



UNIVERSITY OF PRISHTINA  
“HASAN PRISHTINA”

FACULTY OF CIVIL ENGINEERING  
DEPARTMENT CONSTRUCTION – BSc.

2015 – 2019

## 2. Study programs in evaluation

### 2.1. Study Program for Construction, Level Bachelor

#### 2.1.1. Basic information on study program

Name of the Academic Programme	<b>Study Program: Construction</b>
NFQ Level (BA, MA, PhD, doctorate programme, university course)	<b>Level 6 BA</b>
Academic degree or certificate, spelled out in full and in abbreviated form	<b>Civil Bachelor - division Construction</b>
Study Area according to <i>Erasmus Subject Area Codes (ESAC)</i>	<b>06.4 Civil Engineering</b>
Profile of the Academic Programme (specialization)	<b>Construction</b>
Minimum Period of Study	<b>Minimum 3 year study</b>
Type, Structure and Cycle (Full time or Part time, Distance Learning)	<b>Regular study</b>
Number of ECTS (total and annual)	<b>180 ECTS, (in every year of study 60 ECTS)</b>
Programme (short overview)/ Courses	<b>Obligatory:</b> <ol style="list-style-type: none"> <li>1. Mathematic I</li> <li>2. Descriptive Geometry I</li> <li>3. Introduction to Civil Engineering</li> <li>4. Physic</li> <li>5. Base of Informatics</li> <li>6. English Language</li> <li>7. Mathematic II</li> <li>8. Mechanics I</li> <li>9. Building Materials I</li> <li>10. Civil Engineering Structures</li> <li>11. Strength of Materials I</li> <li>12. Mechanics II</li> <li>13. Building Materials II</li> <li>14. Numerical Methods</li> <li>15. Soil Mechanics</li> <li>16. Structural Analysis I</li> <li>17. Strength of Materials II</li> <li>18. Technology of Concrete</li> <li>19. Structural Analysis II</li> <li>20. Base of concrete Structure</li> <li>21. Base of Steel Structure</li> <li>22. Fundaments</li> <li>23. Wood Structure</li> </ol>

	24. Concrete Structural Elements 25. Steel Structure in Civil Engineering 26. Technology for Building and Organization  <b>Elective:</b> 1. Probability and Statistics 2. Descriptive Geometry II 3. Professional Ethics 4. Surveying technique in Geodesy 5. Construction Regulative 6. Environmental Protection 7. Geology in Civil Engineering 8. Road Design 9. Mechanics of Fluid 10. Building Engineering Physics 11. Construction of Law 12. Technology of Low Construction 13. Building Construction Technology <b>14. Hydrotechnical Buildings</b>
Number of Student Places	<b>The number of Students in the first year study 150.</b>
Person in Charge of the Academic Programme	<b>Prof. ass. Dr. Florim Grajçevci</b>
Scientific/Artistic Staff (number per staff category)	<b>22 Professors and 18 Assistants</b>
Tuition Fees	<b>According to UP fees.</b>

### 2.1.2. Rationale of the Programme for the Labor Market

The development trends of Construction in our country are in the highest point of activity compared with the period from 10 to 20 years from the previous years. The demands for new plot area of the cities of Kosova, and Designs of urban developing cities plans are show the needs for enlargement of residential facilities, schools and other public buildings. Also the positive groves of private economy in our country indicate the permanent requests for approval of new urban economic zones. Our country with very low stage of development of all sectors, gives always possibility for foreign investments in very different fields.

Compeering the geographic configuration of Kosova, its assets, and groves of population, are always give enough potential for capital investments in lot of sectors as follow: Industry, transport, tourism, small economy - private sector etc. All these can be convert as a demand for the new staffs and specialty the new construction engineer, while the engineer with learning competences of this level study can be perform in the several economy field as are follow: Design offices, building construction enterprise, construction sites, public services etc.

### **2.1.3. International Comparability of Study Programme**

The stream of studies in the construction field for the Civil Engineering Faculty has a history of around 50 year. The curriculum for the basic study - bachelor degree of Construction has based on the economy demands and also in the study program of different regional and European countries. This study program level of bachelor degree of construction is 85% comparable to the Civil Engineering Faculty of University of Zagreb, Civil Engineering Faculty of University of Skopje, Civil Engineering Faculty of Munich-Germany, Civil Engineering Faculty of Ljubljana-Slovenia.

### **2.1.4. Target Group for the Study Programme**

This study program is dedicated to the graduated students coming from secondary schools as are: mathematic gymnasiums, science gymnasium, technical schools (Construction and Architecture).

### **2.1.5. Study Program in Relation to Leading Principles of the Institution (the Mission)**

The study program of basic bachelor-construction degree for the Civil engineering department are important and has a big role for the Faculty of Civil Engineering and Architecture, and also for the University of Pristina heaving in consideration the full compliance of its mission to mission of Faculty and University.

### **2.1.6. Goal and Profile of Study Program**

The purpose of the study program for bachelor-construction degree is to provide the professional staff (engineer) within the competence demand from labor market, with professional skills to continue further study Master scientific and study of professional Master. The profile of study program make enable the student, not just with the very professional competence but also well prepared with comprehensive knowledge of the physics, knowledge of very different professional software's and other skills in the field of techniques and in general.

### **2.1.7. Learning outcomes**

#### ***Professional competences***

After the finish of the study, A student with a degree is capable to:

- exchange information, ideas, problems and solution offer alternative and solution.
- adapt to change in technology and working methods within concept for life-long education
- efficiently adopt in working group
- describes, recognize and apply of basic theoretical concepts of designs and construction

- apply acquired knowledge, professional principles - rules and habits in further professional and academic education
- critically assess arguments, suggestion, abstract concepts and data on decision making and contribute to the solving of complex problems in a creative way
- show understanding for insecurity, lack of clarity, and limitation in knowledge
- distinguishes type and quality of building materials for creating - constructing the structural elements

### **Academic Competences**

After the finish of the study, A student with a degree is capable to:

- apply knowledge in mathematics, physics and engineering in construction work
- prepare and conduct experiments for the building materials, analyze and interpret the results
- describe and solve engineering problems
- recognize the design, construction, marketing, user's requirements doing their interactions between them
- use common numerical tools for the elaboration of documents, presentation, internet page, calculation procedure
- design structures at the basic level
- supervise and inspect minor construction work
- design minor building structures to static loadings
- combinations of action for the member and minor of structure, for the persistent or transient and design situations (fundamental combination)
- recognize structural systems
- design structural systems, certain static systems, uncertain static systems with force and deformation methodology
- helps process of production for the building material.

#### **2.1.8. Ratio between Theoretical and Practical Parts/ or Experimental**

Basis level of study program for the bachelor Construction are represent the fundamental base of studies in the Faculty of Civil Engineering department and is in the full compliance with the define developing mission of Faculty respectively in accordance with leading principles of institution. Study nature are based in courses program and developed in four directions as are: theoretically, numerical, practical and experimental. For the group of courses were are exercised the competences for building materials have teaching the lectures, numerical exercises and experimental exercises. In group of courses were exercised the competences for structure (construction) have teaching the lectures and numerical exercises.

### 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.

The necessary work load (hours per semester 2+1, 6 ECTS)

<i>Activity</i>	<i>Hours</i>	<i>Days</i>	<i>Weeks</i>	<i>Total</i>
Lectures	2	1	15	30
Theoretical exercises/ laboratory	2	1	15	30
Practical work				
Contact with lecturer/ consultations	1	1	10	10
Field exercise				
Colloquium, seminars	2	1	10	20
Homework	2	1	10	20
Studying on student's own time (library or home)	1	3	5	15
Final exam preparation	3	5	1	15
Times spent on evaluation (tests, quizzes, final exam)	4	2	1	8

$$150/25 = 6 \text{ ECTS}$$

### 2.1.10. Practical work – internship

Students of the Faculty of Civil Engineering and Architecture, constructive division, during their study have opportunity to visit a lot of construction sites around Kosova, and recognize their work.

Also the Constructive division of Faculty of Civil Engineering and Architecture, has a collaboration with local companies, which is done through the selected students on groups to do the practical part of studies. These collaboration (agreements) have been reached with the following organization:

Regional Water Supply Company, KUR "Prishtina", Prishtine,

Regional Water Supply and Sewage Comapny, KRU "Hidro Drini", Peje

Regional Water Supply and Sewage Comapny, KRU "Hidro Morava", Gjilan

Association of Water Suppliers and Sewage Systems of Kosovo, SHUKOS, Prishtine

Kompania Alfa- I, Prishtine, and ther companies in Kosovo.

### **2.1.11. Planed Research Program / Programs in Assessment**

Besides pedagogical work with students in FCEA, special attention is paid to the implementation of practical work in certain cases related to research work. In Bachelor level, this is connected with the work in the laboratory and laboratory examinations. In specific cases this is linked with visits to companies or factories in the territory of Kosovo. In Master level, this work is focused on individual research of current problems followed by output data that can be useful for the economy in general. At this level laboratory work are also related to the transfer of experience by professors from other universities (as co-mentors or research) in various international universities.

### **2.1.12. Requirements for Admission of Students and Selection Procedures**

All Candidates are subject of entrance exam. Selection of Candidates is done according to the following criteria:

- success from secondary school: maximum 20 points or 20%
- graduation from secondary school: maximum 50 points or 50%
- entrance exams, maximum 30 points or 30% (the exams held by math)
- the minimum criteria for ranking is 30 points or 30% from entrance exam
- ranking up to the number required by the competition.

### 2.1.13. Study plan

<b>Year I</b>						
<b>Semester I</b>			Hours/ Week			
No.	O/E	Subject	L	E	ECTS	Professor
1	O	Mathematic I	3	2	9	Prof. dr. Abdullah Zejnullahu
2	O	Descriptive Geometry I	2	3	6	Prof. ass. dr. Arta Jakupi
3	O	Introduction to Civil Engineering	2	0	3	Prof. ass. Dr. Hajdar Sadiku
4	O	Physic	2	2	6	Prof. dr. Rashid Maliqi (FIEK)
5	O	Base of Informatics	2	2	3	Prof. asoc.dr. Enver Hamiti ( FIEK)
6	O	English Language	2	0	3	Nedime Belegu
<b>Semester II</b>						
1	O	Mathematic II	3	2	9	Prof. dr. Abdullah Zejnullahu
2	O	Mechanics I	3	2	6	Prof.asoc.dr. Misin Misini
3	O	Building Materials I	2	2	6	Prof.asoc.dr. Naser Kabashi
4	O	Civil Engineering Structures	2	2	6	Prof.asoc.dr. Violeta Nushi
5	E	Probability and Statistics	2	1	3	Prof.dr. Abdullah Zejnullahu
6	E	Descriptive Geometry II	1	2	3	Prof. ass. dr. Arta Jakupi
7	E	Professional Ethics	2	1	3	
<b>Year II</b>						
<b>Semester III</b>						
1	O	Strength of Materials I	3	3	9	Prof asoc.dr. Misin Misini
2	O	Mechanics II	2	2	6	Prof.asoc.dr.Misin Misini
3	O	Building Materials II	2	2	6	Prof.asoc.dr. Naser Kabashi
4	O	Numerical Methods	2	2	6	Prof.dr. Abdullah Zejnullahu
5	E	Surveying technique in Geodesy	2	1	3	Prof. aso. Dr. Përparim Ahmeti
6	E	Construction Regulative	2	0	3	Mr.sc. Ilir Rodiqi
7	E	Environmental Protection	2	0	3	Prof.dr. Fetah Halili (FSHMN)
<b>Semester IV</b>						
1	O	Soil Mechanics	3	2	6	Dr. Qani Kadiri
2	O	Structural Analysis I	4	3	9	Prof.ass.dr.Fatos Pllana
3	O	Strength of Materials II	3	2	6	Prof.asoc.dr.Misin Misini



4	O	Technology of Concrete	2	2	6	Prof.asoc.dr. Naser Kabashi
5	E	Geology in Civil Engineering	2	0	3	Prof.ass.dr. Islam Fejza (FXM)
6	E	Road Design	2	2	3	Prof.asoc.dr. Naim Hasani
7	E	Mechanics of Fluid	2	2	3	Prof.ass.dr.Laura Kusari
<b>Year III</b>						
<b>Semester V</b>						
1	O	Structural Analysis II	3	2	6	Prof.ass.dr. Fatos Pllana
2	O	Base of concrete Structure	2	3	6	Dr. Kadri Morina
3	O	Base of Steel Structure	3	2	6	Mr.sc. Faik Hasani
4	O	Fundaments	3	2	6	Dr. Qani Kadiri
5	E	Building Engineering Physics	2	1	3	Prof.asoc.dr. Naser Kabashi
6	E	Construction of Law	2	0	3	Mr.sc. Ilir Rodiqi
7	E	Technology of Low Construction	2	1	3	Mr.sc. Ilir Rodiqi
<b>Semester VI</b>						
1	O	Wood Structure	2	2	6	Prof. ass. dr. Florim Grajçevci
2	O	Concrete Structural Elements	3	2	6	Dr. Kadri Morina
3	O	Steel Structure in Civil Engineering	2	2	3	Mr.sc. Faik Hasani
4	O	Technology for Building and Organization	2	1	3	Mr.sc. Ilir Rodiqi
5	E	Building Construction Technology	2	0	3	Mr.sc. Ilir Rodiqi
6	E	Hydro-technical Buildings	2	0	3	Prof. aso. dr. Zekirja Idrizi
7	O	Diploma work			9	

## 2.1.14. Course/module short description

### MATHEMATICS I

Short Introduction: The subject concentrates on the achievement of knowledge from the field of Mathematics which can be used to facilitate the knowledge from other subjects and can be applied in solving problems from the field of civil engineering. It introduces necessary elements from the Numerical Sets and especially from the set of Real Numbers. Topics from Matrices and Determinants, needed to solve systems of linear equations. Methods used for solving systems of linear equations. Systems of equations given in the different form or manner. Coordinate system in the space. Vectors in space as well as linear and non-linear operations with vectors. The line and plane in space. Surfaces as second degree equations.

Learning Objectives and Learning Outcomes: At the end of this course students will be able to use and to understand concepts of higher Mathematics with the aim to use this knowledge as an aide in other subjects which use mathematical apparatus. Upon the completion of this subject students will: Obtain theoretical knowledge from the content of the subject of Mathematics aimed for students studying Engineering. Know different methods for solving problems from the field of civil engineering by using known mathematical apparatus. Gain knowledge and get accustomed to use efficient methods in solving different problems from the field of civil engineering. Be able to apply obtained knowledge of Mathematics as facilitating factor for the attainment of the knowledge from other subjects, as planned by the studying program of the civil engineering.

Teaching and Learning Methods: Frontal and individual with lectures and exercises.

Evaluation Methods and Passing Criteria: The final assessment is based on the overall engagement of the student during the whole semester, in accordance with the following: assessment from attendance 5%, first colloquium 20% second colloquium 20%, Activities during the lectures and exercises 10%, final exam 45%.

Concretization Tools/ IT: Chalk, table, projector, computer, notebook, markers.

Ratio between Theory and Practice:

Theoretical Part	Practical Part
40 %	60 %

Basic Course Literature:

1. Fevzi Berisha-Abdullah Zejnullahu: Matematika , Prishtinë, 2006.
2. Fevzi Berisha: Përmbledhje detyrash të provimit nga matematika1,2, Prishtinë 2006.
3. Alexs Himonas , Alan Howard - Calculus Ideas and applications, USA, 2003.

## DESCRIPTIVE GEOMETRY

Short Introduction: Projection methods. Point projection. Quadrants. Octants. Projection of lines with every kind of position; projection of lines with special position. Projection of the line drawn through a point. Projection of two lines. Definition of line imprints in projection planes. Projection of plane. Plane imprints. Projection of plane in which lays a line with a point. Projection of planes with two given lines. Intersection of two planes. Intersection of the line with a plane. Transformation of point, line and the geometric figure. Transformation of a body. Rotation of point, line and body. Method of falling-fitting of the plane. Intersection of polyedric and rotating bodies.

Learning Objectives and Learning Outcomes: Basic preparation for professional and technical presentation of three-dimensional forms, architectural designs as well as development of capabilities to understand three-dimensional space and the spatial thinking in context of articulating elementary concepts in the profession of architecture. the course belongs in the group of preparatory subjects and enables gaining of basic knowledge for further studies in the subject of architecture and spatial planning.

Teaching and Learning Methods: Teaching method of Descriptive geometry consists in giving lectures and making exercises, weekly for particular study units, doing graphic works and models for defined study units.

Evaluation Methods and Passing Criteria: First evaluation 30%, Second evaluation 30%, Evaluation of practical part 30%, evaluation of models 5%; Presence 5%; if the students does not pass the first and second evaluation s/he will need to take the final exam

Concretization Tools/ IT: Projector, Computer, blackboard

Ratio between Theory and Practice:

Theoretical Part	Practical Part
50%	50%

Basic Course Literature:

1. Flamur DOLI, Gjeometria Deskriptive, Prishtinë, 1990
2. Flamur DOLI, Perspektiva gjeometrike, Prishtinë, 1997
3. B. QURÇIQ, Vizatim teknik me Gjeometri deskriptive, Prishtinë 1983

## INTRODUCTION TO CIVIL ENGINEERING

Short Introduction: Introduction with basic terms on construction science: basic requirements to be filled, for an engineering structure; structural units; construction, its importance in human life; construction materials, wood, concrete, steel structures, types of works and their importance, building site visits; working process in design office; projecting stages.

Learning Objectives and Learning Outcomes: After finishing this curs (learning subject), student should be able to know, understand, and to use correctly basic terms of construction science, in order to stand as easy as possible, duties which are coming along basic studies.

Teaching and Learning Methods: Regular learning in group form, with individual home works and with construction site visits.

Evaluation Methods and Passing Criteria:

Concretization Tools/ IT: projector, computer, Table's folders, markers.

Ratio between Theory and Practice:

Theoretical Part	Practical Part
90 %	10 %

Basic Course Literature:

1. Musa Stavileci: Hyrje në Civil engineering - leksione të shkruara, FNA Prishtinë
2. R.S. Narayanan, A.W.Beeby: Introduction to Design for Civil Engineers, Spon Press, London 2001;
3. D. Doran:Eminent Civil Engineers Whitles Publishing Caithness 1999;

## PHYSICS

Short Introduction: Physics and measurement. Motion in two and three dimensions. Newton's laws. Work and Kinetic energy. Potential energy and conservation of energy. The theory of gravity. Oscillatory motion, waves. Fluid properties. Temperature and ideal gases. Thermodynamics. Electric field. Magnetic field. Electromagnetic waves.. Light, mirrors and lenses. Interference, diffraction and polarization of light. Quantum physics.

Learning Objectives and Learning Outcomes: Using the physical laws to solve the basic problems of engineering. to introduce students to the basic concepts of kinematics, dynamics, thermodynamic etc. Using the physical laws of physics in modeling and solving specific engineering problems. Students should understand the basic knowledge of physics to the level of general engineering culture. Knowledge of physics at the basic level, using the methods of mathematical analysis.

Teaching and learning methods: Lectures, exercises, laboratory works, (Laboratory includes some basic physics experiment); numerical methods; work seminar group.

Evaluation Methods and Passing Criteria: Evaluations of presence 10%, midterm evaluations 40% ; final term of evaluation 40% ; group seminar work 10%.; Exam (written test form an oral )

Concretization Tools/ IT: video projector; computer; black table; notebook, etc

Ratio between Theory and Practice:

Theoretical Part	Practical Part
60 %	40 %

Basic Course Literature:

1. S.Skenderi, R. Maliqi, Fizika, FNA, 2005, Prishtine
2. I. Serway, Physics for scientistis and engineerings, Thomson Books, 2004
3. D. Halliday, R.Rechnick, etc, Fundamentals of Physics, Jon Wiley & Sons, 2006

## BASICS OF INFORMATICS

Short Introduction: Computer Hardware; Software. Operating system- DOS. Operating system WINDOWS. Windows configurations. The basics of computer graphics. Text processing program. Program for presentation and data calculations. Preparation of presentations. Information and communications.

Learning Objectives and Learning Outcomes: Students should know the trends of the development of computer technology and prepare for the efficient use of this technology in solving professional problems and corresponding projects in the field of Civil Engineering. After the course students should be able: To know basic concepts of computers. To explain operating system functions. To explain application programs. To use operating system in solving different practical problems. To use application programs in solving different practical problems.

Teaching and Learning Methods: Lectures, computer exercises , seminars, discussions.

Evaluation Methods and Passing Criteria: The first evaluation: 25%; The second evaluation 25%; presentation 5% ; seminars dhe homework 15% ; final exam 30% ; Total 100%

Concretization Tools/ IT:

Ratio between Theory and Practice:

Theoretical Part	Practical Part
50%	50%

Basic Course Literature:

1. Enver Hamiti Kompjuterika, Ligjërata kompjuterike të autorizuara Prishtinë, 2001,
2. "Kompjuteri për të gjithë", autorë Dr. Agni Dika, Seb Rodiqi

## ENGLISH LANGUAGE

Short Introduction: English language course develops skills of reading, speaking, listening and writing, presents grammar in a way which provides practice and overcome common problems in structure and application of times. It also develops and enriches the professional technical vocabulary of the three departments of Civil Engineering and Architecture. The subject contains various topics from everyday life, culture and authentic texts aimed at raising the level of reading and understanding written and oral communication skills through various activities. Presentations, essays, seminar papers, vocabulary, listening, discussion, etc..

Learning Objectives and Learning Outcomes: Increases students' skills in reading, writing, listening and communication in speech. To increase students' ability to communicate in English in speaking and writing. To enrich their vocabulary through independent reading and listening in English. To gain insight into grammar by learning and practicing grammar in context. To enrich the vocabulary of technical terms by writing and using the written, transcribed and commented words in English and Albanian (their translations). Have the skills of speaking, listening. Reading and writing which enable efficient form of communication in the real situation of the academic level. Perceive the styles of English. To communicate with people of different profiles. Understand technical terminology of different topics such as constructive, Geodesy and Hydro. To be able to develop, design various technical projects in English.

Teaching and Learning Methods: Frontal and individual with lectures and exercises.

Evaluation Methods and Passing Criteria: The final assessment is based on the overall engagement of the student during the whole semester, in accordance with the following: assessment fro attendance 5%, first colloquium 20% second colloquium 20%, Activities during the lectures and exercises 10%, final exam 45%.

Concretization Tools/ IT: Chalk, table, projector, computer, notebook, markers.

Ratio between Theory and Practice:

Theoretical Part	Practical Part
50 %	50 %

Basic Course Literature:

1. New Headway Advanced Student's Book (2007).Oxford University Press. Oxford UK.
2. Oxford Dictionary.

## MATHEMATICS II

Short Introduction: The subject concentrates on the achievement of knowledge from the field of Mathematics which can be used to facilitate the knowledge from other subjects and can be applied in solving problems from the field of civil engineering. It introduces topics from the numerical sequences, limit of the number sequence, arithmetic and geometric sequences and their application in solving different problems. Plotting the graph of elementary function. Limit and continuity of the function. Derivative of elementary functions, properties of the derivative and the derivative of any function. Graphing functions. Indefinite integral. Application of definite integral in solving problems from geometry and mechanics.

Learning Objectives and Learning Outcomes: At the end of this course students will be able to use and to understand concepts of Higher Mathematics with the aim to use this knowledge as an aide in other subjects which use mathematical apparatus.

Upon the completion of this subject students will: Obtain theoretical knowledge from the content of the subject Mathematical Analysis for students of Civil engineering. Know different methods for solving problems from the field of Civil engineering by using known mathematical apparatus. Gain knowledge and get accustomed to use efficient methods in solving different problems from the field of Civil engineering. Be able to apply obtained knowledge of Mathematical Analysis as a facilitating factor for the attainment of the knowledge from other subjects, as planned by the studying program of the Civil engineering science.

Teaching and Learning Methods: Frontal and individual with lectures and exercises.

Evaluation Methods and Passing Criteria: The final assessment is based on the overall engagement of the student during the whole semester, in accordance with the following: assessment fro attendance 5%, first colloquium 20% second colloquium 20%, Activities during the lectures and exercises 10%, final exam 45%.

Concretization Tools/ IT: Chalk, table, projector, computer, notebook, markers.

Ratio between Theory and Practice:

Theoretical Part	Practical Part
40 %	60 %

Basic Course Literature:

1. Fevzi Berisha-Abdullah Zejnullahu: Matematika- për Architecture , Prishtinë, 2006.
2. Fevzi Berisha: Përmbledhje detyrash të provimit nga matematika1,2, Prishtinë 2006.
3. Alexs Himonas , Alan Howard - Calculus Ideas and applications, USA, 2003.



## MECHANICS I

Short Introduction: In this course of mechanics the first part of the mechanics, in other words static problems are treated. For introduction of statics as natural science, the balance of the material objects by the action of forces is studied. Problems arise as two parts: static of rigid body in flat and static of rigid body in space.

Learning Objectives and Learning Outcomes: Introduction to the necessary basic knowledge of Mechanics I (Statics) of the scientific disciplines of mechanics, for primary level, the scientific disciplines of mechanics. After completing this course / subject / student will be able to recognize, understand and use basic concepts of statics, in order to more easily handle awaiting difficulties during and after these studies.

Teaching and Learning Methods: Frontal and individual with lectures and exercises.

Evaluation Methods and Passing Criteria: The final assessment is based on the overall engagement of the student during the whole semester, in accordance with the following: assessment from attendance 5%, first colloquium 20% second colloquium 20%, Activities during the lectures and exercises 10%, final exam 45%.

Concretization Tools/ IT: table, projector, computer, notebook, black table, markers.

Ratio between Theory and Practice:

Theoretical Part	Practical Part
40 %	60 %

Basic Course Literature:

1. F. Jagxhiu: Mekanika I (statika), Prishtinë 1995
2. F. Jagxhiu: Përmbledhje detyrash të zgjedhura nga Mekanika I, Prishtinë 1996
3. B.B. Muvdi I, A.W. Al-Khufail, J.W.McNabb: Statics for Engineer, Springe-Verlog, New York, Inc.1997
4. P.B. Ferdinand, E.R. Johnson, R.F. Flort, Mechanics for Engineers, Statics, McGrow-Hill, 2007
5. <http://www.answers.com/topic/statics>

## BUILDING MATERIALS I

Short Introduction: General knowledge for building Materials and properties of Materials: physics; mechanics ;physic-mechanics; chemical. Applied the Building Materials such basic materials for constructions: Stone; Aggregate; Clay Materials; binder Materials: Lime; Cement and Gypsum. Laboratory examinations of properties of materials and apply those materials with adequate properties requested for different positions of structures.

Learning Objectives and Learning Outcomes: - To inform the students with the first step of apply the building materials in engineering structures. To know the basic knowledge in civil engineering in Building Materials. To have the chance to make the examinations of properties in laboratory works directly, and to evaluate the fulfilling the requested properties. to know the building materials using during the different eras in constructions. to know the properties of building materials: physics; mechanics; physics-mechanics and chemistry. to know to determinate and to evaluate the properties in laboratory works. to be involved in development technology of building materials. to be able to orient the producer of building materials in fulfilling the requested according the European Standards.

Teaching and Learning Methods: Lectures, laboratory works; numerical methods; work seminar group.

Evaluation Methods and Passing Criteria: Evaluations of presence 10%, midterm evaluations 40% ; final term of evaluation 40% ; group seminar work 10%.; Exam (written test form an oral )

Concretization Tools/ IT: video projector; computer; black table; notebook, ect

Ratio between Theory and Practice:

Theoretical Part	Practical Part
60 %	40 %

Basic Course Literature:

1. N.Kabashi, Materialet Ndërtimore I,(ligjërata te autorizuar) FNA, Prishtine
2. F. Kadiu: Teknologjia e Materialeve te Ndërtimit, FIN, Tirane
3. Neil Jackson and Ravindra K. Dhir: Civil Engineering Materials, Palgrave Macmillan; 5th edition edition

## BUILDING CONSTRUCTION

Short Introduction: relevant knowledge that will lead to a solution of practical problems and needs for building construction and technical contest for students to develop skills for understanding, design and implementations of plans for various types of facilities, standards and building codes. Introduction to construction technology. Constructive systems. Supportive constructive elements, such as: columns, beam, plates, rope and shell. Wrapper constructive elements, such as: foundations, walls, floors, ceilings, stairs, ramps, lifts, escalators, doors, windows, facades, flat roofs and steep. For all constructive elements are addressed issues: form, function, embodiment, dimensions and preliminary calculation.

Learning Objectives and Learning Outcomes: Upon completion of the course candidates will be able to conceptualize and develop implementation plans for construction by applying knowledge of building constructions for supportive and wrapper constructive elements of the facility; be familiar with the standards and codes applicable in construction; be able to prepare and apply architectural and constructional projects.

Teaching and Learning Methods: lecture, seminar work, individual work and study visit.

Evaluation Methods and Passing Criteria: 10% rating by the presence exercises - individual work 40% and 60% written examination.

Concretization Tools/ IT: projector, computer, table, drawing tools, A3 format.

Ratio between Theory and Practice:

Theoretical Part	Practical Part
60 %	40 %

Basic Course Literature:

1. Nushi, V., "Leksionet e përmbeldhura në KN", Universiteti i Prishtinës, 2009.
2. Francis, D.K.Ch., "Building construction illustrated", USA, 2006
3. Peulic, Dj., "Constructionni Elementi Zgrada", Zagreg, 1989
4. Papanikolla, I., "Konstruktionet Arkitektonike", Tiranë, 1988

## PROBABILITY AND STATISTICS

Short Introduction: The subject concentrates on the achievement of knowledge from the field of Probability and Statistics theory which can be used to facilitate the knowledge from other subjects and can be applied in solving problems from the field of civil engineering. It introduces concept of the sample space. Classical, Geometrical and Axiomatic definition of Probability. Proofs of the elementary formulas of probability, the formula of the total probability and the Bayes formula. Probability distribution laws. Some important Probability distribution laws which are applied in civil engineering are also introduced. Parameters of the random variable. Types of convergence. Elements of the Mathematical Statistics. A statistical analysis using algebraic and positional mean while applying indicators of absolute and relative variance. Application of well known statistical programs used in civil engineering.

Learning Objectives and Learning Outcomes: At the end of this course students will be able to use and to understand concepts of Probability and Mathematical Statistics with the aim to apply this knowledge as an aide in other subjects which use probability and statistics as well as in solving practical problems from the field of civil engineering and civil engineering measurements. Upon the completion of this subject students will: Obtain theoretical knowledge from the content of the subject Statistics and probability for students of civil engineering. Know different methods for solving problems from the field of civil engineering by using known concepts of statistics and probability. Gain knowledge and get accustomed to use efficient methods in solving different problems from the field of civil engineering. Be able to apply obtained knowledge of Statistics and probability as a facilitating factor for the attainment of the knowledge from other subjects, as planned by the studying program of the civil engineering science.

Teaching and Learning Methods: Frontal and individual with lectures and exercises.

Evaluation Methods and Passing Criteria: The final assessment is based on the overall engagement of the student during the whole semester, in accordance with the following: assessment fro attendance 5%, first colloquium 20% second colloquium 20%, Activities during the lectures and exercises 10%, final exam 45%.

Concretization Tools/ IT: Chalk, table, projector, computer, notebook, markers.

Ratio between Theory and Practice:

Theoretical Part	Practical Part
40 %	60 %

Basic Course Literature:

1. Sh. Leka – Teoria e probabilitetit dhe statistika matematike, 1998, Tiranë.
2. Marilyn K. Pelosi, Theresa M. Sandifer- Elementary statistics, 2003, USA
3. William Navidi- Statistics for Engineers and Scientists, 2006 USA

## DESCRIPTIVE GEOMETRY II

Short Introduction: Design Methods. Multifaceted intervention troops, Geometric Design of regular geometrical roof, Design of irregular shape of roof geometry with constrains, geometric design of roads, Shadow.

Learning Objectives and Learning Outcomes: Basic preparation for the professional and technical presentation of the 3D shapes, namely Structural and Architectural projects, development of competences and skills for the 3D space in contest of articulation of basic notions to the civil engineer. The Course are counted as member of preparation courses for the basic knowledge for the benefit of further studies in field of Civil Engineering and also spatial problems.

Teaching and Learning Methods: The Descriptive Geometry Course consist with the lecturing and numerical-designs of exercises for weekly unit specific teaching, weekly working the drawings, models and the small mock-ups.

Evaluation Methods and Passing Criteria: Evaluation from attendance 10%, first colloquium 30 %, Second Colloquium 30 % final exam 30%.

Concretization Tools/ IT: Projector, Computer, Table, working notes, markers.

Ratio between Theory and Practice:

Theoretical Part	Practical Part
50%	50%

Basic Course Literature:

1. Flamur DOLI, Gjeometria Deskriptive, Prishtinë, 1990
2. Flamur DOLI, Perspektiva gjeometrike, Prishtinë, 1997
3. B. QURÇIQ, Vizatim teknik me Gjeometri deskriptive, Prishtinë 1983

## PROFESSIONAL ETHICS

Short Introduction: The basic notion of the code of ethics in Civil Engineering. Contents of preliminary design, main design and implementing design. Meanings of technical regulation, standards and technical norms in terms of professional ethics. Professional exams - certification, norms and criteria. The effect of description of work activities. Method Statement for the construction.

Learning Objectives and Learning Outcomes: Basic preparation for the professional and technical presentation of preliminary design, main design and detail design. The Content of preliminary, main and detail design. Understanding the content of technical rules, norms and standards in civil engineering. Certificate of Engineer for the various filed in civil engineering. Upon completion of the course student will be able to: explain the contents for the preliminary, main and detail design. Analyzes and explains contents of technical description of construction works.

Teaching and Learning Methods: Method of Learning courses for professional Ethics consist on weekly unit lectures. Demonstrates various occasions of contents and description of projects. For learning methods should be use interactive discussions and working groups of students methods.

Evaluation Methods and Passing Criteria: Evaluation from attendance 5%, first Colloquium 20 %, second Colloquium 20%, semester work 55 %.

Concretization Tools/ IT: projector, Computer, table, working books, markers.

Ratio between Theory and Practice:

Theoretical Part	Practical Part
100%	0%

Basic Course Literature:

1. Ligji i ndërtimit, Kosovë
2. Standardet, rregullat teknike dhe Normat në Ndërtimtarë EC.

## STRENGTH OF MATERIALS I

Short Introduction: Introduction, Theories of Stress and Strain, Analysis of stress, Analysis of Strain, Stress and Strain Relations, Linear Theory of Elasticity, Equilibrium of rigid Body, Free-Body Diagrams, Axial Load, Shear Forces and Bending Moments, Torsion, Geometry Properties and Moments of Inertia, Stress in Beams, Application of Plane Stress, Deflection of Beams. Analysis of Indeterminate Beams.

Learning Objectives and Learning Outcomes: At the end of this course students will be able to use and to understand concepts of Strength of Materials with the aim to use this knowledge as an aide in other subjects which use concept of fundamental theories of the Strength of Materials.

Students successfully completing this course will: Understand the concept of fundamental theories of the Strength of Materials I. Be able to simplify a complex Strength of Materials problem down to one that can be analyzed. Understand the significance of the solution to the problem of any assumptions made. Be able to apply obtained knowledge of Strength of Materials as facilitating factor for the attainment of the knowledge from other subjects, as planned by the studying program of the Structural engineering.

Teaching and Learning Methods: Frontal and individual with lectures and exercises.

Evaluation Methods and Passing Criteria: The final assessment is based on the overall engagement of the student during the whole semester, in accordance with the following: assessment from attendance 5%, first Colloquium 20% second Colloquium 20%, Activities during the lectures and exercises 10%, final exam 45%.

Concretization Tools/ IT: table, projector, computer, notebook, black table, markers.

Ratio between Theory and Practice:

Theoretical Part	Practical Part
50%	50%

Basic Course Literature:

1. F. Jagxhiu: Rezistenca e materialeve pjesa e parë, 1995
2. F. Jagxhiu: Karakteristikat gjeometrike të figurave plane dhe të masës, Prishtinë 1978
3. Wiliem A. Nash: Strength of Materials, Mc Graw-Hill, 1977
4. Sh. Dunica: Otpornost materiala, Beograd, 1994

## MECHANICS II

Short Introduction: In this course of the mechanics will be covered the second part mechanics – kinematics and the third part - dynamics. For the presentation of kinematics, will be examined kinematics of the material point and kinematics of the material body. Dynamics course will be divided into: the dynamics of material point, the system dynamics and rigid body dynamics.

Learning Objectives and Learning Outcomes: Necessary knowledge of the kinematics and dynamics basis, for the level of the first cycle for the scientific disciplines of mechanics. After completing this course / subject / student will be able to recognize, understand and use basic concepts and problems of the kinematics and dynamics, in order to handle difficulties much easier during and after these studies.

Teaching and Learning Methods: Frontal and individual with lectures and exercises.

Evaluation Methods and Passing Criteria: The final assessment is based on the overall engagement of the student during the whole semester, in accordance with the following: assessment from attendance 5%, first Colloquium 20% second Colloquium 20%, Activities during the lectures and exercises 10%, final exam 45%.

Concretization Tools/ IT: table, projector, computer, notebook, black table, markers.

Ratio between Theory and Practice:

Theoretical Part	Practical Part
40 %	60 %

Basic Course Literature:

1. F. Jagxhiu: Mekanika II (kinematika), Prishtinë 1996
2. F. Jagxhiu: Mekanika III, Prishtinë 1996
3. H. Berisha: Përmbledhje detyrash të zgjedhura nga Mekanika II, 2002
4. Eurocode 8: Design of Structures for earthquake rezistence, CEN, Bruxelles, 2004
5. Fajfar P, Osnove dinamike, FAGG, Ljubljana, 1980



## BUILDING MATERIALS II

Short Introduction: Basic knowledge of components of concrete such building materials. Properties of concrete, including fresh and hardening properties. Mortars, properties and apply in civil engineering works. Steel, such a building material, properties and applications. Light metals and applications in civil engineering structures. Wood , laminate wood and properties. Thermo and hydro insulations materials. Bituminous materials, properties and using in asphalt pavement structures.

Learning Objectives and Learning Outcomes: To have the information about the concrete , such building material. To determine the properties of concrete , including the fresh and hardening concrete using the laboratory equipment. Comparable the concrete with other most popular materials. The functionality of concrete depend of the constituent materials. Basic knowledge about the wood and steel, such alternative materials . Basic knowledge for bituminous materials and apply. to know the concrete such building material and evolutions of concrete, to know to examination the properties of concrete, including the fresh and hardening properties, to know to prepare , to maintenance and to calculate the class of concrete. To apply the steel and to know the classifications of steel. To apply the light metals in engineering structures. To know the evaluate the properties of bituminous materials. To know to prefer the production according the European Standards.

Teaching and Learning Methods: Lectures, laboratory works; numerical methods; work seminar group.

Evaluation Methods and Passing Criteria: Evaluations of presence 10%, midterm evaluations 40% ; final term of evaluation 40% ; group seminar work 10%.; Exam (written test form an oral )

Concretization Tools/ IT: video projector; computer; black table; notebook, etc.

Ratio between Theory and Practice:

Theoretical Part	Practical Part
60 %	40 %

Basic Course Literature:

1. N.Kabashi, Materialet Ndërtimore I,(ligjërata te autorizuara) FNA, Prishtine
2. F. Kadiu: Teknologjia e Materialeve te Ndërtimit, FIN, Tirane
3. Neil Jackson and Ravindra K. Dhir: Civil Engineering Materials, Palgrave Macmillan; 5th edition edition

## NUMERICAL METHODS

Short Introduction: The subject concentrates on the achievement of knowledge from the field of Mathematics which can be used to facilitate the knowledge from other subjects and can be applied in solving problems from the field of civil engineering. The class contains: computer arithmetic, approximate methods for solving equations with one variable, numerical linear algebra, approximate methods for solving systems of linear equations, numerical differentiation and numerical integration

Learning Objectives and Learning Outcomes: At the end of this course students will be able to use and to understand concepts of Higher Mathematics with the aim to use this knowledge as an aide in other subjects which use mathematical apparatus. Upon the completion of this subject students will: Obtain theoretical knowledge from the content of the subject Numerical Analysis for students of Civil engineering. Know different methods for solving problems from the field of Civil engineering by using known mathematical apparatus. Gain knowledge and get accustomed to use efficient methods in solving different problems from the field of Civil engineering. Be able to apply obtained knowledge of Numerical Analysis as a facilitating factor for the attainment of the knowledge from other subjects, as planned by the studying program of the Civil engineering science.

Teaching and Learning Methods: Frontal and individual with lectures and exercises.

Evaluation Methods and Passing Criteria: The final assessment is based on the overall engagement of the student during the whole semester, in accordance with the following: assessment from attendance 5%, first Colloquium 20% second Colloquium 20%, Activities during the lectures and exercises 10%, final exam 45%.

Concretization Tools/ IT: Chalk, table, projector, computer, notebook, markers.

Ratio between Theory and Practice:

Theoretical Part	Practical Part
40 %	60 %

Basic Course Literature:

1. Margarita Qirko , Syti Hysko ; Analiza Numerike , 2004 ,Tiranë
2. Richard L. Burden , J.Douglas Faires ; Numerical Analysis ,1997,ITP

## SURVEYING TECHNIQUE IN GEODESY

Short Introduction: Initially will be developed knowledge on basic surveying methods and calculations of unknown coordinates of points, coordinate systems in geodesy, basic tasks of geodesy, establishment of polygonal networks, applications of geodetic methods in civil engineering, building stakeout, deformation analysis of buildings. The course ends with the development of basic knowledge on GPS and its application to land surveying for different purposes.

Learning Objectives and Learning Outcomes: Main objective is to develop knowledge on surveying methods in geodesy and its application on solving various tasks in civil engineering. After completion of this course, student should be familiar with: Types of coordinate referent systems; Geodetic base when geodetic surveying are referenced; Calculation of unknown coordinate points; Basic tasks in geodesy; To design different professional projects independently related to land surveying for civil engineering purposes.

Teaching and Learning Methods: Advanced lectures; discussions, individual work, group work, presentations.

Evaluation Methods and Passing Criteria: Colloquium 1 10%; Colloquium 2 10%; Homework 5%, Attendance 20%, Final exam 55%.

Concretization Tools/ IT: video projector, laptop, blackboard.

Ratio between Theory and Practice:

Theoretical Part	Practical Part
50%	50%

Basic Course Literature:

1. Kahmen, H: Vermessungskunde, Berlin, 2005
2. Nela, K: Gjeodezia Praktike I, Prishtine, Kosove, 2005.
3. Nela, K: Gjeodezia Praktike II, Prishtine, Kosove, 2005

## ENVIRONMENTAL PROTECTION

Short Introduction: The environmental notions and its components: air, water, soil, their pollution; Endangering and the Biodiversity; The threats and pressure: urbanism, noise, waste and chemicals, recycling - ecological design. Human activities: energy, transport, industry, forestry and tourism; Global challenges: climate changes, thinning of ozone layer, acidification, effects on materials properties in the human health.

Learning Objectives and Learning Outcomes: To introduce students with the basic notions of the ecology, chemistry, physics and environmental geology. Implement the measures and criteria for environmental protection during the design, reconstruction, usability of space, and working tools (natural and climatic criteria, manufacturing technology, urban design etc.). Create new models of individual behavior towards to the environment, to not attacked, and to actively participate in solving environmental problems at the local, regional and global levels ("think globally, act locally"). Collect and process the relevant scientific data from different sources for the current environmental problems in local and global levels. Explain the human-environmental ratio (rural, urban, industrial) and account causes of the environmental crises and manage with waste. Implement the principles of urban ecology in human settlements, Kosovar environmental legislation and international conventions on biodiversity, climatic change.

Teaching and Learning Methods: Regular lectures, interactive teaching with students, working group, discussion, debates, etc.. Evaluation forms: Regular and Bolonja (intermediate assessments).

Evaluation Methods and Passing Criteria:

Concretization Tools/ IT:

Ratio between Theory and Practice:

Theoretical Part	Practical Part
100%	0

Basic Course Literature:

1. D.A.Rozhaja,M.Jablanovic: Ndotja dhe mbrojtja e ambientit jetësor, Prishtinë
2. F. Halili, A. Gashi dhe H. Ibrahim (2007): Ekologjia e mjediseve të ndotura
3. Grup autorësh...dhe Halili, F.( 2010).“Paketa e Gjelbër – Green Pack”.
4. Përmbajtje nga fusha e edukimit mjedisor dhe zhvillimi i qëndrueshëm.

## SOIL MECHANICS

Short Introduction: Classification and identification of soil quality, soil material phase, soil compaction, soil resistance to sliding, the strain distribution in soil, soil consolidation, soil holding capacity, stability of the descent.

Learning Objectives and Learning Outcomes: Introducing test of geomechanic and laboratory examinations and tests of the soil on the site "in situ" and enabling application of the concepts and basic techniques for designing and implementing applications of soil mechanics. To know the execution of laboratory tests and tests of the evidence on the site, To know the interpretation of laboratory data reviews and field surveys, to know all methods of calculating used in the stability analysis, to know how to use geo-mechanical analyze software for "Geo-mechanical Elaboration" of the object in field.

Teaching and Learning Methods: Frontal and individual with lectures and exercises.

Evaluation Methods and Passing Criteria: The final assessment is based on the overall engagement of the student during the whole semester, in accordance with the following: assessment fro attendance 5%, first colloquium 20% second colloquium 20%, Activities during the lectures and exercises 10%, final exam 45%.

Concretization Tools/ IT: table, projector, computer, notebook, black table, markers.

Ratio between Theory and Practice:

Theoretical Part	Practical Part
60%	40%

Basic Course Literature:

1. Kadiri, Q. – Mekanika e Dherave, Ligjeratat e autorizuar,
2. Das, B. : Geotechnical Engimneering,
3. Ahmedi, F. : - Mekanika e dherave

## STRUCTURAL ANALYSIS I

Short Introduction: Analysis of statically determinate structures, determination of internal forces MVN, influence lines of frame and truss structures by the static and kinematic methods, deflection diagrams of beams, frames and trusses. Analysis and compute of generalized displacements influence lines of beams, frames and trusses.

Learning Objectives and Learning Outcomes: Students will be able to compute statically determinate structures such as frames and trusses. Methods that are applied for calculation of these structures and to understand influence lines. Be prepared and able to pursue master studies. Upon completion of this course the student have to: analyse and compute static systems of building constructions, plot internal forces diagrams MVN, plot influence lines diagrams of frames and trusses by the static and kinematic methods, plot deflection diagrams of beams, frames and trusses, plot displacements influence lines of frames and trusses. The complete analysis of frame and truss structures.

Teaching and Learning Methods: Lectures and tutorials. During the lecture of special units there will be solved numerical examples that refer the lecture. Students must solve assignments that present to the subject assistant.

Evaluation Methods and Passing Criteria: attending to lecture and tutorial is mandatory. Written examination 40% and oral examination 60%.

Concretization Tools/ IT: blackboard and chalk.

Ratio between Theory and Practice:

Theoretical Part	Practical Part
60%	40%

Basic Course Literature:

1. "Statika e Konstruksioneve I", Fatos Pllana, Ligjërata të autorizuara,
2. "Statika e ndërtimit" pjesa I,pjesa II dhe pjesa III Skënder Skënderi
3. "Statika Konstruksija", Milan Djuric
4. "Teorija linijskih nosaca", Miodrag Sekulovic
5. "Matricna analiza na konstrukciite", Vladimir Simonçe
6. "Teoria e Strukturave", S.Skenderi, N.Lako,N.Pojani,F.Softa
7. "Macierzowa analiza Konstrukcji",Jacek Pietrezak,Gustaw Rakowski,Kazimierz Wrzesniowski

## STRENGTH OF MATERIALS II

Short Introduction: Buckling and Stability of Columns, Critical Force and Critical Stress, Euler's Column, Elastic and Inelastic Column Behavior, Design Formulas for Columns, Combined Bending and Tension or Compression, Oblique or Unsymmetrical Bending, Determine the position of the Neutral Axis, Eccentric load, Core of Cross Section, Applications of Energy Methods, Work and Energy, Principle of Stationary Potential Energy, Principle of Minimum Potential Energy, The general Expression for Strain Energy, Application of Castigliano Theorem in Solution of Statically Indeterminate Beams, Principle of Virtual Forces and Unit Load Method, Influence Coefficients and Reciprocal.

Learning Objectives and Learning Outcomes: At the end of this course students will be able to use and to understand concepts of Strength of Materials with the aim to use this knowledge as an aide in other subjects which use concept of fundamental theories of the Strength of Materials.

Students successfully completing this course will: Understand the concept of fundamental theories of the Strength of Materials I. Be able to simplify a complex Strength of Materials problem down to one that can be analyzed. Understand the significance of the solution to the problem of any assumptions made. Be able to apply obtained knowledge of Strength of Materials as facilitating factor for the attainment of the knowledge from other subjects, as planned by the studying program of the Structural engineering.

Teaching and Learning Methods: Frontal and individual with lectures and exercises.

Evaluation Methods and Passing Criteria: The final assessment is based on the overall engagement of the student during the whole semester, in accordance with the following: assessment fro attendance 5%, first colloquium 20% second colloquium 20%, Activities during the lectures and exercises 10%, final exam 45%.

Concretization Tools/ IT: table, projector, computer, notebook, black table, markers.

Ratio between Theory and Practice:

Theoretical Part	Practical Part
40 %	60 %

Basic Course Literature:

1. F. Jagxhiu: Rezistenca e materialeve pjesa e parë, Prishtinë 1995
2. Sherif Dunica: Otpornost materiala , Beograd, 1994
3. Simic Vicko: Otpornost materiala, Zagreb, 1992
4. Wiliem A. Nash; Stregth of Materils ,Mc Graw-Hill, 2014.

## TECHONOLOGY OF CONCRETE

Short Introduction: Basic knowledge of constituent materials of concrete: aggregate, cement, water, mineral admixture and chemical admixture. Fulfilling the requests of constituent materials for producing the concrete. Mix Design of Concrete from different point of View: class of concrete; class of expositions, etc. according to the EN 206-1. Deformable properties and especial properties for different kind of concrete. Indicate of conditions and other factors in Design of durability of Concrete, Different kinfd of Concrete: SCC; HPC, etc.

Learning Objectives and Learning Outcomes: To inform the students with ingredients of concrete and the examinations of properties of ingredients according the request of concrete. Mix Design of different types concrete of and methods .Properties of concrete: elastic; mechanics; deformable and rheological , examinations and evaluations. Producing; transport; casting, maintenance and evaluations of concrete. Typical properties of different kind of concrete and comparable with common concrete. to know to make the examinations of properties of ingredients in laboratory and to evaluate, to know design the concrete in wider specter, including the different class of concrete, using the properties of concrete. to have skills for preparing and examinations of concrete samples. to have skills in examinee and evaluate the properties of fresh and hardening concrete. to have skills to guide the producers and executors of engineering works to achieve the request properties according the EN 2016-1

Teaching and Learning Methods: Lectures, laboratory works; numerical methods; work seminar group.

Evaluation Methods and Passing Criteria: Evaluations of presence 10%, group seminar work 20%. Exam (written test form an oral ) 70 %

Concretization Tools/ IT: video projector; computer; black table; notebook, laboratory equipment ect .

Ratio between Theory and Practice:

Theoretical Part	Practical Part
50 %	50 %

Basic Course Literature:

1. N.Kabashi, Teknologjia e Betonit ligjerata te autorizuara) FNA, Prishtine
2. F. Kadiu: Teknologjia e Materialeve te Ndërtimit, FIN, Tirane
3. A.M.Nevile: Proerties of Concrete



## GEOLOGY IN CIVIL ENGINEERING

Short Introduction. Branches and scope of geology. Earth, its position in the solar systems. Surface features and internal structure. Work of natural agencies like lakes, oceans, atmosphere, wind, streams, sea, glacier. Earth movements. Types of weathering. Mountains and mountain building. Geological Time Scale. Mineralogy-Definition of crystal and a mineral. The study of the physical properties of minerals. Mineral classifications. Petrology-Formation and classification of rocks into three types, Igneous, sedimentary and metamorphic rocks. Description of physical properties for constructional purposes of granite, pegmatite, dolerite, gabbro, basalt, sandstone, conglomerate, breccia, limestone, shale, schist, marble, quartzite, slate, gneiss, andesite etc. Structural geology- Strike and dip, outcrops, volcanoes, overlaps, Inliers and outliers. Types classification of folds, faults, joints, unconformities. Ground water. Zones of ground water. Water table and perched water table. Water bearing properties of rocks. Occurrence of ground water. Springs. Earthquakes and landslides. Geological investigation – Interpretation of geological maps, use of aerial maps in geological surveying. Geophysical methods as applied to civil engineering. Geology of dams reservoirs and other hydro-technical facilities. Rock mechanics and tunneling.

Learning Objectives and Learning Outcomes. At the end of this course the student shall be able to understand about geological formations, classification and morphology of rocks, and the importance of the study of geology for civil engineers with regard to founding structures like dams, bridges, buildings, etc. The student shall also be able to appreciate the importance of geological formation in causing earthquakes and land slides

Teaching and Learning Methods: Lectures -power point presentations, discussions; Working in groups, tests, seminars etc

Evaluation Methods and Passing Criteria: Presence at lectures 10%, first test 30% second test 30%, seminar 10%. and Oral exam 20%

Concretization Tools/ IT: projector, computer, table, marker, samples of minerals and rocks.

Ratio between Theory and Practice:

Theoretical Part	Practical Part
60%	40%

Basic Course Literature:

1. Islam Fejza., 2006. Gjeologjia në Civil engineering( Ligjërata të autorizuara),
2. Nikolla Konomi, 2002. Gjeologjia inxhinierike. Shtëpia botuese e librit Universitar. Tiranë
3. Haki Dakolli, 2007. Hidrogjeologjia. Universiteti politeknik. Tiranë
4. A.E. KEHEW, 2006, 'Geology for Engineers & Environmental Scientists' 3rd Edition Prentice Hall, ISB
5. Hamblin, W.K, and Christiannsen, E.H, 2004. Earth's Dynamic systems, 10 th edition, Edition Prentice

## ROAD DESIGN

Short Introduction: General Knowledge for the traffic lines - roads. Categorization of roads. Road Components. Intersection of the traffic lines in one level and on many levels. Buildings on the road. Road Design under the European Standards. Road Traffic Signs.

Learning Objectives and Learning Outcomes: Basic Knowledge of road categorizations. Identify components of the traffic road lines, culverts, protection walls, bridges, building pass of the different situation, etc. Design of main roads, roads of category IV and local roads. Longitudinal and cross section road profiles, surveyor stations, earth filling, excavation etc. Upon completion of this courses the student will be able to: approach and read the road design of different categories. Design the short segments of local roads and main new alignment.

Teaching and Learning Methods: Lectures, interactive discussions with students, presentation, work in groups, test exam and seminars.

Evaluation Methods and Passing Criteria: Evaluation from attendance 20 %, first part of exam 30%, second part of exam 30%, seminar work 20%.

Concretization Tools/ IT: Projector, Computer, Table, working notes, unit materials from the sites.

Ratio between Theory and Practice:

Theoretical Part	Practical Part
60%	40%

Basic Course Literature:

1. N. Hasani, Projektimi i rrugëve, Prishtinë 2010

## FLUID MECHANICS

Short Introduction: Dimensions and units, fluid properties. Fluid statics, Pascal's Law and Hydrostatic equation. Forces on plane and curved surfaces, intensity, direction of hydrostatic force. Next chapter will deal with fluid kinematics and with classification of flows, continuity equation (one, two and three dimensional forms). Velocity measurement. In the fluid dynamics chapter, the Euler and Bernoulli's equations as well as the application of Bernoulli's equation. Resistances that occur during flow and the calculation of the energy losses. Laminar and turbulent flows through pipes, Darcy-Weisbach formula, Moody diagram. Major and minor losses of flow in pipes. Flow through orifice.

Learning Objectives and Learning Outcomes: The student is introduced to the definition and properties of fluid. Principles of fluid statics, kinematics and dynamics are dealt with subsequently. After undergoing this course, the student would have learnt fluid properties and application of Bernoulli and energy equation to real situations of fluid flow.

Teaching and Learning Methods: Regular teaching in form of group lectures and exercises. Also, home work assignments will be carried out by students.

Evaluation Methods and Passing Criteria: Evaluation will be carried out through tests, the first one 40%, the second one 40% and homework assignment 20% of the final grade. Final Exam.

Concretization Tools/ IT: projector, computer, board,

Ratio between Theory and Practice:

Theoretical Part	Practical Part
70%	30%

Basic Course Literature:

1. Kusari, L. Shenime nga Mekanika e fluideve.
2. Potter, M; Wiggert, D. Mechanics of Fluids. Published by Prentice Hall, Inc.USA.1997.  
Mott, Robert; Applied Fluid Mechanics. Published by Prentice Hall, Inc.USA. 2000

## STRUCTURAL ANALYSIS II

Short Introduction: Analysis of statically indeterminate structures, determination of internal forces MVN. Applied methods are the force method and stiffness method. Development of influence lines of statically indeterminate frames and trusses.

Learning Objectives and Learning Outcomes: Objective of this course is being able of students to compute statically indeterminate frames and trusses, with methods that are applied to compute this structures and understand influence lines. Students must solve assignments during tutorials. Be prepared and able to pursue master studies. Upon completion of this course the student have to: analyze and compute static systems of building constructions. Plot internal forces diagrams MVN of statically indeterminate structures by force method and stiffness method. Plot influence lines diagrams of frames and trusses. The complete analysis of frame and truss structures.

Teaching and Learning Methods: Lecturing of statically indeterminate structures. During the lecture of special units there will be solved numerical examples that refer the lecture. Students must solve assignments that present to the subject assistant.

Evaluation Methods and Passing Criteria: attending to lecture and tutorial is mandatory. Written examination 40% and oral examination 60%.

Concretization Tools/ IT: blackboard and chalk.

Ratio between Theory and Practice:

Theoretical Part	Practical Part
60 %	40%

Basic Course Literature:

1. "Statika e Konstruksioneve II", Fatos Pllana, Ligjerata autorizuar
2. "Statika e ndertimit" pjesa I,pjeseaII dhe pjesa III Skender Skenderi
3. "Statika Konstrukcija", Milan Djuric
4. "Teorija linijskih nosaca", Miodrag Sekulovic
5. "Matricna analiza na konstrukciite", Vladimir Simonqe
6. "Teoria e Strukturave", S. Skënderi, N.Lako, N.Pojani, F.Softa
7. "Macierzowa analiza Konstrukcji", Jacek Pietrezak,Gustaw Rakowski, Kazimierz Wrzesniowski

## BASE OF CONCRETE DESIGN

Short Introduction: The base of concrete structure course provide the knowledge, usability, examination and design of cross section of concrete structural elements and the reinforcement. In this course the students will be introduced with the physical and mechanical characteristics of the concrete and reinforcement, design of cross section for the bending structural elements, axial pressure and tension of the concrete elements, "T" cross section, transversal forces, torsion.

Learning Objectives and Learning Outcomes: Introduce the base materials for the RC Structure. With this course the Student will be prepared for the design of cross section of RC Structural elements having in consideration for the different load combination and also the very different cross section of structural elements. Fundamental regulation and rules for the construction of reinforcement in different cross section. Upon to completion of course the student well be able to: explain the types of the materials and their technical characteristics for creating and constructing of RC Structure. Design the cross section and the reinforcement area for different cases of external action and the rectangular and T section.

Teaching and Learning Methods: Teaching Lectures which include the fundamental of concrete Structure. Every hour of lectures are associates with concrete examples for better clarification of particular lecture. The Student has obligation to do the design numerical examples during the semester, which at the end of semester every students has to prove the exams in front of assistant.

Evaluation Methods and Passing Criteria: From first Colloquium 10%, second Colloquium 10 %, numerical semester exams 15&%, Attendance 5%, final exams 60%.

Concretization Tools/ IT: table and choke.

Ratio between Theory and Practice:

Theoretical Part	Practical Part
50 %	50%

Basic Course Literature:

1. Bazat e konstruksioneve të betonit, dispence K. Morina , H. Sylejmani dhe N. Hoxha
2. EC 1, EC 2
3. Ivan Tomičić: Konstruksionet e betonit Zagreb
4. K. Negovani dhe N. Verdho Konstruksionet prej betoni të armuar, Tiranë
5. Andrej Spasov : Konstruksionet e betonit Shkup

## BASE OF STEEL STRUCTURE

Short Introduction: Methods of graining steel grade, types of assortments of final products. Basic of Design and construct the steel structure. Connectors for the connection of steel structural elements: ordinary bolts, high quality bolts, and different welding (angular and head to head). Calculation and construction for connection of structural axial tension elements with bolt and welding. Calculation and construction of truss joints with bolts and welding. Design of steel structural elements, axial loaded in compression and tension. Design of steel welding beams.

Learning Objectives and Learning Outcomes: The Student will get a general knowledge of the separate structural elements which are assembly creating the main steel structure, and to know very good the Design, construction and calculating of connections with the bolts and welding. Upon to complete the course the student will be able to: Design the cross section of steel structural elements, calculate and controlling the structural stability of every assembled member. Detail designs of the connection of steel structural elements depends from the maximal internal value of M, T, N.

Teaching and Learning Methods: Teaching Lectures which include the Base Steel Structure. The Student Design the study exam for the case of building steel structure frame system, which at the end of semester every students has to prove the exams in front of assistant.

Evaluation Methods and Passing Criteria: From first Colloquium 10%, second Colloquium 10 %, numerical semester exams 15%, Attendance 5%, final exams 60%.

Concretization Tools/ IT: table and choke.

Ratio between Theory and Practice:

Theoretical Part	Practical Part
50	50%

Basic Course Literature:

1. Bazat e strukturave metalike (Milosavlevic,Radojkovic dhe kuzmanovic)
2. Strukturat metalike 1 dhe 2 nga autorët (Boris Androic,Darko Dujmanovic, Ivica Dzeba)
3. Handbook of structural Engineering (editor-in Chief W.F.CHEN)
4. Eurocode 1 dhe
5. Eurocode 3

## FOUNDATIONS

Short Introduction: The basics needed for the design of foundations. Improvement and replacement of topsoil. Shallow foundations. Static analysis of the foundation. Foundation stability control. Separate foundations. Determining the size and height of the foundation. The foundations of columns prepared in advance. Anchoring foundations. Continued foundations. Calculating foundation to continue in elastic foundation. Slab foundations. Providing the foundation pit sides. Reinforced concrete walls, Funding the pilots,

Learning Objectives and Learning Outcomes: Upon completion of this course of lectures students will better understand the basic principles of foundations, they will understand the basics necessary to the preliminary design of foundations. Foundation stability control. Selecting the type of foundation depending on the load of the facility, geotechnical terrain profile, physico-mechanical characteristics of soil engineering, soil permissible load and depression. Design foundations of buildings in difficult terrain on the pilots, issuing wells and massive foundations.

Teaching and Learning Methods: The course is organized with theoretically lectures and numerical exercises. Exercises and homework assignments will be part of the final evaluation of the student.

Evaluation Methods and Passing Criteria: The assessment is made as follows: 20% of the first test, the second test 20%, 20% homework. Final exam 40%.

Concretization Tools/ IT: video projector, blackboard, markers, laptop.

Ratio between Theory and Practice:

Theoretical Part	Practical Part
70%	30 %

Basic Course Literature:

1. Kadiri, Q. – Fondamente, Ligjeratat e autorizuar,
2. Das, B. : Principles of geotechnical analysis,
3. Ahmedi, F. : - Fomndamente 1&2,
4. Bowles, J. : Foundation analysis and design.

## BUILDING ENGINEERING PHYSICS

Short Introduction: The module in Building Engineering Physics aims to provide a detailed knowledge of main scientific principles of heat, light and sound in the building engineering context. It assumes very little previous knowledge of science or mathematics. Where a numerical approach is required step-by-step worked examples are used, offering greater understanding of some topics. Topics include thermal insulation in buildings, energy use in buildings, air control in buildings, artificial lighting, natural lighting, noise and sound insulation and room acoustics

Learning Objectives and Learning Outcomes: The module in Building Engineering Physics aims to provide a detailed knowledge of main scientific principles of heat, light and sound in the building engineering context. Furthermore, it aims to develop understanding of architectural engineering principles and the ability to apply them to analyze key building design processes: ability to apply simple quantitative methods and engineering software in order to analyze an engineering problems thorough understanding of current practice and its limitations, and some appreciation of likely new developments, ability to identify, classify and describe performance of building systems and components using fundamental building engineering physics knowledge. to know to design according to the request from investment toward the request on the thermo insulation; acoustic insulation and other specific request.

Teaching and Learning Methods: Lectures, laboratory works; numerical methods; work seminar group.

Evaluation Methods and Passing Criteria: Evaluations of presence 10%, midterm evaluations 40% ; final term of evaluation 40%; group seminar work 10%.; Exam (written test form an oral )

Concretization Tools/ IT: video projector; computer; black table; notebook, ect

Ratio between Theory and Practice

Theoretical Part	Practical Part
50 %	50 %

Basic Course Literature:

1. N.Kabashi; C.Krasniqi, Fizika Ndërtimore dhe izolimet,(ligjërata te autorizuara) FNA, Prishtinë
2. A.Pech; Ch.Pohn: Bauphysik, Springer Wien New York
3. Schaffler;Bruy;Schelling, Baustoffkunde,Vogel Fachbuch



## CONSTRUCTION LAW

Short Introduction: This course explains the basic legal knowledge related to the our country - Kosovo. Proceedings for the drafting initiative for the new law in Kosovo. Approval procedures to Kosovo law. Construction law. Processing applications for construction permits. Building permits, conditions and criteria. Professional licenses, criteria and procedures.

Learning Objectives and Learning Outcomes: For the knowledge of the professional staff and for the better offer to the labor market, the Student should be introduce with the judicial rules of the country, construction law, and professional licensing procedures. Upon completion of this course the Student has to be able: Explain and ranging the procedures for the professional licensing - Civil Engineer and Architect. Ranging the activities for the building permit.

Teaching and Learning Methods: Interactive Lectures with Students, presentation of the law and comments-interpret the construction law. Work in group for the practical cases on different building permit and their category

Evaluation Methods and Passing Criteria: The Evaluation are as follow: Attendance 10%, first Colloquium 40%, second Colloquium 40%.

Concretization Tools/ IT: projector, computer, table, working notice, markers.

Ratio between Theory and Practice:

Theoretical Part	Practical Part
80 %	20 %

Basic Course Literature:

1. Ligji i ndërtimit, Kosovë
2. Udhëzuesit administrativ për licencim

## WOOD STRUCTURE

Short Introduction: Historic Introduction of wood material usability for construction. Knowledge of technical qualities of wood as a construction material. Structural Design of different structural members according to the different case of internal forces. Design of connections for the structural elements. Base knowledge of stability of frame structural systems. Base knowledge of constructing and erection of scaffolding.

Learning Objectives and Learning Outcomes: A theoretical module that enables the Students to recognize the wood material, its properties for construction, structural design from solid wood, design of scaffoldings. After the completion of this course the Student will be able to: explain botanic types of wood, wood products and variety and the wood properties for better choice for construction. Design of the structural wood elements and minor wood structure for the very different possibility of internal forces. Recognize type of connectors, explain and calculate the different types of the connectors. Design and calculate the roof timber structure. Design and calculate the scaffolding.

Teaching and Learning Methods: Interactive Lectures with Students, presentation of the specific cases of the structures, works in group, numerical exercises.

Evaluation Methods and Passing Criteria: The Evaluation is based in methodology as follow: Attendance 5%, assessment of first Colloquium 15%, assessment of second Colloquium 15%, assessment of third Colloquium 15%, and final exam 50%.

Concretization Tools/ IT: Projector, Computer, table, working notes, markers.

Ratio between Theory and Practice:

Theoretical Part	Practical Part
50 %	50 %

Basic Course Literature:

1. F. Grajcevc, ligjërata nga Konstruksionet prej druri
2. Eurocode 1, Action in Structure,
3. Eurocode 5, Common rules and rules for Buildings, December 2003,

## CONCRETE STRUCTURAL ELEMENTS

Short Introduction: The Concrete Structural Elements Course has capability to recognition the reinforced concrete elements, calculation of internal forces on the structural elements from unfavorable statically influences and finally design of the concrete structural elements based in limit state theory (Ultimate Limit State ULS and Serviceability Limit State SLS). In this Course the Students will be introduced with the main reinforced concrete structural elements as are the following: slabs, columns, foundation et..

Learning Objectives and Learning Outcomes: The purpose continually consist in the recognitions of the reinforced concrete structural elements. Developed basic knowledge for the construction of concrete structural elements. To use the European Standards for the Construction as are EC 2 for the basic reinforced concrete design. Reinforcement Anchor. Creation of prior knowledge for the possibility of next master study in construction field. After completion of this course the student will be able to: Design a different single RC structural elements (slab, beam, column, stairs, etc). Construction-forming the reinforced skeleton for the single structural elements. Detail Design of the concrete structural elements.

Teaching and Learning Methods: Teaching Lectures which include the RC Structural Elements. Every hour of lectures are associates with concrete examples for better clarification of particular lecture. The Student has obligation to do the design numerical examples during the semester, which at the end of semester every students has to prove the exams in front of assistant.

Evaluation Methods and Passing Criteria: From first Colloquium 10%, second Colloquium 10 %, numerical semester exams 15%, Attendance 5%, final exams 60%.

Concretization Tools/ IT: table and choke.

Ratio between Theory and Practice:

Theoretical Part	Practical Part
50 %	50 %

Basic Course Literature:

1. Elementet e konstruksioneve të betonit, dispence K. Morina , H. Sylejmani dhe N. Hoxha
2. EC 1, EC 2
3. Ivan Tomičić: Konstruksionet e betonit Zagreb
4. K. Negovani dhe N. Verdho Konstruksionet prej betoni të armuar, Tiranë
5. Andrej Spasov : Konstruksionet e betonit Shkup

## STEEL STRUCTURE IN CIVIL ENGINEERING

Short Introduction: Introduction in history of buildings, industrial buildings, and sports halls from steel structures. Steel cover from corrugate sheets, sandwich plates, durisol and silcapor plates etc. Calculation of roof outside action in structure. Calculation and Design of Steel structural elements - Purlins made from cold profiled plates, welded plates, weakening and "R" purlins. Main steel trusses, beams and spatial steel trusses. Columns in all cases. Creating of the steel line structure in to the bearing load structure in perimeter, vertical, longitudinal and sectional connection. Tangential, cylinder and sphere supports. Crane Beams.

Learning Objectives and Learning Outcomes: The Student acquires knowledge of structural elements and of the building steel structural systems at all. Upon completion of this course the Student will be able to: Calculate the unite steel structural elements. Design the singled structural elements. Design and calculate the frame steel structure of the building industrial or different usability hall. Analyze and Calculate the global stability against to horizontal actions.

Teaching and Learning Methods: Teaching Lectures which include the Steel Building Structure. The Student Design the study exam for the case of building steel structure frame system, which at the end of semester every students has to prove the exams in front of assistant.

Evaluation Methods and Passing Criteria: From first Colloquium 10%, second Colloquium 10 %, numerical semester exams 15%, Attendance 5%, final exams 60%.

Concretization Tools/ IT: table and choke.

Ratio between Theory and Practice:

Theoretical Part	Practical Part
50 %	50%

Basic Course Literature:

1. prof.Dr. A. Vokshi, Strukturat e ndërtesave metalike
2. Zaric, Budjevac & Stipanic, Strukturat metalike në Civil engineering
3. Strukturat metalike 3 dhe 4 autorët (Boris Androic ,Darko Dujmanovic, Ivica Dzeba)  
Normativat Eurocode 1 dhe 3

## CONSTRUCTION REGULATIONS

Short Introduction: Introduction to construction regulations. Project construction and legal structure, necessary documentation in construction projects. contracts and contract conditions. standardization of work and materials. construction law.

Learning Objectives and Learning Outcomes: Develop knowledge of the main methods and techniques, regulations which are used in the construction field. Upon completion of this course the student should: Identify the elements of the legal system in construction. Implement construction regulations for specific examples more simplified. Explain and analyze specific standards for building materials.

Teaching and Learning Methods: Lectures, group discussions with students, interactive presentations during the semester in group and individual work.

Evaluation Methods and Passing Criteria: Intermediary evaluation 1 30%; Intermediary evaluation 2 30%; Homeworks 20%, Attendance 20%.

Concretization Tools/ IT: video projector, laptop, blackboard.

Ratio between Theory and Practice:

Theoretical Part	Practical Part
60%	40%

Basic Course Literature:

1. I.Rodiqi, "Menaxhimi i ndërtimit",
2. Ligji i ndërtimit 2009

## TECHNOLOGY OF INFRASTRUCTURE WORKS

Short Introduction: Meanings and fundamental notions for infrastructure works. Construction technology for projects for ground works, road traffic lines and rail traffic. Technology of construction of the final layers of road lines, railway. Water lines - canals, construction technology, the organization of the workshop and work organization. Construction activity for opening holes for construction. Construction methodology and content of infrastructure construction projects

Learning Objectives and Learning Outcomes: Student is acquainted with basic understandings and notions of infrastructure works, of training of professional staff and its placement in the labor market. Technology of construction of communication lines, different long track channels. Organizing mobile workshops. Upon completion of this course the student should: be able to count construction activities and describe the organization of the workshop to the projects that have great operating lengths (roads, railways, canals) as well as for the construction of septic facilities. Lists and describe the methodology for performing construction activities for various actions in cases of infrastructure construction projects.

Teaching and Learning Methods: Interactive lectures with students, presentations of appropriate case projects in the country and more specific cases, group work with practical examples of cases, specific studies for the construction of road, railway, canal, den.

Evaluation Methods and Passing Criteria: The assessment is made as; Attendance 10% Evaluation at the first Colloquium, 40%, 40% Second Exam.

Concretization Tools/ IT: video projector, laptop, blackboard, markers.

Ratio between Theory and Practice:

Theoretical Part	Practical Part
80 %	20 %

Basic Course Literature:

## ORGANIZING AND TECHNOLOGY OF CONSTRUCTION

Short Introduction: Knowledge of the principles of organization of construction works including; basics of organizing work and leadership, regulation construction site, construction technology, bidding and contracting processes, and interpersonal aspects of project construction cycle.

Learning Objectives and Learning Outcomes: Students gain knowledge about modern construction organization. Generalized approach that includes all aspects of organizing the construction site and construction project. Upon completion of this course the student should: list and describe on construction activities. Organize construction company. Design dynamic performance plans of construction. Describe Estimated Quantities for projects of small scale. Organize small groups of professionals working in the construction site.

Teaching and Learning Methods: Lectures on organizing and technology of construction. The student designs the actions foreseen in the form of written exercises, which at the end of the semester should be presented before the teaching assistant.

Evaluation Methods and Passing Criteria: The first test 10%. The second test 10%. Written exercise 15%. attendance 5%. The written exam is 30%. Oral exam 30%.

Concretization Tools/ IT: blackboard and marker.

Ratio between Theory and Practice:

Theoretical Part	Practical Part
60 %	40%

Basic Course Literature:

1. Rodiqi, "Menaxhimi i ndërtimit", FNA, PR, 2004
2. Rodiqi, "Përmbledhje detyrash", skriptë, 1993

## HYDROTECHNICAL BUILDINGS

Short Introduction: General knowledge in hydrotechnical structures, types and basic classification. Filtering through the foundation and the structure, determination of loads, load analysis, effect of seismic actions, static and dynamic analysis. Materials of construction, geotechnical characteristics of the construction site. Dams: classification and characteristics of different types of dams. Earth-fill dam types, considering homogenous and heterogeneous (with clay core, dams with concrete core, reinforced concrete and asphalt-concrete). Concrete dams: Gravitational dams and arch dams. Dams from high-compaction concrete. Oscultation of dams. Environmental impact of hydrotechnical structures.

Learning Objectives and Learning Outcomes: Upon course completion, candidates will be able to write various reports and they will be able to complete, in a narrative manner, one professional work including the Bachelor thesis.

Teaching and Learning Methods: Lectures, seminar and individual work.

Evaluation Methods and Passing Criteria: Participation in class 10%, first colloquium 30%, second colloquium 30% and semestral work 30%. Written exam.

Concretization Tools/ IT: projector, computer, whiteboard, workbook, markers.

Ratio between Theory and Practice:

Theoretical Part	Practical Part
70 %	30 %

Basic Course Literature:

1. Prof. Dr. Zekirja Idrizi "Objektet Hydrotechnics".
2. Johnston, A., and Millmore, J., "An Engineering Guide to the Safety of Embankment Dams".,Building Research Establishment, 1999.
3. U.S. Army Corps of Engineers., "Earth and Rock – Fill Dams: General Design and Construction Considerations", 2004.