Theoretical part	Practical part
60 %	40 %

After completing this course /subject/ student will be able to

The volume and amount of work needed are 2+2 and 6 ECTS.

Activities	hour	day	week	Total
Lectures	2	1	15	30
exercises / laboratory	2	1	15	30
Tutorial work	0	0	0	0
Contacts with the teacher/consultation	2	1	2	4
Field exercises	0	0	0	0
Colloquies, Seminars	2	3	3	6
Homework	2	1	15	30
Own study time Student (at the library or at home)	2	1	15	30
Preparation for final exam	4	1	5	20
Time spend on assessment (tests, screak, final exam)	2	3	3	6
Projects, Presentations, etc..	1	1	7	7
Total	26	/	/	163

Basic Literature:

F. Grajcevci, Konstruksionet muraturë,(ligjërata të autorizuara) FNA, Prishtinë
Eurodi 1, EN 1991, Eurokodi 6, EN 1996, Manual for the design of plain masonry in building strukture to Eurocode 6, The institution of Structural Engineers; Seismic design guide for Masonry Buildings, Donald Anderson Svetlana Brzev; Design of Masonry Structures according Eurocode 6, Prof Dr. Wieland Ramm, TCHU of Kaiserslautern

SPECIAL BUILDINGS - STRUCTURES

Introduction: Technical elementary roles for construction of special structure of high buildings. Structural calculations of particular elements created from reinforced concrete, steel and different construction materials. Forming the reinforced concrete, steel and composite structure, their connections, continues, bearing capacity. Structural stability and durability of very special structures constructed ith different materials

Outcoming learning: After completion of the course candidates will be able to recognize, understand and use the fundamental notions of type of structure, in order to afford as are possible expect difficulties during and after these studies; analysis and Design of the Structure; calculate the actions on masonry Structure, Identify the type of partial security coefficient base on the EC-1 (EN 19991), EC-2 (EN 1992), EC-3 and EC 4. Arrange and descript the method statement the formi different Structural elements, show the performance of structure and the technical roules referring to the different Structure; Calculating the single.

Teaching and learning form: lecture, seminar and individual work

Learning Methods /Forms: Lecturing, preparation of studies case, and presentation. Assessment, 10 % from presence, 30% first colloquium-test, 30% second colloquium-test and 30% semester work paper. Exercises.

Concretization tools: projector, table, marker, notes.

Ratio between theoretical and practical part:

Theoretical part	Practical part
50 %	50 %

After completing this course /subject/ student will be le to

The volume and amount of work needed are 2+2 and 6 ECTS.

Activities	hour	day	week	Total
Lectures	2	1	15	30
exercises / laboratory	2	1	15	30
Tutorial work	0	0	0	0
Contacts with the teacher/consultation	2	1	2	4
Field exercises	0	0	0	0
Colloquies, Seminars	2	3	3	6
Homework	2	1	15	30
Own study time Student (at the library or at home)	2	1	15	30
Preparation for final exam	4	1	5	20
Time spend on assessment (tests, screak, final exam)	2	3	3	6
Projects, Presentations, etc..	1	1	7	7
Total	26	/	/	163

Basic Literature:

F. Grajcevci, Konstruksionet speciale,(ligjërata të autorizuara) FNA, Prishtinë
Eurokodi 1, EN 1991, Eurokodi 8, EN 1998

FUNDAMENTALS OF EARTHQUAKE ENGINEERING

Introduction: In the Engineering perspective in the course are treated the Seismic Respose of Structure, problems to modeled as singel system degrees of freedom SDOF and multy system degrees of freedom MSDOF. Also are analyzed the new concepts of Earthquake Engineering filed. The fundamental materials of Courses are referred regardings to the norms and standards, mainly Eurocodes, respectivly EC 8.

Outcoming learning:After completing this course /subject/ student will be able to recognize, understand and use the fundamental notions of engineering earthquakes, in order to afford as are pasible expect difficulties during and after these studies.

Teaching and learning form: lecture, seminar and individual work

Learning Methods /Forms: Lecturing, preparation of studies case, and presentation. Assessment, 10 % from presence, 30% first colloquium-test, 30% second colloquium-test and 30% semester work paper. Exercises.

Concretization tools: projector, table, marker, notes.

Ratio between theoretical and practical part:

Theoretical part	Practical part
100 %	0%

Volume and amount of work needed are 2+2 and 5 ECTS.

Activities	Orë	Ditë	Javë	Gjithsej
Lectures	2		15	30
exercises / laboratory	2		15	30
Tutorial work				
Contacts with the teacher/consultation				5
Field exercises				
Colloquies, Seminars				6
Homeworkk				8
Own study time Student (at the library or at home)				20
Preparation for final exam				20
Time spend on assessment (tests, screak, final exam)				6
Projects, Presantations, etc..				
Total				125

Basic Literature:

Niko Pojani: Seismic Engineer, Tiranë 2003,
Misin Misini: Earthquake Engineering - Fundamental, (Authorised Lecture) FCEA, Prishtinë
Clough R., Penzien J.: Dynamics of Structures, McGraw-Hill, 2ndEd 1993

RHEOLOGICAL CHARACTERISTICS OF CONCRETE

Introduction: General knowledge about the possibilities of experimental determination, virtues and characteristics of the particular characteristics of the wet concrete, concrete rheological characteristics and factors affecting these characteristics.

Outcoming learning: After completion of the course candidates will be able to:

- To gain insight into factors that affect the mechanical properties, especially in the module of elasticity of concrete.
- Know contraction deformations determine the time during the process
- Know distortions determine the delay of the particular coefficient of drag
- You know these features provide designers rheological

Teaching and learning form: lecture, seminar and individual work

Learning Methods /Forms: Lecturing, preparation of studies case, and presentation. Assessment, 10 % from presence, 30% first colloquium-test, 30% second colloquium-test and 30% semester work paper. Exercises.

Concretization tools: projector, table, marker, notes.

Ratio between theoretical and practical part:

Theoretical part	Practical part
100 %	0 %

Volume and quantity of work required (hours per semester ECTS): 2+0, 3 ECTS

Activities	Hours	Days	Week	Total
Lectures	2	1	15	30
exercises / laboratory				
Tutorial work				
Contacts with the teacher/consultation	2	1	15	30
Field exercises				
Colloquies, Seminars	2	2	4	6
Homework	1	8	8	8
Own study time Student (at the library or at home)	2	15	15	30
Preparation for final exam	8	3	3	24
Time spend on assessment (tests, screak, final exam)	2	2	2	4
Projects, Presantations, etc..	2	1	1	2
Total				132

Basic Literature:

1. Prof. Dr. Fetah Jagxhiu, Reologjia e betonit (ligjërata për magjistraturë), FNA, Prishtinë
2. Prof asoc. Dr. Fisnik Kadiu, Teknologjia e materialeve të ndërtimit, FIN, Tiranë
3. Mang Tia Yanjun Liu Danny Brown MODULUS OF ELASTICITY, CREEP AND SHRINKAGE OF CONCRETE Department of Civil & Coastal En neering University of Florida May 2005.

ENGINEERING ECONOMICS

Introduction: Introduction to Engineering Economics, why Engineers need to learn economics, economic environment, determination of objectives, identification of strategic factors, determination of means, evaluation of engineering proposals, asistance in decision makings, Infrastructure expenditure decision Replace versus repair decisions, Selection of inspection method, Selection of a replace for an equipment , labor savings , Efficiency in manufacturing or capital use, First (or Initial) Cost Operation and Maintenance Cost ,Fixed Cost ,Variable Cost ,Incremental or Marginal Cost , Sunk Cost ,Life-Cycle Cost, Demand curve , Supply curve, Elasticity of demand, Law of diminishing return. Cash flow diagrams, financial management of project.

Outcoming learning: After course completion the student will gain information about the financial part of the project, including economic and financial analysis and feasibility of a project in order tha Engineers during design, construction or maintenance of the road network engineers have thorough knowledge about the project's finance and cost.

Teaching and learning form: lecture, seminar and individual work

Learning Methods /Forms: Lecturing, preparation of studies case, and presentation. Assessment, 10 % from presence, 30% first colloquium-test, 30% second colloquium-test and 30% semester work paper. Exercises.

Concretization tools: projector, table, marker, notes.

Ratio between theoretical and practical part:

Theoretical part	Practical part
50 %	50 %

Volume and engagement of works for this course: 2+2, 6 ECTS

Activity	Hours	Day	week	Total
Lecture	2	1	15	30
Theoretical exercises/Laboratory	2	1	15	30
Practical work				
Contract with lecturer / consultation	1	1	15	15
Field practice				
Test and seminars	1	1	15	15
Home work	2	1	15	30
Independent study (library or at home)	2	1	5	10
Preparing for final exam	3	1	50	15
The time present during the evaluation (tests, quiz and final exam)	3		1	3
Projects; presentation and ect	3	1	1	3
Total				151

Basic literature:

Donald N, Engineering Economic Analysis; Panneerselvam R., Engineering Economics; James L.RIGGS, Economic Engineering

REPAIRING AND STRENGTHENING THE EXISTING STRUCTURES

Introduction: General data on conditions affecting the longevity of the construction. The application of construction materials; the requirements to be met. Causes influencing the destruction of objects. Assessment of the damage by application of various methods: visual methods; reviews in place, or laboratory testin Determining the extent of damage and selection of materials for the renovation. gation methods for applying, including various technologies. Monitoring technologies and permanent maintenance of construction. Review of the construction after remediation application.

Learning Objectives: Gaining knowledge on the methods of control and main nce of constructions. Consistent assessment of the state of constructions and reconstructions of parts, elements and structures as a whole. The application of modern methods of rehabilitation and reinforcement problems.

Learning Outcomes: After completing this course the student will be able to field construction: to know and apply the control methods of construction tenance continuously with time; to assess the state of the construction and repair parts, elements or structures as a whole; to apply modern methods of rehabilitation issues and strengthening the structure.

Teaching and learning form: lecture, seminar and individual work

Concretization tools: projector, table, marker, notes.

Volume and Required Quantity of Work: 121 hours/ semester

Activity	Hours	Day	week	Total
Lecture	2	1	15	30
Theoretical exercises/Laboratory	1	1	15	15
Practical work				
Contact with lecturer / consultation	1	1	15	15
Field practice				
Test and seminars	3	4		12
Home work	1	1	10	10
Independent study (library or at home)	1	1	15	15
Preparing for final exam	8	2		16
The time present during the evaluation (tests, quiz and final exam)	2	2		4
Projects; presentation and ect	4	1	1	4
Total				121

Ratio between the theoretical and practical work:

Theoretical Part	**Practical Part**
40%	50%

Basic Literature:

1. Kabashi, N., Mirëmbajtja dhe sanimi i objekteve (authorized lectures), 2008
2. Allen, R.T., Edwards, S. C., “Repair of Concrete Structures” Blackie & Son Limited, 1987
3. ICRI&ACI International, Concrete Repair Manual, 1999