UNIVERSITY OF PRISHTINA
"HASAN PRISHTINA"

FACULTY OF CIVIL ENGINEERING

DEPARTMENT OF ENVIRONMENTAL ENGINEERING- BSc.

(2015 – 2018)

2.1. Study Programme for Environmental Engineering

2.1.1. Basic Information on Study Program

Name of the Academic Programme	Environmental Engineering
NFQ Level (BA, MA, PhD, doctorate program, university course)	Level 6, BA
Academic degree or certificate, spelled out in full and in abbreviated form	Bachelor of Science in Faculty of Civil Engineering and Architecture (FCEA) Study Program: Environmental Engineering
Study Area according to Erasmus Subject Area Codes (ESAC)	06.4 Civil Engineering
Profile of the Academic Programme (specialization)	Scientific Program of Environmental Engineering
Minimum Period of Study	3 years (6 semeters)
Type, Structure and Cycle (Full time or Part time, Distance Learning)	Full time undergraduate study
Number of ECTS (total and annual)	180 ECTS; 60 ECTS per year
Program (short overview)/ Courses	Basics maths-natural: 13% (24 ECTS) Basics civil engineering and/or environmental: 32% (57 ECTS) Civil engineering and/or environmental: 22% (39 ECTS) Informatics: 12% (21 ECTS) Non technical: 2% (3 ECTS) Chooses of 14% (27 ECTS) from a group of elective courses Bachelor thesis: 5% (9 ECTS) Mandatory courses: Mathematics I General chemistry Physics Informatics Construction and environmental engineering

	English language Mathematics II Environmental chemistry Mechanics I Descriptive geometry Programming Engineering thermodynamics Environmental microbiology Fluid mechanics Engineering geology Meteorology Building materials Hydrology Soil mechanic Urban water management Environmental data analyses Solid waste management Wastewater treatment technologies Protection and improvement of soils On-site decentralized wastewater treatment systems Impact of urban plan in environment GIS in environment Bachelor thesis Elective: Health insurance Engineering economy Probability and statistics Landfill design Cartography Air pollution control The environmental protection law Environmental impact assessment Energy and environment Project management Flood protection Applyed the polymer materials in environmental engineering Hydrogeology CAD General ecology Internship
Number of Student Places	It is the Senat of University of Prishtina (UP), which defines the number of student admissions per academic year in accordance with the Council of the Faculty. The Council proposed 30 students.
Person in Charge of the Academic Programme	Prof.Ass.Dr.Hajdar Sadiku/Prof.Ass.Dr.Figene Ahmedi

Scientific/Artistic Staff (number per staff category)	Prof. Dr. 6 Prof. Asoc. Dr. 8 Prof. Ass. Dr. 4 Dr.Sc. 1 (staff from FCEA) Lecturer 3
Tuition Fees	According to the fees from UP

2.2. Rationale of the Program for the Labor Market

According to the National Research Program, which identified the five research priorities in order to establish provisions for the preparation of a systematic education-research program, “Environment, energy and natural resources” take place as a first priority among all five priorities. That is due to the fact that Kosovo, is currently facing a number of problems related to natural resources, high density of the population and the presence of economic activities with a strong environmental impact.

As a result of this, and especially the not fair approach to environment in our country (the interaction between the human activities and their influence to the natural resources, climate change, etc.) boost the Faculty of Civil Engineering and Architecture to provide a new study program, Environmental Engineering. This is the first and the only program in this area in higher education institutions in Kosovo, and therefore plays an important role in development of human capacity which will contribute in improvement of environment.

The environmental sustainability is achieved when scientific principles and technologies are integrated to improve the environment in order to provide healthy water, air, and land, as the non living components of ecosystems for living organisms as ecosystems community. Since the Faculty of Civil Engineering and Architecture has an important role in building of intelectual capacities in civil engineering field, and considering the need of society for a healthy environment, through this program, our institution provides the opportunity for interdiciplinary collaboration, and is in the harmony with acctual needs of society for a healthy environemnt.

2.3. International Comparability of Study Program

Environmental Engineering, undergraduate Study Programme, is comparable with Istanbul Technical University – Faculty of Engineering, Fatih University – Faculty of Engineering, and ETH Swiss Federal Institute of Technology Zurich – Civil, Environmental and Geomatic Engineering Department. The programm is attached in annex.

2.4. Target Group for the Study Programme

Environmental engineering Programme is dedicated to the candidates who have successfuly finished high school, and that are interested for university studies, and who think “ let we do something for environemnt” as well.

2.5. Study Program in Relation to Leading Principles of the Institution (the Mission)

The strategy of Faculty of Civil Engineering and Architecture with regards to the study structure and study program is to provide a clear eduaction, creating the provisions: to be oppened to new ideas, for creativity, to be engaged (to engage) for long life learning and to be sustainable. Environmental Engineering Program is oriented towards fulfilling FCEA's overall objective by providing courses with modern an up-to date content, that are flexible and easily adapt to local, regional and global market demands.

2.6. Goal and Profile of Study Program

Environmental Engineering Program goes beyond being purely the technical engineering. In this program, technical engineering and that of environmental are not against each other, but they provide a solution together. The program combines group of courses (see graphs below) such as: basic courses of mathematics and natural sciences, civil engineering and environmental basic courses. The program contains courses that represent synergy among civil engineering and environment, contributing together for the sustainable environment. For additional knowledge, the program offers elective courses of civil engineering and environmental field, as well as of non-technical fields. In the program the English language is also included as an important course in the globally interlinked world of research and business. Courses of informatics provide the support via computer of storing, processing, and analyzing large quantities of real-time data of environmental engineering, to be in step with technological development.

Basics of mathematics and natural sciences:

Mathematics I, Mathematics II, Physics, General chemistry and other elective courses

Basics of civil engineering and/or environemntal:

Mechanics I, Descriptive geometry; Fluid mechanics; Engineering geology; Building materials; Construction and environmental engineering; Soil mecahnics; Environmental chemistry; Environmental microbiology; Meteorology; Hydrology, and other elective courses

Civil engineering and/or environmental

Urban water management; Wastewater treatment technologies; Solid waste management; Protecion and improvement of soils; Engineering thermodynamics; On-site decentralized wastewater treatment systems, and other elective courses

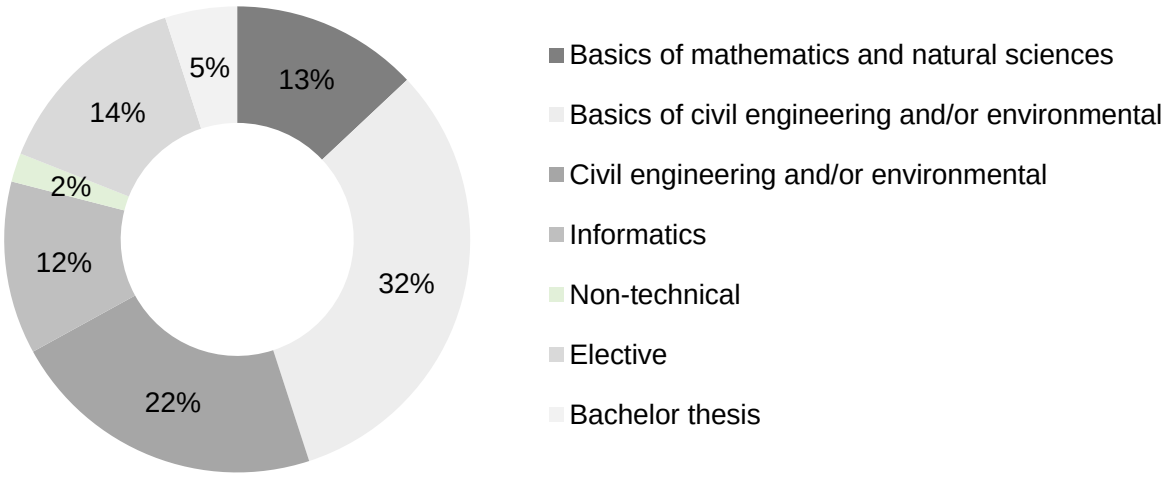
Informtarics

Informatcis; Programming; GIS in environment; Environmental data analyses, and other elective courses

Non-technical:

English language, and other elective courses such as: Engineering economy; Health insurance

Graphs of group of courses in Environmental Engineering Program



Graphs of participation of group of courses in the program

Environmental engineering prepares students for professional carrier and further studies in the field of environmental engineering. Environmental engineers understand and incorporate the concepts of civil engineering, environment, economy, politics, and social sciences to serve in community through the participation and responsibility as environmental technicians in professional and social activities. Students of Environmental Engineering provide solutions of environmental problems such as in: urban water management, water pollution control, wastewater treatment technologies, waste management and recycle, and landfill engineering, soil protection, planning of human's activities in address of environment and air pollution control.

2.7. Learning Outcomes

After successful completion of this program, students will be able to:

- Apply knowledge of mathematics and engineering in effective and sustainable manner.
- Design and conduct experiments, as well as to analyze and interpret data.
- Explain to society the importance of environment.
- Identify, formulate, and to solve problems in the field of: urban water management, water pollution control, wastewater treatment technologies, waste management and recycling, landfill engineering, soil protection and air pollution control.
- Understand the impact of engineering solutions in the environmental and societal context.
- Think critically to address the challenges of water, air, and soil pollution.

2.8. Ratio between Theoretical and Practical Parts/ or Experimental

Relationship between theory and practice in this study program is 70:30. The graduated engineers should understand how the theory and practice influence each other. Practice is mainly realized through numerical excersises, laboratory hours (within and outside institution-FCE) as well as with visits in many companies of the industri from the specific fields related with courses.

2.9. Calculation of ECTS

According to UP statut (actual regulation), 1 ECTS is calculated as 25 study hours.

An example of workload calculation, which refelcts how the ECTS of a course are determined.

Activity	**Hour**	**Day**	**Week**	**Total**
Lectures	2		15	30
Theoretical exercises / laboratory	2		15	30
Tutorial (practical work)	1		15	15
Contacts with the teacher / consultations	1		15	15
Field Exercises				
Midterms, seminars				
Homework	1		10	30
Self preparation time (at the library or at home)	2		10	20
Preparation for final exam				20
Time spent on assessment (tests, quizzes, final exam)	1		10	10
Projects, presentations, etc.				
Total				**150**

2.10. Practical work – internship

Students of FCEA of Environmental Engineering, in frame of practice conduct visits in industrial companies, with whcih the FCEA has cooperative aggrements. These companies are:

Regional Water Company “Prishtina”, Prishtine
Regional Water Company “Hidrodrini”, Peje
Regional Water Company “Hidromorava”, Gjilan
Water and Wastewater Works Association of Kosova, SHUKOS, Prishtine
Alfa-I Company, Prishtine,

as well as other companies in Kosovo.

In these companies, Engineering and Environmental Technologies will be presented to stundents. Also, they will be informed how the companies of water resources management operate, how the companies elaborate data on climate change and water quality, etc.

2.11. Planed Research Program / Programs in Assessment

Bachelor level of Environmental Engineering Program will be fully completed with a bachelor thesis which is mainly individual research work. The bachelor thesis may be organized in group of students as well, to research about certain topics. Results will be presented through presentation and seminar work, and will be evaluated as part of the continous assessment with a certain percentage of the final grade.

2.12. Requirements for Admission of Students and Selection Procedures

Students admission is conducted through public call for submission to the entrance exam in FCEA. Candidates that passed successfully national mature test, have rights for competiton.

Conditions for students admission in bachelor level of FCEA are defined in Status of University of Prishtina. The number of students that will continue bachelor studies per academic year is defined by Senat of University of Prishtina in accordance with the Councile of the Faculty.

2.13. Study plan:

Year I						
Semester I			Hours/Week			
Nr.	O/E	Course	L	E	ECTS	Professor
1	O	Mathematics I	2	2	6	Fevzi Berisha
2	O	General chemistry	2	2	6	Tahir Arbneshi
3	O	Physics	2	2	6	Rashit Maliqi
4	O	Informatics	2	2	6	Enver Hamiti
5	O	Construction and environmental engineering	2	0	3	Hajdar Sadiku
6	O	English language	2	0	3	Nedime Belegu
Semester II						
1	O	Mathematics II	2	2	6	Fevzi Berisha
2	O	Environmental chemistry	2	2	6	Tahir Arbneshi
3	O	Mechanics I	2	2	6	Hajdar Sadiku
4	O	Descriptive geometry	2	2	6	Arta Basha
5	O	Programming	2	2	6	Enver Hamiti
Year II						
Semester III						
1	O	Engineering thermodynamics	2	2	6	Naser Sahiti
2	O	Environmental microbiology	2	2	6	Staff from UP
3	O	Fluid mechanics	2	2	6	Laura Kusari
4	O	Engineering geology	2	1	3	Islam Fejza
5	O	Meteorology	2	1	3	Sylë Tahirsylaj
6	E	Health insurance	2	0	3	Selvete Krasniqi
7	E	Engineering economy	2	0	3	Ilir Rodiqi
8	E	Probability and statistics	2	1	3	Fevzi Berisha
Semester IV						
1	O	Buliding materials	2	2	6	Naser Kabashi
2	O	Hydrology	2	2	6	Naim Hasani
3	O	Soil mechanics	2	2	6	Qani Kadiri
4	O	Urban water management	2	2	6	Figene Ahmedi
5	E	Landfill design	2	1	3	Qani Kadiri

6	E	Cartography	2	0	3	Bashkim Idrizi
7	E	Air pollution control	2	1	3	Sylë Tahirsylaj
8	E	The environmental protection law	2	0	3	Islam Fejza
Year III						
Semester V						
1	O	Environmental data analyses	2	2	6	Staff from UP
2	O	Solid waste management	2	2	6	Agron Bektashi
3	O	Wastewater treatment technologies	2	2	6	Figene Ahmedi
4	O	Protection and improvement of soils	2	2	6	Qani Kadiri
5	E	Environmental impact assessment	2	0	3	Islam Fejza
6	E	Energy and environment	2	0	3	Violeta Nushi
7	E	Project management	2	0	3	Ilir Rodiqi
8	E	Flood protection	2	1	3	Laura Kusari
Semester VI						
1	O	On-site decentralized wastewater treatment systems	2	2	6	Figene Ahmedi
2	O	Impact of urban plan in environment	2	1	3	Violeta Nushi
3	O	GIS in environment	2	1	3	Përparim Ameti
4	E	Applyed the polymer materials in environmental engineering	2	1	3	Naser Kabashi
5	E	Hydrogeology	2	1	3	Islam Fejza
6	E	CAD	2	0	3	Arta Basha
7	E	General ecology	2	0	3	Fetah Halili
8	E	Internship	/	/	3	Company
	O	Bachelor thesis	/	/	9	

2.14. Course description

MATHEMATICS I

Content: 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 environmental 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.

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: 1. Obtain theoretical knowledge from the content of the subject of Mathematics aimed for students studying Engineering. 2. Know different methods for solving problems from the field of Architecture by using known mathematical apparatus. 3. Gain knowledge and get accustomed to use efficient methods in solving different problems from the field of environmental engineering. 4. 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 Environmental 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: First assessment 20%. Second Assessment 20%. Attendance 5%. Activities during lectures and exercises 10%. Final exam 45%. Total 100%.

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

Ratio between the theory and practice:

Theoretical part	Practical part
40 %	60 %

Basic 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.

GENERAL CHEMISTRY

Content: Structure of matter, composition of atoms, elements and compounds, mass and energy relations in chemical reactions, periodic law and electronic structure of atoms, chemical bond, ideal and real gases, water and solutions, crystals, chemical kinetics and balance, chemistry of surfaces, electrolytes, nonelectrolytes, basics of electrochemistry, overview of the chemistry of main group elements.

Objectives and learning outcomes: This course is intended to provide environmental engineering students with a background in important concepts and principles of chemistry. There are various reasons why environmental engineering students should learn chemistry as specific learning objectives. Many of these objectives deal with particular topics or skills necessary for environmental engineers. The main goal of this course deal with the overall relationship between chemistry as a natural science and environmental engineering rather than with the details of any particular chemical principle. Students successfully completing general chemistry should be able to: 1. use knowledge of molecular structure and properties in describing and solving real technological problems; 2. explain and appreciate the relationship between experiment and theory in science in general and chemistry in particular; 3. demonstrate quantitative problem solving skills in many aspects of chemistry, including stoichiometry, thermochemistry, chemical equilibrium, and reaction kinetics; 4. describe the modern theoretical basis for understanding important areas of chemistry, including atomic structure, chemical bonding, and molecular structure.

Teaching and learning methods: Lecture, laboratory works, sminars.

Evaluation methods and passing criteria: Participation 10 %. Midterm exam I 25%, Midterm exam II 30%, Final exam 35%.

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

Ratio between theory and practice:

Theoretical part	Practical part
60 %	40 %

Basic literature:

1. I. Filipovic; S. Lipanovic; Kimia e përgjithshme, (përkthim Xh. Ahmeti) Prishtinë, 1996.
2. R.Chang: General Chemistry; 10th edition, New York, USA, 2010.
3. Larry Brown, Tom Holme; Chemsitry for Engineering Students, 2nd edition, USA.
4. R.Petruci, F.Herring, J.Maduro, C.Bissonnette: General Chemistry-Principles and Modern Application, 10th edition, USA, 2011.
5. J. Mc.Murry and R. Fay, Chemistry, 4th edition, New Jersey, USA, 2004.

PHYSICS

Content: 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.

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 Literature:

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

INFORMATICS

Content: 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.

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: 1. To know basic concepts of computers. 2. To explain operating system functions.3. To explain application programs.4. To use operating system in solving different practical problems. 5. To use aplication 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%

Basic literature:

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

Additional literature:

1. Programe Kompjuteri“ , autorë Harallamb Papakroni
2. Literatura në gjuhën angleze për: Windows XP, MS Office XP, etj.
3. Udhëzimet e integruara në MS Office. etj.

CONSTRUCTION AND ENVIRONMENTAL ENGINEERING

Content: 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.

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.

Ratio between theory and practice:

Theoretical part	Practical part
90 %	10 %

Basic literature:

1. Prof. Ass. Dr. Hajdar Sadiku Hyrje në Ndërtimtari (ligjërata), FNA, Prishtinë
2. Prof. Dr. Fetah Jagxhiu, Mekanika I (ligjërata), FNA, Prishtinë
3. Prof asoc. Dr. Fisnik Kadiu, Teknologjia e materialeve të ndërtimit, FIN, Tiranë
4. R.S. Narayanan, A.W.Beeby: Introduction to Design for Civil Engineers, Spon Press, London 2001;
5. D. Doran:Eminent Civil Engineers Whitles Publishing Caithness 1999;

ENGLISH LANGUAGE

Content: The course develops the English language skills of reading, speaking, writing and listening and grammar presented in a way which provides exercises and
overcoming common problems in the structure and application of tenses. It also develops and enriches the professional technical vocabulary of three directions of Civil Engineering Faculty and Architecture.

Objectives and learning outcomes: The objective of the course is to: 1. Increase students' skills in reading, writing, listening and communication in speech. 2. To enhance students' ability to communicate in English in speaking and writing. 3. To enrich their vocabulary through independent reading and listening to English. 4. To acquire knowledge in grammar teaching and practice grammar in context. 5. To enrich the vocabulary of technical terms, by writing and using written words, translate and comment in English.

Teaching and learning methods: Ex-cathedra discourse and discussion of topics related to interactive lectures with students. Exercises developed through seminar papers, various articles in the field of Civil Engineering and Architecture, probationary tests, exercise unfamiliar words and mutual discussions.

Evaluation methods and passing criteria: Participation in lectures and exercises 10%; Writing seminar paper 20%; Presentation of the workshop 10%; Test 30%; Final exam (oral) 30%.

Concretization tools / IT: projector, laptop could, table.

Ration between theory and practice:

Theoretical part	Practical part
30%	70%

Basic literature:
1. Base literature : New Headway Advanced Student’s Book (2007).
2. Oxford University Press. Oxford UK.
3. Oxford Dictionary. Oxford University Press. Oxford UK.

Additional literature:
1. Research on the internet for the written materials, such as professional brochures and magazines.
2. Printed and electronic dictionaries with professional terminology.

MATHEMATICS II

Content: 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 environmental 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.

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: 1. Obtain theoretical knowledge from the content of the subject Mathematical Analysis for students of Environmental engineering. 2. Know different methods for solving problems from the field of Geodesy by using known mathematical apparatus. 3. Gain knowledge and get accustomed to use efficient methods in solving different problems from the field of Environmental engineering. 4. 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 Environmental 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: First assessment 20%. Second Assessment 20%. Attendance 5%. Activities during lectures and exercises 10%. Final exam 45%. Total 100%.

Means of concretization: Chalk, table, projector, computer, notebook, markers.

Report between theory and practice:

Theoretical part	Practices –Exercises
40 %	60 %

Basic literature:

1. Fevzi Berisha-Abdullah Zejnullahu: Matematika- për arkitekturë , 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.

ENVIRONMENTAL CHEMISTRY

Contents: General introduction of environmental chemistry, Atmospheric chemistry and air pollution, Chemistry of hydrosphere, Water chemistry and water pollution, Chemistry of biosphere, Climate change and energy, Typical pollutants and their fate in the environment, Toxic organic compounds and metals, Pedospheric chemistry, Soils, Sediments, and Waste Disposal.

Objectives and learning outcomes: This is an introductory course in environmental chemistry for environmental engineers, which assumes little prior knowledge of the subject. The lectures aim to develop a basic knowledge of the underlying principles of environmental chemistry that influence environmental processes such as water and wastewater treatment, air pollution control and waste management. On successfully completing this module, students will be able to: 1. Understand the fundamentals of environmental chemistry. 2. Understand the chemistry of soil, air, and water. 3. Understand the mechanisms by which pollutants can affect the quality of soil, air, and water. 4. Understand the connections among soil, air, and water, and the movement of elements among them. 5. Understand the major sources of energy and the environmental impacts of each.

Teaching and learning methods: Lecture, laboratory works, seminars.

Evaluation methods and passing criteria: Participation 10 %. Midterm exam I 25%, Midterm exam II 30%, Final exam 35%.

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

Ratio between theory and practice:

Theoretical part	Practical part
60 %	40 %

Basic literature:

1. A. Çullaj, Kimia e mjedisit, Tiranë, 2012.
2. S. E. Manahan, Environmental Chemistry, 5th Edition, 1991.
3. R. M. Harrison, An Introduction to Environmental Chemistry and Pollution, London, 1994.
4. Peter O. Nill, Environmental Chemistry, See. Ed. London, 1993

MECHANICS I

Content: 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.

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. Learning outcome of the course: 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: learning in the form of regular group with individual homework and seminar work.

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

Ratio between theory and practice:

Theoretical part	Practical part
100%	0%

Basic literature:

1. F. Jagxhiu: Mekanika I (Statika), Prishtinë,1995.
2. F. Jagxhiu: Përmbledhje detyrash të zgjidhura nga Mekanika I, Prishtinë,1996.
3. P.B. Ferdinand, E.R. Johnston, R.E. Flori: Mechanics for engineers, Statics, McGraw-Hill, 2007
4. http://www.answers.com/topic/mecanics

DESCRIPTIVE GEOMETRY

Content: 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.

Objectives and learning outcomes: The purpose of learning and expected 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 models5%; Presence5%; 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 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
4. And all other relevant literature available in the specific field

PROGRAMMING

Content: This course teaches students about fundamental concepts of programming languages, including techniques for designing flow diagrams for solving various computing problems. The content of this course covers the following topics: data types, commands for inputting entry values and outputting results, flow diagrams for calculating sum/production of numerical series, branching commands (If, Switch), loops (While, Do While, For), flow diagrams for operation with arrays, using arrays in programming, methods, object oriented programming techniques, classes, overloading, inheritance and strings.

Aims and learning outcomes results: This course aims to teach students with basics of programming techniques. The main focus is oriented towards Java programming language. After finishing this course, the student will have the following knowledge: 1. Understand the principles behind programming. 2. Be able to understand and use basic commands of Java programming language. 3. Be able to design flow diagrams for solving different problems that might arise during study period. 4. Understand principles behind object oriented programming

Teaching and learning methods: Lectures, laboratory works and homework.

Evaluation methods and passing criteria: First midterm exam (30%), second midterm exam (30%), final exam (40%)

Concretzation tools/IT: video projector; computer; black board; notebook, etc.

Ratio between theory and practice:

Theoretical part	Practical part
40 %	60 %

Basic literature:

1. Daniel Liang, Introduction to Java Programming, 8th edition, Prentice Hall, 2011,
2. Agni Dika, Algoritmet, 2007
3. Chapman, S.J.: Java for Engineers and Scientists, Printice Hall 2003

ENGINEERING THERMODYNAMICS

Content: Course aims to familiarize students with first and second laws of thermodynamics, with procedures for determination of properties of pure substances and to enable them to apply mass, energy, and entropy balances for solving of various engineering problems.

Objectives and learning outcomes: 1. Apply mass and energy conservation principles to evaluate the performance of simple engineering systems; 2. Evaluate thermodynamic properties of simple homogeneous substances; 3. Analyze processes and cycles using the second law of thermodynamics to determine maximum efficiency; 4. Evaluate properties of moist air; 5. Analyze air-conditioning processes; 6. Analyze heat transfer equations for simple energy conversion problems.

Teaching and learning methods: Lectures, tutorials, individual work

Evaluation methods and passing criteria: Regular attendance 10 %, first test 30 %, second test 30 %, seminar work 30 %, written exam.

Concretization tools/ IT: projector, computer, lab, white board, notebook

Ratio between theory and practice:

Theoretical part	Practical part
60 %	40 %

Basic literature:

1. Windisch, H.: Thermodynamik, Oeldenburg Verlag, München, 2008
2. Çengel, Y.; Boles, M.: Thermodynamics- an Engineering Approach, McGraw Hill, 2011
3. Moran, M.; Shapiro, H.; Boettner, D.: and Bailey, M.: Fundamentals of Engineering Thermodynamics, Wiley, 2011

ENVIRONMENTAL MICROBIOLOGY

Content: Introduction to microbiology, histoy and scope, microbial structure and function, nutrition, growth, control of microorganisms by physica and chemical agents. The diversity of the microbial world, microbial taxonomy, proteobacteria, archaeaobacteria. Microorganisms interaction and microbial ecology. Human diseases caused by bacteria, food and industrial microbiology. Introduction to the laboratory equipments and material, sterilization techniques, preparation of media, effects of environmental factors on bacterial growth.

Objectives and learning outcomes: The aim and definition of Environmental microbiology is to introduce to the students the following concepts: morphology, biochemistry, and physiology of the microorganisms with special emphasis on the identification and cultivation of the environmentally significant and epidemic bacteria. After the completion of course, student will be able to: 1. Describe microorganisms in water, air and soil and their behavior in the contaminated environment. 2. Classify their use in the biological operations to treat the municipal and industrial wastewater. 3. Compare fundamentals of the traditional biological technologies: activated sludge. 4. Categorize anaerobic degradation. 5. Evaluate bioremediation of the soil. 6. Evaluate anaerobic digestion of the sludge.

Teaching and learning methods: lecture, seminar work (individua or in group)

Concretisation tools/TI: Black board, chalk, projector

Ratio between theory and practice:

Theoretical part	Practical part
60%	40%

Basic literature:

1. Plakolli, M. (2001): Mikrobiologjia e përgjithshme.
2. Plakolli, M. (2001): Praktikumi për mikrobiologji.
3. Biology of microorganisms (brock) eleventh edition michael t. madigan-john m. martinko pearsoon publication
4. Microbiological Applications: Laboratory Manual in General Microbiology, 8th Ed. Benson (2002).

FLUID MECHANICS

Content: 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 orifices.

Objectives and learning outcomes: To identify and obtain values of fluid properties and relationship between them. To understand principles of continuity and energy of fluids in motion. Student is introduced to the principles of fluid statics, kinematics and dynamics. After undergoing this course, the student would have learnt fundamental fluid laws and application of Bernoulli and Energy equation to solve the real situations of fluid flow.

Teaching and learning methods: Regular teaching in form of group lectures and excersises. 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.

Concretisation tools/TI: projector, computer, board

Ratio between theory and practice:

Theoretical part	Practical part
60%	40%

Basic literature:

1. Kusari, L., Lecture notes of Fluid mecahnics.
2. Potter, M., Wiggert, D., Mechanics of Fluids. Published by Prentice Hall,
3. Inc.USA.1997. Mott, R., Applied Fluid Mechanics. Published by Prentice Hall, Inc.USA. 2000

ENGINEERING GEOLOGY

Content: The role and importance of geological – engineering studies. Construction of the globe of the Earth and the Earth's crust. Rock forming minerals. Physical - mechanical properties of rocks. Methods of geological - engineering studies. Geological - engineering studies in the design of buildings. Geological - engineering studies in the design of roads and rail. Geological - engineering studies in the design of bridges. Geological - engineering studies in the design of tunnels. Geological - engineering studies in hydro-technical facilities. Geological - engineering studies of building materials. Geological - engineering classification of rocks and their features. Geological - engineering conditions of Kosovo.

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, fieldwork 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, modeling samples etc

Ratio between theory and practice:

Theoretical part	Practical part
60%	40%

Basic literature:

1. Islam Fejza., 2013. Gjeologjia në ndërtimtari(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

METEOROLOGY

Content: This course allows students the acquisition of theoretical knowledge and practical elements and meteorological phenomena monitored by modern methods with satellite and digital technology at local and national level. Monitoring of natural resources and air quality at national level. Applying the scientific and technical achievements by appropriate disciplines in the fields of meteorology, climatology and agro-meteorology. Meteorological and physical components of the environment. Integrating environmental impacts of climate change parameters and consequences of these changes in flora and fauna. Applying mathematical modulation in the specification of weather and natural disaster, flood and drought

Objectives and learning outcomes: Understanding the physical-biological, meteorological, climatologically and agro-meteorological of the complex interactions within the crop-soil-atmosphere and their main components. After completing this course (course) the student will be able to: 1. Be independent in his work for analyzing meteorological elements and phenomena in monitoring, analyzing and forecasting the weather and natural disasters at national level and beyond, as well as other meteorological, climatologically and agro-meteorological factors. 2. To know the meteorological elements and brightness, climatologically and agro-meteorological in order to advance the theoretical and practical approaches in the prevention of risks to which atmospheric processes are given by local and national level. 3. To acquire basic knowledge about the specification of the application of modern methods risks that come from atmospheric processes in the national level in order to notify state authorities to take protective measures from these risks.

Teaching and learning methods: Lecture, practical, working groups, seminars, consultations, Landlocked interactive, student presentations, etc.

Concretization tools/IT: Work in the laboratories of meteorology at the Faculty of Agriculture and Veterinary, exploitation of the hydro laboratories.

Evaluation methods and passing criteria: Percentage of each rating designates partial or intermediary that defines assessment. The first rating: 30%. The second evaluation; 25%. Homework or other commitments 10%. Regular attendance 5%. Final Exam 30%. Total 100%.

Basic literature:

1. Mandili, T, Tili, agricultural I.Meteorologjia fakultetine Agronomy part I and II in 2009 Tirana
2.Tahirsylaj, S: (Physics with Agrometeorologji Paper, 2012)
3.Zorba, P (Klimatogjeografia-Tirana, 2006
4.Tahirsylaj, S: (Practicum of Meteorology, 2010)
5.Tahirsylaj, S: (meteorology and numerical exercises agrometeorologji Paper, 2012)

Additional literature:

1. Asha (Climate of Albania, Tirana 1978) WMO (WMO) Atlas clouds part I, II CD

PROBABILITY AND STATISTICS

Content: The subject concentrates on the achievement of knowledge from the field of Statistics and Probability theory which can be used to facilitate the knowledge from other subjects and can be applied in solving problems from the field of environmental engineering. It introduces concept of the sample space. Classical, Geometrical and Axiomatic definicion of Probability. Proofs of the elementary formulas of probability, the formula of the total propability and the Bayes formula. Probability distribution laws. Some important Probability distribution laws which are used in environmental 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 environmental engineering.

Objectives and learning outcomes: At the end of this course students will be able to use and to understand concepts of Mathematical Statistics with the aim to apply this knowledge as an aide in other subjects which use statistics as well as in solving practical problems from the field of environmental engineering. Upon the completion of this subject students will: 1. Obtain theoretical knowledge from the content of the subject Statistics and numerical methods for students of Environmental engineering. 2. Know different methods for solving problems from the field of Engineering by using known concepts of statistics and probability. 3. Gain knowledge and get accustomed to use efficient methods in solving different problems from the field of Environmental engineering. 4. 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 environmental 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: First assessment 20%. Second Assessment 20%. Attendance 5%. Activities during lectures and exercises 10%. Final exam 45%. Total 100%.

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

Report between theory and practice:

Theoretical part	Practical part
40 %	60 %

Basic 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

BUILDING MATERIALS

Content: 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, Gypsum, Concrete, Metals, Wood and other materials. Laboratory examinations of properties of materials and apply those materials with adequate properties requested for different positions of structures. 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, etc.

Ratio between theory and practice:

Theoretical part	Practical part
60 %	40 %

Basic literature:

1. N.Kabashi, Materialet Ndertimore I,(ligjerata 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

HYDROLOGY

Content: Water balance elements analyse, Precipitation, Flows, Evapotranspiraion, Hydrometry, Correlative relation, Hydrological Prediction.

Objectives and learning outcomes: Basic of Hydrology. Learning outcomes: To know hydrological measurement equipment, to select measurement equipment and methods, to select methods of data estimation, and to process hydrological data for determined problems.

Teaching and learning methods: Regular learning , group work

Ratio between theory and practice:

Theoretical part	Practical part
60 %	40 %

Basic literature:

1. Dr. Naim Hasani: Lecturers and exercise from Hydrology
2. B. Shehu dhe K. Karanxha: Engineering Hydrology I, edited in Tirana
3. Maniak: Hydrologie und Wasserwirtschaft

SOIL MECHANICS

Content: Research of soil from the ground surface, "In situ" tests. Phases of soil material, porosity of soil, specific gravity, humidity and soil consistency, Compaction of soil, laboratory and field testing. Permeability of soils, laboratory testing of koefficinet of filtration of soil in laboratory and field. Resistance of soil to slip. Compressibility of soil. The distribution of stress in the soil, Boussinesqut equations, methods of Newmarkut and Steinbrenner. Consolidation of soils.Slope stability. Earth pressures on walls. Bearing capacity of soils.

Objectives and learning outcomes: Aims and expected outcomes of learning: Upon completion of lectures of this course students will better understand the fundamental principles of soil mechanics, will be able to perform the examinations laboratory and field tests, interpretation of laboratory data reviews and field tests. Wield application of physico-mechanical engineering and soil engineering properies in practice, to recognize all the methods of calculating the analysis of stability, compile geomechanical program reviews for geoelaboration of the respective object construction.

Teaching and learning methods: The course is offered on a regular basis with the theory and the numerical and laboratory exercises. Also, the course foresees exercises and development of homework tasks that will be part of the final evaluation of the student.

Evaluation methods and passing criteria: Assessment through two evaluative tests that the first test 40%, second test 40%, 20% of homework tasks. Final exam.

Concretization tools / IT: projector, computer, tables, notebooks, markers.

Ratio between theory and practice:

Theoretical part	Practical part
70%	30 %

Basic literature:

1. Kadiri, Q. – Soil mechanics, Authorized lectures,
2. Das, B. : Geotechnical Engimneering,
3. Ahmedi, F. : - Mekanika e dherave

URBAN WATER MANAGEMENT

Content: Introduction to urban water management. Water characteristics and water quality. Requirement of drinking water, production and drinking water supply. Wastewater and pollutants. Urban drainage and wastewater treatment. Planning of urban water infrastructure.

Objectives and learning outcomes: to provide basic knowledge of water supply, sewerage and water treatmnet, as urban water management topics. After the course, students will be able: to assess water quality refering to water constituents; to plann for water treatment processes; to determine water quantities for different water users; to plann the infrastructure of water supply and sewerage.

Teaching and learning methods: Regular teaching in form of lectures and excersises. Also, home work assignments will be carried out by students.

Evaluation methods and passing criteria: Evaluation will be carried out thorugh tests. First test 35% , the second test 35%, and the homewrok assignement 30%. Participation in border line cases. Final exam.

Concretisation tools/IT: projector, computer, marker, blackboard, whiteboard.

Ratio between theory and practice:

Theoretical part	Practical part
60 %	40 %

Basic literature:

1. Ahmedi, F., Lecture notes given by the lecturer
2. Jahic. M., Urbani Vodovodni Sistemi. Sarajevo, 1988.
3. Metcalf & Eddy, Inc. Wastewater Engineering: Treatment and Reuse. 4th ed, McGraw Hill, Inc., New York, 2003
4. Daka. S., Furnizimi me ujw, 2007
5. Butler. D., Davies. J. Urban Drainage, 2000

CARTOGRAPHY

Content:: The course starts with Cartography as sciences and its relationship to other sciences, then given the short history of carttography, continous with mathematical basis of maps with special focus on map scale, coordinate systems, map projections, process of map compilation, to be continued with the introduction of geographical map elements, modeling and symbolizing, map generalization, contemperary trends for automation of mapping methods, thematic mapping and cartometry.

Objectives and learning outcomes: Among this course students will receive basic theoretical and opractical knowledge for cartography and scientific discipline, begining with introduction of its besic elements, its categorization in sub disciplines, mathematical and geodetical basis of maps, tiling systems, koordinate systems, basic knowledge for globe and atlases, compilation methods, map generalization, contemperary digital methods, compilation of thematic maps and map measurnements. Recognition of the mathematical map elements, mapping methods and standards for mapping of the geographical information will help students to get basic knowledge on the use and compilation of maps.

Teaching and learnign methods: Lectures with presentations and practical demonstration of maps; Numerical excercises; Semester seminar with concrete liabilities; Map compilation as individual semestral work; Semestral essay on specific theme; Discusions during lectures; Group excercises.

Evaluation methods and passing criteria: Evaluations of presence 10%, seminar work 10%, individual work 10%, ESSAY 10%, two midterm evaluations per 30%, final exam for students which have not pass the exam from midterm evaluations 60% (written test form an oral)

Concretization tools/IT: video projector; computer; plotter, scanner, laboratory with computers, GIS and mapping software, etc.

Ratio between theory and practice:

Theoretical part	Practical part
100 %	0 %

Basic literature:

1. Idrizi B.: Përpilimi i hartave dhe përgjithësimi hartografik, Shkup 2006.
2. Idrizi B.: Hartografi, Shkup 2006.
3. Terry A.: Thematic cartography and geovisualization, Prentice, 3rd edition, 2008.

AIR POLLUTION CONTROLL

Content: This course allows students the acquisition of theoretical and practical knowledge of air pollutants coming from emission processes emissions, road traffic, air traffic and other contaminants, monitoring of air quality at national level, expanding the scale network for monitoring air quality at the local level and national level, monitoring of carbon monoxide, carbon dioxide, sulfur dioxide, nitrogen oxides, heavy metals, particulate matter with diameter aerodynamic less than 10 milimikron PM2.5 and PM10 chemistry total, systematic dust analyzer and monitoring for each pollutant, monitoring of meteorological elements and phenomena substrate to monitor air analysis, use and calibration of air quality in national level, the laboratory work for the determination of contaminants in samples taken from monitoring networks around the country where there is presence of enormous contamination or pollution hot spots. Applying the scientific and technical achievements by appropriate disciplines in the monitoring of air quality. Prepared quality monitoring and analysis of monitored parameters in order to create the database for air quality at national level with the aim of properly informing the citizens to the contamination level of the country as well as the fulfillment of legal obligations arising from international conventions to monitor air quality and reporting methods in state and international levels IJONET.

Objectives and learning outcomes: Understanding the physic-chemical, meteorological, climatologically and complex interactions within the system of monitoring of air quality in the country .Creating a database monitoring the networks where responsible for monitoring of the air quality monitoring process of the Emission and Imission. Controlling the air quality in closed facilities such as factories and other local schools. After completing this course (course) the student will be able to: 1.Be independent in his work for the analysis of all parameters to monitor air quality by monitoring the network of air quality on national level. Dispersion by air pollution and wind rose at a national level. 2.To acquire basic knowledge about the application of modern methods of system monitoring air quality through physical and chemical analyzes and using analyzers in the laboratory. 3.To gain knowledge for calibration and maintenance of metering device and the analysis in laboratories that deal and are certifiable for physic chemical analysis of air quality.

Teaching and learning methods: Lecture, practical, working groups, seminars, consultations, Landlocked interactive, student presentations, etc.

Concretization tools/IT: Utilization of laboratories, network monitoring air quality certified (accredited) for analysis of air quality at national level).

Evaluation methods and passing criteria: Percentage of each rating designates partial or intermediary that defines assessment. The first rating: 30%. The second evaluation; 25%. Homework or other commitments 10%. Regular attendance 5%. Final Exam 30%. Total 100%
Basic literature:

1.GRUPP environmental 1.Kimia authors FSHMN Tirana 2010
2.PU 2.MM and air quality monitoring urban Tirana 2007
3.Academic environment 3.Kimija N.Daci 2005
Additional literature:
1.Basis IHMK data of air quality Environmental
2.Raportet hydro and Kepa

THE ENVIRONMENTAL PROTECTION LAW

Content: Object and tasks in construction legislation. The concept of environmental law. Ethical Basis of Environmental Law. International Legislation in the field of Environmental Protection and their harmonization with local laws and regulations. Principles of Environmental Protection. Constitution. National regulations for environmental protection: Environmental Protection Law. Draft regulations for environmental protection. Interpretation of the legislation. Strategies and action plans for environmental protection, mandatory and optional instruments for environmental protection. Strategic assessment of the environmental impact. Administration of Environmental Protection. Legal aspects of environmental inspections. Administrative procedures as a way of exercising the right (general procedures and specific). Information and public participation as a legal obligation to protect the environment. Legal aspects of environmental protection. Methodology for the development of environmental impact studies, Evaluation of the Implementation process of Environmental Impact. Responsibilities for environmental damages. Laws and norms of the European Community for industrial pollution control. Environmental licenses. Economic instruments for environmental protection as administrative instruments of protection. Understanding the legal framework for environmental protection. Environmental legislation in Kosovo.

Objectives and learning outcomes: Knowing the legal aspects of environmental protection as an important determinant of the environment so that students have sufficient knowledge about the legislation in the field of environmental engineering. On completion of the module students become acquainted with the role of law and government on environmental issues. After an introduction to legislation, regulation, and the courts, students will learn the framework of environmental protection and resource management.

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% and seminar 10%. Oral exam 20%

Concretization tools/IT: projector, computer, table, marker, modeling samples etc

Ratio between theory and practice:

Theoretical part	Practical part
80%	20%

Basic literature:

1. MMPH. 2013. Environmental legislation in Kosovo. Prishtinë
2. Sloep, P. , Blowers, A. (ur.) 1995; Environmental Policy in an International Context (1 and 2), Arnold, London,
3. Glasson, J., Therivel. R., Chadwick A., 2005. Introduction to environmental impact assessment, Routledge,
4. Morris, Peter, 2001. Methods of Environmental Impact Assessment. Second Edition. Routledge. 416 pages
5. Singh R. K., Murty, H.R.; Gupta S. K.., Dikshit A. K., 2009. An overview of sustainability assessment methodologies, Ecological indicators

ENVIRONMENTAL DATA ANALYSES

Content: Subject of this course includes: acquisition and processing of environmental information focusing on several areas such as air and water pollution, sediment analyzes, microbiology, etc. Analysis and interpretation of real-time and historical environmental data. Use of computers for analysis and display, assessment of spatial and temporal variability. Basic principles of statistics and GIS. Use of MS Excel software with Statplus and SPSS software. Methods of time series data analyses, including probability and statistics, correlation, sampling and coherence.

Objectives and learning outcomes: this course is designed to give students the knowledge and practical experience they need to interpret lab and field data. The objective of the course is to provide the students with a basic knowledge of probabilistic and statistical methods to analyze some phenomena, with an emphasis on several environmental data study. After the completion of the course, students will: have knowledge how to deal with environmental data; be able to use statistical treatment tests; be able to apply the statistical packages to data set; be able to evaluate project based on data treatment.

Teaching and learning methods: lecture, excercise, presentation.

Evaluation methods and passing criteria: Home-work, tests, final exam.

Ratio between theory and practice:

Theoretical part	Practical part
60%	40%

Basic literature:

1. Statistical procedures for analysis of environmental monitoring data & risk assesment, McBean E.A., Rovers, F.A., Printece Hall PTR, 1998

SOLID WASTE MANAGEMENT

Content: Organizing sustainable and efficient solid waste management system. Development of new technologies, techniques and modern management, GIS, midterm and long term planning. Land- filling, recycling and re-using of solid waste. Sorting of solid waste management. Industrial/business, agriculture, hazardous, radioactive and domestic waste. EU standards and directives. Local and Regional action plan for solid waste management.

Objectives and learning outcomes: Candidates will receive sufficient knowledge regarding the analysis, planning, and sustainable management of solid waste. They will be prepared to identify appropriate methods of technologies and techniques for reducing and re-using of solid waste. Candidates will be equipped with knowledge regarding the evaluation and prevention from waste pollution. They will be guided how to implement laws, standards and directives of EU related to solid waste.

Teaching and learning methods: Lectures, individual and seminary work. Practical work and visits to waste companies and sanitary landfills.

Evaluation methods and passing criteria: evaluation by presence and activity 10%, testing or first pre-exams 30%, testing or second pre-exams 30%, elaborate work or semester- review work 30%. Writing exam

Concretization tools/ IT: projector, computers, table, workbooks, markers etc

Ratio between theory and practice:

Theoretical part	Practical part
60 %	40 %

Basic literature:

1. Handbook of Solid Waste Management by, George Tchobanoglous, Frank Kreith
2. Municipal Solid Waste Management, by: Ludwig Christian, Hellweg Stefanie
3. Integrated Solid waste management A Life cycle inventory, by Forbes McDougall

WASTEWATER TREATMENT TECHNOLOGIES

Content: Basic water properties and water quality characteristsics. Material balance, reactions and recators. Water and wastewater quality standards. Drinking water treatment. Wastewater treatment. Factors of concern to water treatment plants design.

Objectives and learning outcomes: Increase in demand for healthy environment in our country, imposes the need for the construction of water and wastewater treatment plants. Thus, the course aims to provide to students the basic knowledge in the field: by analyzing water treatment processes and their appropriate application. After the course, students will be able: to describe the fundamentals of water quality; to categorize the water quality referring to water standards; to describe and select the right processes of water treatment; to scheme the water treatment systems.

Teaching and learning methods: Regular teaching in form of lectures and excersises. Also, home work assignments will be carried out by students.

Evaluation methods and passing criteria: Evaluation will be carried out thorugh tests. First test 35% , the second test 35%, and the homewrok assignement 30%. Participation in border line cases. Final exam.

Concretisation tools/IT: projector, computer, marker, blackboard, whiteboard.

Ratio between theory and practice:

Theoretical part	Practical part
60 %	40 %

Basic literature:

1. Ahmedi, F., Teknologjitë e Trajtimit të Ujërave Crittenden, J., Montgomery, W. H. Water Treatment Principles and Design. 2nd ed, MWH,Canada, 2005
2. Metcalf & Eddy, Inc. Wastewater Engineering: Treatment and Reuse. 4th ed, McGraw Hill, Inc., New York, 2003
3. Qasim, S. R. Wastewater Treatment Plants: Planing, Design and Operation. 2nd ed, CRC, Texas, 1999

PROTECTION AND IMPROVEMENT OF SOILS

Content: Research of the soils from the surface of the terrain, "in situ" tests. Phases of soil material, porosity of soil. Methods of soil reinforcement, mechanical reinforcement of soil-mechanical compaction method, deep compression, lime strengthening, cement strengthening, fly ash strengthening, soil-chemical strengthening method with RRP, soil improvement by Geosynthetic-geotextile material, geogrids, geomembranes, etc.

Objectives and learning outcomes: On completion of this course of lectures students will better understand the fundamental principles of soil improvement methods, will be able to perform the laboratory examinations and field tests, interpretation of data reviews of laboratory and field tests. Recognize and execute in the field of soil stabilization with lime, cement, flay ash, the application of chemical material in soil stabilization, Knowledge of geosynthetic materials and their application in improving weak layers.

Teaching and learning methods: The course is offered on a regular basis with the theory and the numerical and laboratory exercises. Also, the course foresees exercises and development of homework tasks that will be part of the final evaluation of the student.

Evaluation methods and passing criteria: Assessment through two evaluative tests that the first test 40%, second test 40%, 20% of homework tasks. Final exam.

Concretization tools/IT: projector, computer, tables, notebooks, markers.

Ratio between theory and practice:

Theoretical part	Practical part
70%	30 %

Basic literature:

1. Kadiri, Q. – Methods of soil improvement, Authorized lectures,
2. Das, B. : Geotechnical Engimneering,
3. Ahmedi, F. : - Mekanika e dherave

ENVIRONMENTAL IMPACT ASSESSMENT

Content: Impact of development projects under Civil Engineering on Environment - Environmental Impact Assessment(EIA). Kosovo laws on Environmental Impact Assessment. European Union directives on EIAs. Methods of EIA –Check lists – Matrices – Networks – Cost-benefit analysis – Analysis of alternatives – Case studies. Assessment of Impact on land, water and air, noise, social, cultural flora and fauna; Mathematical models; public participation – Rapid EIA. Plan for mitigation of adverse impact on environment – options for mitigation of impact on water, air and land, flora and fauna; addressing the issues related to the Project Affected People. Case Studies of EIA for infrastructure projects – Bridges – Stadium – Highways – Dams – Multi – Storey Buildings – Water Supply and Drainage Projects.

Objectives and learning outcomes: Aim of the Course. EIAs is the first step in the Kosovo National Environmental Policy Act to help evaluate the environmental acceptability of projects under consideration. The technique involves an amalgamation of studies based on predetermined approaches. In other words, EIA is the evaluation of the effects likely to arise from a major project or other action significantly affecting the natural and man-made environment. Environmental assessment techniques can help both developers and public authorities with environmental responsibilities to identify likely effects at an early stage, and thus to improve the quality of both project planning and decision-making. The course introduces the procedures of Environmental Impact Assessment (EIA). It focuses on the study of human impacts on the environment and the ways of evaluation of the importance and significance of these impacts and of regulation of their effect.

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, modeling samples etc

Ratio between theory and practice:

Theoretical part	Practical part
60%	40%

Basic literature:

1. MMPH. 2013. Environmental legislation in Kosovo. Prishtinë
2. Sloep, P. , Blowers, A. (ur.) 1995; Environmental Policy in an International Context (1 and 2), Arnold, London,
3. Glasson, J., Therivel. R., Chadwick A., 2005. Introduction to environmental impact assessment, Routledge,
4. Morris, Peter, 2001. Methods of Environmental Impact Assessment. Second Edition. Routledge. 416 pages
5. Singh R. K., Murty, H.R.; Gupta S. K.., Dikshit A. K., 2009. An overview of sustainability assessment methodologies, Ecological indicators

ENERGY AND ENVIRONMENT

Content: recognition of basic principles of science to the process of energy and environment, such as potential and kinetic energy; thermodynamics – first and second law; energy transformation, including radiation, transfer and transformation; mechanical principles of heating and cooling; fuel sources, batteries, solar panels; basic concept of atomic energy; plant energy; scientific principles of wind, biomass, water-tides, geothermal and solar energy. Systems engineering technology for acquisition, processing and use of energy, including fossil fuels coal, natural gas and uranium as power generation and electricity distribution network; use of oil transportation; Alternative energy systems and their limits; basic knowledge of heating, air conditioning (HVAC) and cooling system, also in the light of public and residential buildings; basic knowledge of the control system. Social and environmental consequences of fossil fuels, including the greenhouse effect and global warming, acid rains, catastrophes by deposits of radioactive waste; pollution from traffic, urban extensions; and socio-economic differences in energy and its transportation services. Economic policies and issues of public policy for the use of energy resources. Comparison of alternative models of automotive communication with using public transport, fast trains and pedestrian mobility.

Objectives and learning outcomes: The course aims to introduce the multidisciplinary field of energy and environment. Upon completion of this course, the student / wife will be able to recognize, understand, apply and discuss the basic concepts and principles of interconnection of energy and environment.

Evaluation methods and passing criteria: 10% attendance, 25% first test, 25% second test, 10% homework and 30% final (written) exam.

Concretization tools /IT: projector, computer, tables, markers.

Ration between theory and practice:

Theoretical part	Practical part
60 %	40 %

Basic literature:

1. Energy: Its Use and the Environment, Fourth edition, Thompson Learning, 2005.
2. Hubbert's Peak: The Impending World Oil Shortage, Princeton, Princeton

PROJECT MANAGEMENT

Content: Basic principles of management: what is the management, who are managers. Development of the management, management development, management functions. Working persistance; definition of Determination, the problems and errors in decision making, styles and ways of putting the decision-making methods, 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, styles and modes of leadership, leadership, motivation, communication working determination, attitude to work. Control of working processes: financial control of construction project.

Objectives and learning outcomes: After the course, student will be able to know, understand, and use basic concepts of general management, as well as the main principles to organize and manage works of projects, in order to easly withstand difficulties during and after the studies.

Teaching and learning methods: Lecture, seminars (individualy or in group)

Ratio between theory and practice:

Theoretical part	Practical part
80%	20%

Basic literature:

1. Menadžent za inzenjere, Mariza Katavic, Sveučilište u Zagrebu, Gradevinski Fakuletet, Zagreb 2006.

Proposed lietarture:

1. Management for the Construction Industry, Stephen Lavender, Longman and The Chartered Institute of Building, Eseex, England 1996.

FLOOD PROTECTION

Content: Introduction, streams and their damages. Increasing benefits from streams and reducing damages caused by them. Resiliance measures for flood mitigation in inland waters.Construction principles and hydraulic design of retention measure in nature and urban environment. Principles of technical flood defence systems, dikes and walls, mobile abatement systems, inland drainage. Consideration of nature and cultural heritage in flood defence measures. Effectiveness of flood mitigation measures.

Objectives and learning outcomes: Student will gain knowledge on the methods and concepts of flood risk management at rivers and will be familiar with the basic knowledge of designing flood defence structures. By the end of the lectures, students should be familiarized with the techniques for small streams regulation and evaluation of flood risk areas and with methods of non structural flood mitigation measures.

Teaching and learning methods: Regular teaching in form of group lectures and excersises. 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 also 40% and homework assignment 20% of the final grade. Final Exam.

Concretisation tools/IT: projector, computer, board,

Ratio between theory and practice:

Theoretical part	Practical part
70%	30%

Basic literature:

1. Kusari, L., Lecture notes given by the lecturer;
2. Blazejewski, R.,et al., River Training Techniques: Fundamentals, Design and Applications. Published by A. A. Balkema, Netherlands, 1997.
3. Jansen, P. Ph. et al., Priciples of River Engineering - the non Tidal Alluvial River. Published by Pitman Publishing Limited, London.

ON-SITE DECENTRALIZED WASTEWATER MANAGEMENT SYSTEMS

Content: Constituents in wastewater, sources and average flowrates. Wastewater pretreatment processes. Alternative wastewater collection systems. Biological treatment. Single-pass and multi-pass packed filters. Effluent disposal for on-site decentralized systems. Biosolids and septage management. Management of on-site decentralized wastewater systems.

Objectives and learning outcomes: to present the importance of on-site decentralized systems, where complete sewerage of the country may not be possible or desirable; to demonstrate the types of on-site decentralized systems; to provide managemet concepts of on-site decentralized systems. After the course, students will be able: to reflect the reason of the use of on-site decentralized system; to distinguish types of on-site decentralized systems; to interpret and chosse management steps of on-site systems.

Teaching and learning methods: Regular teaching in form of lectures and excersises. Also, home work assignments will be carried out by students.

Evaluation methods and passing criteria: Evaluation will be carried out thorugh tests. First test 35% , the second test 35%, and the homewrok assignement 30%. Participation in border line cases. Final exam.

Concretisation tools/IT: projector, computer, marker, blackboard, whiteboard.

Ratio between theory and practice:

Theoretical part	Practical part
60 %	40 %

Basic literature:

1. Ahmedi, F., Lecture notes given by the lecturer
2. Crites, R., Tchobanoglous, G. Small and Decentralized Wastewater Management Systems, McGraw-Hill, 1998
3. US EPA. Onsite Wastewater Treatemnt Systems Manual, 2002
4. Metcalf & Eddy, Inc. Wastewater Engineering: Treatment and Reuse. 4th ed, McGraw Hill, Inc., New York, 2003

IMPACT OF URBAN PLANING IN ENVIRONEMENT

Content: Urban Planning and opinions of the editors of Sustainable Facilities (UP & AQ) provides an overview of contemporary practice ordered the compiling dhe ordered built environmental planning for sustainable development. The concepts of sustainable urban development . The physical development of cities affected by gamma and complexed and inter-dependent opinions of the editors of Social factors, ecological, economic, political, and opinion editors. Specific ways we ordered spatial expression characteristics of urbanization aordered the implications ordered two approaches, as only dhe as multi-dimensional sustainable development. Issues, concepts and opinions of the editors approaches PU & AQ ordered study, closely related to those covered in the policy ordered by Urban Development.

Objecives and learning outcomes: To explore the concepts of sustainability and urban planning tools to use and achieve sustainable urban development; To provide an understanding of the relationships between different urban sectors, such as infrastructure with other systems of built environment and ecological systems. To assess the role of urban planners who promote social issues, economic and environmentally sustainable development, and to enhance listening, observation, critical thinking, communication, and cooperation.

Teaching and learning methods: lecture, seminar, individual work and study visit.

Evaluation methods and passing criteria: 10% attendance, 25% first test, 25% second test, 10% homework and 30% final (written) exam.

Concretization tools /IT: projector, computer, tables, markers.

Ratio between theory and practice:

Theoretical Part	Practical part
60 %	40 %

Basic literature:

1. Antonia Layard, Simin Davoudi and Susan Batty: Planning for a sustainable future, SPON Press, First Edition, 2001
2. Patsy Healey, Abdul Khakee, Alain Motte, Barrie Needham: Making Strategic Spatial Plans-Inovation in Europe, Taylor &Francis, 2006

GIS IN ENVIRONMENT

Contnet: Application of Geographic Information Systems to studies of the natural environment. This course includes: Definition of GIS, history and development of GIS; GIS components, fields of application; Nature and source of geographic data; Maps and their historical development; Digitizing basic map line work, map projections, creating geodatabase files, feature classes; Geoprocessing (overlays) in ArcGIS; Creation and analysis of Digital Elevation Model.

Objectives and learning outcomes: Main goal of this course is to develop advanced knowledge on basic GIS concepts and its application on environmental problems. By the end of this course, the student will digitize several maps and add data, such as geology polygons or Digital Elevation Models (DEM's), to the base maps. Three-dimensional surface modeling will be used as a visual aid. The student will be familiar with concepts and techniques used in all geographic information systems (GIS). Map projections and coordinate systems will be covered in detail.

Teaching and learning methods: Ligjërata te avancuara, diskutime, pune te pavarur, pune ne grupe, prezantime.

Evaluation methods and passing criteria; Colloquium 1 10%; Colloqium 2 10%; Homeworks 5%, Attendace 20%, Final exam 55%.

Concretization tools/IT: video projector, laptop, blackboard

Ratio between theory and practice:

Theoretical part	Practical part
100%	0%

Basic literature:

1. Ian H.: An Introduction to Geographical Information Systems, Fourth Edition, 2012
2. Robert S.: GIS for environmental management, 2006
3. An Introduction to the Theory of Spatial Object for GIS, Taylor & Francis Ltd, London, Molenaar, M (1998)

APPLYED THE POLYMER MATERIALS IN ENVIROMENTAL ENGINEERING

Content: Basic knowledge on Polymer Materials, Properties of Polymer Materials. Types of Polymers and applied in construction elements. Concrete Polymers, properties and comparable with common concrete. Applied the polymer Materials in stabilizations of slops and reinforcement. Geo grids and Geo textiles in environmental engineering.

Objectives and learning outcomes: - To inform the students with Polymer Materials and the properties of those materials. To present the data on applications of those materials, advantages of Polymer Materials comparable with conventional materials. To know the properties of polymer materials and properties of different types of polymers. To have knowledge to apply the polymers in different position according the request design. To have ability in determination the properties in laboratory examinations. To know to compare the applying the Polymers and to replace the conventional materials. To lead the construction company in properly using the polymers in environmental engineering.

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 literature:

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

HYDROGEOLOGY

Content: Hydrogeology and its development (scope, and importance of hydrogeological studies). Water Balance (water in the atmosphere, Earth's surface and underground). Water in the Earth's crust (kind of water on the rocks, hydrogeological properties of rocks). Classification of groundwater. Subsurface movement and vertical distribution of groundwater, Springs, Classification of aquifers, Concepts of drainage basin and groundwater basin. hydrological properties of rocks – specific yield, specific retention, porosity, hydraulic conductivity, transmissivity, storage coefficient, water table fluctuations – causative factors, concept of barometric and tidal efficiencies, water table contour maps, Classification of rocks with respect to their water bearing characteristics, Hydro-stratigraphic units, Importance of hydro geochemical studies. Groundwater chemistry and their pollution problems. Search, discovery and exploitation of groundwater. Groundwater provinces of Kosova.

Objectives and learning outcomes: This course will present an overview of the parameters and mechanisms that control groundwater flow and solute transport. Standard methods used to model and predict groundwater flow will be introduced. Classic regional aquifer systems will be examined on a case-study basis. Hydrogeological science continues to evolve as new methods are developed and concerns regarding groundwater supply and quality increase. New techniques will be introduced and key aspects of contaminant hydrogeology introduced. The labs will include problem sets, laboratory measurements, computer modeling and fieldwork. These components will help provide an integrated overview of groundwater science. Student participation in the class will be actively encouraged.

Teaching and learning methods: Lectures -power point presentations, discussions; Working in groups, tests, seminars, field work etc

Evaluation methods ad 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, modeling samples etc

Ratio between theory and practice:

Theoretical part	Practical part
60%	40%

Basic literature:

1. Haki Dakolli, 2007. Hidrogjeologjia. Universiteti politeknik. Tiranë
2. Moor, J.E. 2002. Field Hydrogeology, Lewis publishers US,
3. A.E. KEHEW, 2006, 'Geology for Engineers & Environmental Scientists' 3rd Edition Prentice Hall, ISB
4. Hamblin, W.K, and Christiannsen, E.H, 2004. Earth’s Dynamic systems, 10 th edition, Edition Prentice

CAD

Content: Short History of CAD's; Comparison of different CAD programs; AutoCAD's Interface, AutoCAD configuration program; Drawing with coordinates; Drawing Object Snap - Object Track; Navigation in the drawing (2, 3-Dimensional); Layer and parameters of line; Functions / Commands for drawing; Splines, commands for editing / modification; Text and tables; quotation; Working with blocks; Work with external references; Layout and plot; Third Dimension / 3D

Objectives and learning outcomes: Understanding the practice of the CAD program and advancement in the use of design drawing.

Teaching and learning methods: After completing this course / subject / student will be able to understand basic principles of CAD systems, work well with two-dimensional vector drawings or three-dimensional patterns in basic AutoCAD program.

Methods of evaluation and passing criteria: Assessing the presence of 5%; First Evaluation 35%; Second Evaluation 35%; Individual work 25%, final exam for those who have not passed the first and second evaluation.

Concretization tools/IT: Projector, laptop, white board.

Ratio between theory and practice:

Theoretical part	Practical part
40%	60%

Basic literature:

1. Ekrem Dragusha, "AutoCAD" Prishtine, 2012
2. Ramiz Berisha, "AutoCad", Prishtine, 2010
3. David Byrnes, "AutoCAD", John Wiley & Sons, 2011
4. Elliot Gindis, "Up and Running with AutoCAD", Elsevier Inc, 2012

GENERAL ECOLOGY

Content: The term environment and its compounds: the air, water soil and their pollution; Biodiversity and its risk. Threats and pressures: urbanism, noise, solid waste and chemicals, recycle – environmental dimensions. Human activity: energy, transport, industry, forestry and truism; Global challenge, climate changes, ozone layer weaknessing, acidification, impacts on material goods and on human health.

Objectives and learning outcomes: 1. To inform students, with basic environmental, chemical, physical and environmental geological terms. 2. To implement steps and criteria of environmental protection, during design, reconstruction, space using and work means using (natural-climatic, producing technologic, design urbanity, criteria, etc.). 3. To create new models of individual conduction to environment, to save it, as well as to actively participate, on solution of environmental problems, at local, regional and further level (think globally, act locally). 4. To collect and process relevant scientific data, from different sources, for actual environmental problems, at local and global level. 5. To explain human-environment relation (rural, urban, industrial), and list reasons of causing environmental crises, as well as solid waste management. 6. To implement urban environment principles, at human communities, kosovar environmental legislation as well as International convents on biodiversity, climate changes, etc.

Teaching and learning methods: Traditional lecturing, interactive learning with student in center, working groups, discussions, debates, etc.

Methods of evaluation and passing criteria: Traditionally, and after Bologna (intermediate evaluation)

Ratio between theory and practice:

Theoretical part	Practical part
100 %	0 %

Basic literature:

1. D.A.Rozhaja, M. Jablanovic: Pollution and living environmental protection, Prishtina
2. F. Halili, A. Gashi & H. Ibrahimi (2007): Ecology of poluted environments
3. Group of authors & Halili F. (2010) “Green pack”, Compound from field of environment education and sustainable development