UNIVERSITY OF PRISHTINA
"HASAN PRISHTINA"

FACULTY OF CIVIL ENGINEERING

DEPARTMENT OF ENVIRONMENTAL ENGINEERING- BSc.

(2019 – 2022)

1. A brief overview of the Program under evaluation: ENVIRONMENT ENGINEERING (BScEE)

Within the five Departments at the Faculty of Civil Engineering and Architecture, the Department of Environmental Engineering with the Bachelor degree program in Environmental Engineering (hereinafter BScEE) is included. Policies and procedures developed and approved for all programs by the Faculty of Civil Engineering and Architecture are also applicable to the BScEE study program. The teaching staff within the BScEE study program is qualified and experienced both in teaching and in the specific field for which they are engaged. As such, teachers contribute to teaching and learning in general, and in particular to motivate and reflect in the teaching process.

The opening of the BScEE study program is based on the following:

According to the National Science Program, which has identified five national scientific priorities in order to create conditions for the preparation of a systematic educational research program, "Natural Resources, Energy and the Environment" takes the first place among these five priorities. This is because the country is facing uncontrolled use of natural resources, large population density and the presence of high-impact economic activities in the environment. Therefore, especially the approach of unfair use of the environment in our country (facing interaction between human activities and their impact on natural resources, climate change, etc.) have resulted in offering the Program in Environmental Engineering (Bachelor level) at the Faculty of Civil Engineering and Architecture. This program is the first and only one of this field in the Higher Education Institutions in Kosovo and therefore plays an important role in the development of human capacities that will contribute to improving the environment.

Environmental sustainability is achieved when integrating scientific principles with technology to improve the environment so that water, air and healthy soil are provided as living components of the ecosystem for living beings as the ecosystem community. Since the Faculty of Civil Engineering and Architecture has an important role in building intellectual capacity in the field of construction and taking into account the need for a healthy environment for society through this program, our institution offers the potential for interdisciplinary cooperation and is in harmony with the current needs of the society towards a healthy environment. Future engineering, more than ever, has the potential to have a great impact on the environment. Therefore, it is more than necessary for engineers to cleverly manage the natural resources used for development as well as the remainders generated by this development.

2. STUDY PROGRAMS EVALUATION

2.1. ENVIRONMENTAL ENGINEERING (BScEE)

Name of the Institution:	University Of Prishtina "Hasan Prishtina"
Faculty/Department:	Faculty of Civil Engineering and Architecture
Main and/or Branch Campus:	Main Campus
Specify the Branch you are applying for:	-
Name of the Study Programme:	Environmental Engineering
Person in charge for the study programme:	Porf.Ass.Dr. Figene Ahmedi
Accreditation/Reaccreditation:	Reaccreditation
Level of qualification according to NQF:	Level VI
Academic degree or the name of Diploma:	(BSc) Bachelor in Civil Engineering-Study Programe: Environmental Engineering
ECTS:	180
Profile of the academic program (specialisation):	-
Erasmus Subject Area Codes (ESAC):	06.04 (Civil Engineering)
Form of studies:	Full Time
Minimum duration of studies:	3 years
Number of study places:	40
Permanent scientific/artistic personnel for the Study Programme (at least 3 PhD):	1. Prof.Ass.Dr. Figene Ahmedi, 2. Prof.Ass.Dr. Cenë Krasniqi, 3. Prof.Ass.Dr. Mimoza Dugolli

2.1.1. Mission, objectives and administration

The Environmental Engineering Department, with educational studying program of bachelor level (further as BscEE), is among five Departments within Faculty of Civil Engineering and Architecture. The compiled and designed politics and procedures for all other programs, of Faculty of Civil engineering and Architecture, are also applicable for studying programme BscEE. The teaching staff engaged in the BScEE study program, is qualified and experienced both in teaching and in the specific field for which they are engaged. As such, teachers contribute to teaching and learning in general and in motivating and reflection during the learning process.

The opening of the BScEE study program is based on the following reasonability.

According to the National Science Program, which has identified five national scientific priorities in order to create conditions for the preparation of systematic educational research program, the "Natural Resources, Energy and the Environment" takes the first place among five priorities. This is because the country is facing uncontrolled use of natural resources, large population density and the presence of high-impact economic activities in the environment. As a result, especially the approach of misuse of the environment in our country (facing interaction between human activities and their impact on natural resources, climate change, etc.) have made the Faculty of Civil Engineering and Architecture consider offering a program of new bachelor level study, the Environmental Engineering. This program, is the first and only one of this field in the Higher Education Institutions in Kosovo and therefore plays an important role in the development of human capacities that will contribute to environmental improvement.

Environmental sustainability is achieved when technology is integrated with scientific principles in order to improve the environment so that water, air and land are provided as living components of the ecosystem for living beings as the ecosystem community. Since the Faculty of Civil Engineering and Architecture has an important role in building intellectual capacity in the field of construction and considering the need for a healthy environment for society through this program, our institution offers the potential for interdisciplinary cooperation and it is in harmony with the current needs of the society for a healthy environment. Future engineering, more than ever, has the potential to have a great impact on the environment. Therefore, it is more than necessary for engineers to intelligently manage the natural resources used for development and the waste generated by this development.

The mission of BScEE study program complies with the overall mission statement of the Faculty of Civil Engineering and Architecture. The program is oriented to teaching, ongoing scientific research and the provision of a program designed to meet the three main goals of the program. The BScEE study program has a well-defined didactic and research concept. All staff and students of the BScEE study program are in compliance with internal policies related to ethical behavior in teaching, research and assessment in all academic and administrative activities.

The program aims to achieve these three main goals: 1. Educate generations of environmental engineers in order to address the challenges related to the field of environmental engineering; 2. Create, develop and disseminate new knowledge; 3. Play a leading role in offering interdisciplinary education in order to solve the problems that society faces. In fact, the strategy of the Faculty of Civil Engineering and Architecture (FCEA) regarding the study structure and study program is to provide clear education by creating conditions: to be open to new ideas, creativity, committed to learning throughout life and to being sustainable. The BScEE study program is geared towards fulfilling the overall goals of FCEA by providing materials with modern and up to date content that are flexible and easily adaptable to local, regional and global market demands.

BScEE study program within FCEA has administrative staff supporting the teaching staff, consisting of management and administration service, such as: Dean, Dean for Teaching Issues, Dean for Finance, Secretary, and Coordinator for Academic Developments, Student Service - Administration, IT service and technical service in laboratories. The FCEA's internal maintenance and security facilities, respectively the BScEE study program, are made by relevant, external and selected service companies at the University level.

2.1.1.1. SWOT analysis for mission, objectives and administration:

A. Strengths:

- Global interest in environmental protection.
- Educational objectives are based on the mentioned needs of the program and support the mission of the faculty.

- It is in harmony with current needs for a healthy environment.
- It aims the development of human capacities that will contribute to the preservation and improvement of the environment.
- Provides courses that are flexible and easily adaptable to local, regional and global market demands.

B. Weaknesses:

- Achieving the objectives of teaching and learning through activities that meet the needs of social and cultural life.
- Lack of potential employers in the field of environmental engineering.

C. Opportunities:

- Completion of teaching and learning objectives with volunteer activities.
- Creating a network of potential employers between FCEA and other relevant companies and institutions.

D. Threats:

- Creation of a management / administrative nucleus for the design of scientific and professional research projects at the local, regional and global level in the field of environmental engineering.
- Creation, provision of infrastructure funds and adequate laboratory equipment.
- Creation of new jobs for teachers, assistants and / or administrative servants.

2.1.2. Quality management

The Faculty of Civil Engineering and Architecture (FCEA) in cooperation with the teachers organize the teaching, exams and evaluations of the students. Through teaching and learning in the BScEE study program, faculty, staff and students are attracted to generate knowledge and develop policies, techniques and skills to help practitioners manage buildings and environmental resources.

To determine the quality of teaching and learning, as means of assessing knowledge, apply exams, colloquia, and seminar papers, including their interpretation and presentation, professional practice and practical exercises during exercises. These tools are used in order to evaluate how much each student has achieved the expected learning outcomes in each subject.

At a very basic level, student assessment in individual subjects refers to the level of successful transfer of desired knowledge. At a more general level, measurements, such as the percentage of attendance and the percentage of passing students in the exams also reflect the level of achievement of the program objectives.

The assessment of the quality of teachers, is done through internal self evaluation assessments, questionnaires and self-evaluation by the academic staff, (as required to be defined in the Evaluation Commission's Appointment Form for Academic Personnel, for employment in the

Higher Education Institution, including the evaluation of scientific works (https://www.uni-pr.edu/desk/inc/media/C15E46D5-5159-4E97-B8CB-D69734E39CA4.pdf).
Also, evaluation is done through anonymous students' questionnaires through the electronic student management system (SEMS), and a performance analysis is performed (analysis of learning progress and learning outcomes by comparing with the course syllabus).

Improvement and adaptation of the curricula contributes to the study review working group (current students, former students and study program supervisors), as well as cooperation with the FCEA working team that contains representatives of companies in market and faculty staff. Continuous improvement also takes place at the program level and at the individual subject level, also based on the external experts' recommendations for program evaluation.

2.1.2.1. SWOT analysis for quality management:

A. Strengths:
- Collegiality among teachers and good relationships student-faculty as well as a long tradition of education and mentoring.
- Appropriate teaching / student interaction during the teaching and learning process.
- Policies and techniques applied for assessment in teaching and learning.

B. Weaknesses:
- Insufficient information on internal evaluation data of the learning process.
- Insufficient information of academic staff for disseminating engagement between teaching, research and administrative work.
- Insufficient number of staffs for class exercises.

C. Opportunities:
- Collaboration with business, trade, industry, employer community to enable teachers to increase the quality of the curriculum in the context of labor market needs.

D. Threats:
- Provide the necessary staff up to the time of recruitment.
  Supplementing new jobs for teachers, assistants and / or administrative services that help in the demand for quality teaching and learning.

2.1.3. Academic staff

The BScEE study program counts thirty-seven teachers (professors and assistants). According to academic titles, the program counts nine regular professors (Prof.Dr.); Six Associate Professors (Prof.Asoc. Dr.); Seven Assistant Professors (Prof. Ass. Dr.); A Lecturer (Law Dr. Sc.); A Lector (Lector); and Thirteen Assists (Ass.). BScEE study program is also supported by teachers, of whom the environment issues are related to their field of research. The program includes teachers who are trained in teaching methods as well as on student assessment practices in the learning system. Also, some of the teachers engaged on teaching on this

program, are representatives and often, leaders of certain public institutions, at the country level.

The academic staff, ie the teacher, is available duly to provide support and advice to the student whenever they need it, in relation to the subject matter. The teacher provides students with text, basic literature, instructions for seminar papers, as well as other forms of teaching and learning within the course they develop. Other literature is offered as an additional literacy by the teacher for students who express interest in a more detailed study during their studies in the field of interest or life-long learning.

2.1.3.1. SWOT analysis for academic staff:

A. Strengths:
- Qualified teachers.
- Teachers, whose areas of interest are related to the environment.
- Teachers trained in teaching methods as well as on student assessment practices in the context of learning.
- Teachers involved in the program, formerly as representatives, often in the leading role in the public sector at the country level.

B. Weaknesses:
- Insufficient number of staff for exercises.
- Long burocratic procedures for temporary or periodic engagement of experts in the field of environmental engineering from the market, industry or civil society.

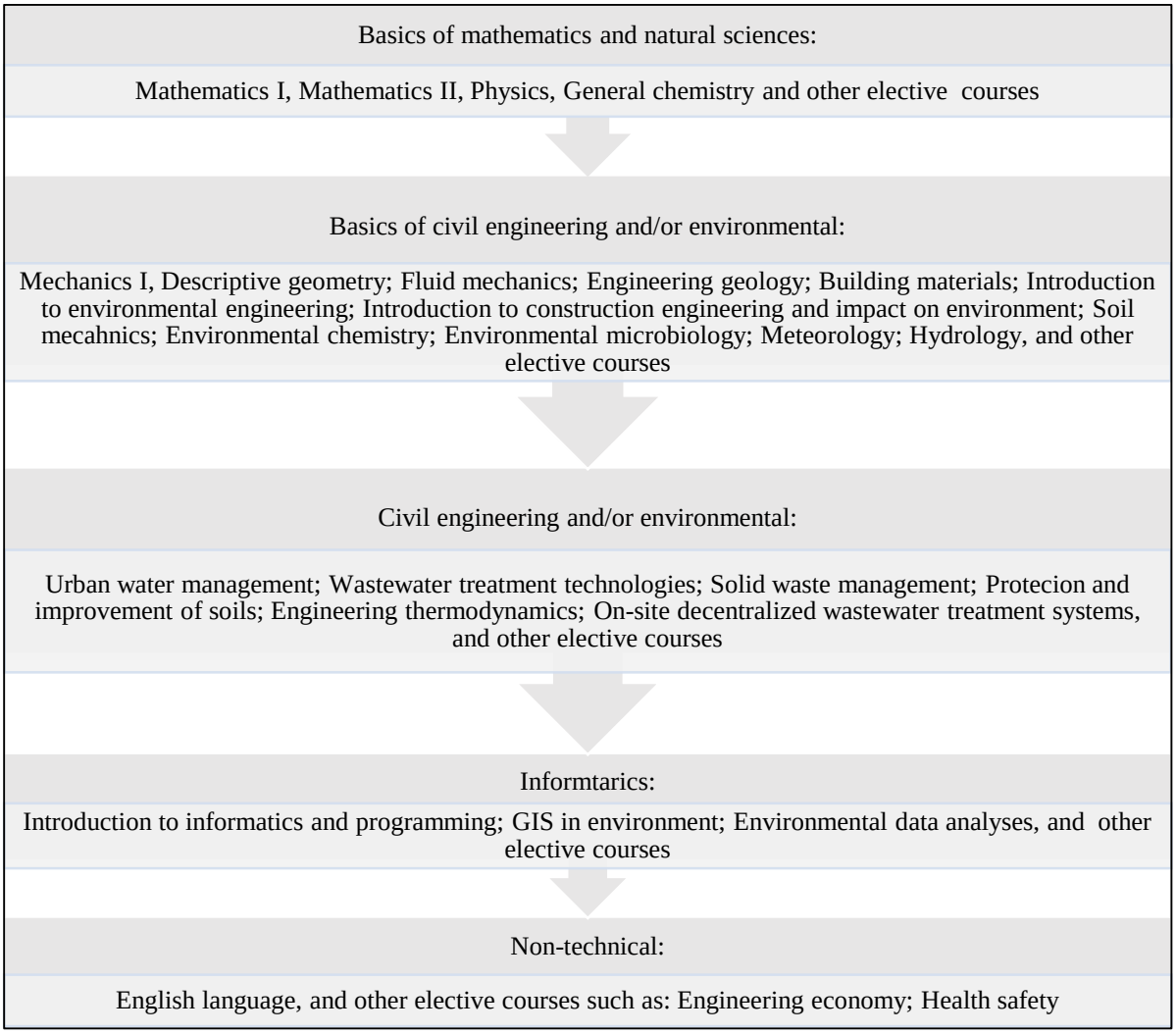
C. Opportunities:
- The market has sufficient potential of assistants who have the particular interest fields related to environmental engineering.
- Provide potential staff up to recruitment time.

D. Threats:
- Finding potential staff up to recruitment time.
- Ensuring institutional-financial support for academic enhancement and research staff activities.
- Preparations for the opening of a master's degree program with content of the field of environmental engineering.

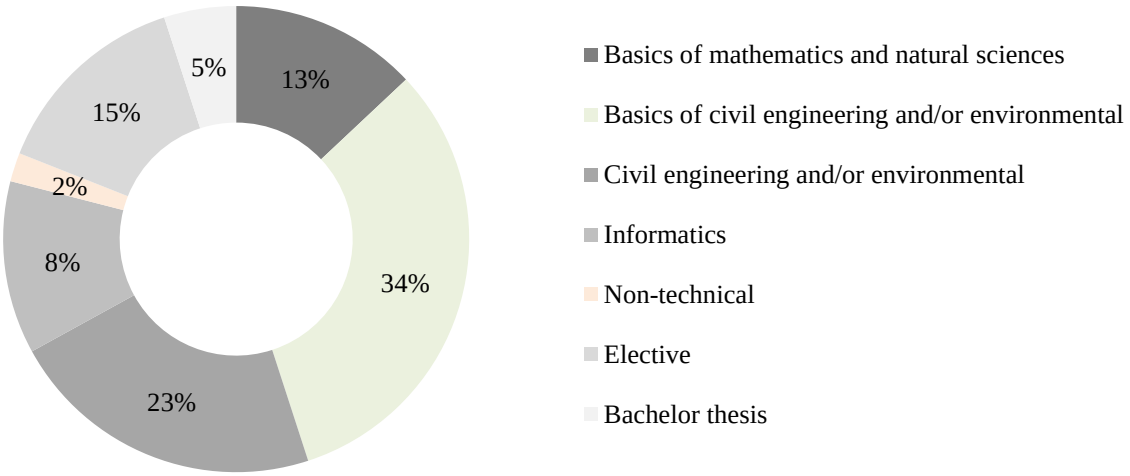
2.1.4. Educational process content

The Bachelor level Environmental Engineering Program (BScEE) goes beyond being only technical engineering. In this program, engineering and environmental engineering are not against each other, but they offer solutions together. BScEE study program combines a set of subjects (see the following charts) as: basic mathematical-natural subjects, basic engineering and environmental engineering. In the program, an important place is also the subjects that present synergies between engineering and the environment, contributing together as one in a

sustainable environment. The program also offers elective courses for additional knowledge from the same areas and non-technical areas. The English language is included in the program as important to the globally interconnected world for research and business. Computer Science provides computer support for storing, processing and analyzing large amounts of real-time environmental engineering data to keep up with technology developments.



Graph of group of subjects in the BscEE study program



Graph of percentage participation of a group of subjects in the program

The bachelor level of Environmental Engineering(BscEE) study program, is comparable to the Istanbul Technical University - Faculty of Engineering and the ETH Swiss Federal Institute of Technology Zurich - Civil, Environmental and Geomatic Engineering Department. As such, external program evaluators (see: Report of the expert team, 2015, on the file: /// C: /Users/Figene/Downloads/FR%20UP%20FNA%202015.pdf) have evaluated that"the courses were carefully selected and they correspond to modern curricula in Environmental Engineering". Studies in the BScEE study program are regular studies, lasting three years (six semesters) and contain 180 credits (ECTS), with 60 credits each year.

The overview of the BScEE study program

Year I						
Semester: I			**Hours/weeks**			
No.	**M/E**	**Subjects**	**L**	**E**	**ECTS**	**Lecturer**
1	M	Mathematics I	2	2	6	Prof. Dr. Fevzi Berisha
2	M	General chemistry	2	2	6	Prof. Dr. Selim Isufi
3	M	Physics	2	2	6	Prof. Dr. Rashit Maliqi
4	M	Introduction to environmental engineering	2	2	6	Prof. Ass.Dr. Mimoza Dugolli
5	M	Introduction to construction engineering and impact in environment	2	0	3	Prof. Ass. Dr. Hajdar Sadiku
6	M	English language	2	0	3	Osmon Osmani, lekt.
Total					30	
Semester: II						
No.	**M/E**	**Subjects**	**L**	**E**	**ECTS**	**Lecturer**

1	M	Mathematics II	2	2	6	Prof. Dr. Fevzi Berisha
2	M	Environmental chemistry	2	2	6	Prof. Dr. Selim Isufi
3	M	Mechanics I	2	2	6	Prof. Ass. Dr. Hajdar Sadiku
4	M	Descriptive geometry	2	2	6	Prof. Assoc. Dr. Arta Basha-Jakupi
5	M	Introduction to informatics and programming	2	2	6	Prof. Ass. Dr. Kadri Sylejmani
Total					30	

Note: The total credits number for a year is 60 ECTS.
From 11 mandatory subjects, 60 ECTS are gained.

Year II						
Semester: III			**Hours/weeks**			
No.	**M/E**	**Subjects**	**L**	**E**	**ECTS**	**Lecturer**
1	M	Engineering thermodynamics	2	2	6	Prof. Dr. Xhemajl Fejzullahu
2	M	Environmental microbiology	2	2	6	Prof. Dr. Idriz Vehapi
3	M	Buliding materials	2	2	6	Prof. Ass. Dr. Cenë Krasniqi
4	M	Engineering geology	2	1	3	Prof. Dr. Islam Fejza
5	M	Meteorology	2	1	3	Prof. Dr. Sylë Tahirsylaj
6	E	Health safety	2	0	3	Prof. Dr. Selvete Krasniqi
7	E	Engineering economy	2	0	3	Prof. Ass. Dr. Mimoza Dugolli
8	E	Probability and statistics	2	1	3	Prof. Dr. Fevzi Berisha
Total					30	
Semester: IV						
No.	**M/E**	**Subjects**	**L**	**E**	**ECTS**	**Lecturer**
1	M	Fluid mechanics	2	2	6	Prof. Assoc. Dr. Laura Kusari
2	M	Hydrology	2	2	6	Prof. Assoc. Dr. Naim Hasani
3	M	Soil mechanics	2	2	6	Prof. Ass. Dr. Qani Kadiri
4	M	Urban water management	2	2	6	Prof. Assoc. Dr. Figene Ahmedi

5	E	Landfill design	2	1	3	Prof. Ass. Dr. Qani Kadiri
6	E	Cartography	2	0	3	Prof. Ass. Dr. Bashkim Idrizi
7	E	Air pollution control	2	1	3	Prof. Assoc. Dr. Ferat Shala
8	E	Law on environmental protection	2	0	3	Prof. Ass. Dr. Mimoza Dugolli
Total					30	

Note: The total credits number for a year is 60 ECTS.

From 9 mandatory subjects, 48 ECTS are gained, and from 7 elective subjects, student should elect 4 subjects, respectively 12 ECTS.

After the subject is elected, it will be a mandatory and a student can't change the subject or a professor.

Year III						
Semester: V			**Hours/weeks**			
No.	**M/E**	**Subject**	**L**	**E**	**ECTS**	**Lecturer**
1	M	Environmental data analyses	2	2	6	Dr. Sc. Skender Bublaku
2	M	Solid waste management	2	2	6	Dr. Sc. Skender Bublaku
3	M	Wastewater treatment technologies	2	2	6	Prof. Assoc Dr. Figene Ahmedi
4	M	Protection and improvement of soils	2	2	6	Prof. Ass. Dr. Qani Kadiri
5	E	Environmental impact assessment	2	0	3	Prof. Assoc. Dr. Ferat Shala
6	E	Energy and environment	2	0	3	Prof. Ass. Dr. Mimoza Dugolli
7	E	Project management	2	0	3	Dr. Sc. Skender Bublaku
8	E	Flood protection	2	1	3	Prof. Assoc. Dr. Laura Kusari
Total					30	
Semester: VI						
No.	**M/E**	**Subjects**	**L**	**E**	**ECTS**	**Lecturer**
1	M	On-site decentralized wastewater treatment systems	2	2	6	Prof. Assoc. Dr. Figene Ahmedi
2	M	Impact of urban planning in environment	2	2	6	Prof. Ass. Dr. Mimoza Dugolli

3	M	GIS in environment	2	1	3	Prof. Assoc. Dr. Përparim Ameti
4	E	Polymer materials and applications in environmental engineering	2	1	3	Prof. Dr. Naser Kabashi
5	E	Hydrogeology	2	1	3	Prof. Assoc. Dr. Naim Hasani
6	E	CAD	2	0	3	Prof. Assoc. Dr. Arta Basha-Jakupi
7	E	General ecology	2	0	3	Prof. Ass. Dr. Bekim Gashi
8	E	Practical work - Internship	/	/	3	Company
	M	Bachelor thesis	/	/	9	
Total					30	

Note: The total credits number for a year is 60 ECTS.
From 7 mandatory subjects, 39 ECTS are gained, from Bachelor thesis 9 ECTS are gained, and from 9 elective subjects, student should elect 4 subjects, respectively 12 ECTS.
After the subject is elected, it will be a mandatory and a student can't change the subject or a professor.

According to the Statute of the University of Prishtina, 1 ECTS is calculated as 25 study hours. An example of student workload calculation that reflelcts how3 ECTS per course are determined, is given in the table below.

Example of student workload

Activity	**Hours**	**Day/Week**	**Total**
Lectures 1 15 15	1	15	15
Theory/ Lab Work/Exercises			
Practical work	2	15	30
Consultations with the teacher			
Field work	0.5	6	3
Test, seminar paper	2	1	2
Homework			
Self-study (library or home)	1	15	15
Preparation for final exam			3
Assessment time (test, quiz, final exam)			4
Projects, presentations, etc.			3
Total			75

2.1.4.1. SWOT analysis for the educational process content:

A. Strengths:

- Interdisciplinarity.
- Combining a set of subjects such as: mathematical-natural basic subjects, basic engineering and environmental engineering courses, synergies between engineering and environmental engineering, and elective subjects for additional knowledge from these areas and non-technical fields.
- Corresponding subjects with modern curricula in environmental engineering.
- Constructive content program that enables UP students to compete with students from regional universities and International Universities.

B. Weaknesses:

- Slow administrative procedures in the case of curriculum re-evaluation.
- Lack of laboratories in some areas of environmental engineering within FCEA.

C. Opportunities:

- Flexibility to incorporate new ideas and concepts into the curriculum that emerge from the assessment process (the following).
- The cooperation between FCEA and public institutions, organizations and other faculties within the UP of laboratory usage.
- Collaboration between BScEE study programs and professional energy efficiency mastering for relevant fields.

D. Threats:

- Expanding the master's degree program to create environmental engineers.
- The possibility of own financial insurance of the study program.

2.1.5. Students

The Environmental Engineering study program in bachelor level (BscEE) is dedicated to candidates who have successfuly completed secondary education, who are interested in undergraduate studies and wants to contribute on environmental improvements**.**

Admission of students to the BScEE study program is carried out through a public call for submission to the competing examination at the Faculty of Civil Engineering and Architecture (FCEA). Admission criteria for the Bachelor level are specified in the public advertisment. The University Senate is responsible to decide for the number of candidates to be admitted in the first year, considering the number proposed by the Faculty Council for the BScEE study program.

Environmental Engineering Students conduct studies according to the plan with subjects included in the BScEE study program and are subject to policy evaluations developed by FCEA and UP in general. Likewise, students of BScEE study program, during the study period, have the opportunity to visit industrial companies, water treatment and wastewater treatment plants, landfills, laboratories, etc., in order to be informed related to the operation, elaborate data on

eg. climate change, water quality, etc. Study visits as well as the practical part of the subject matter, are carried out within the framework of cooperative agreements between FCEA and local institutions.

In fact, within the program is included the subject Practical work. Practical work enables students to develop professional practice organized by the course provider with companies, organizations and professional institutions, relevant to the field of environmental engineering. Following are some of the institutions / departments and companies that students can develop practical work.

- Department for environmental protection – Ministry of Environment and Spatial Planning (MESP)
- Sector of environmental monitoring – Kosovo Environmental Protection Agency (KEPA)
- Regional water company "Hidrodrini" - Pejë
- Regional water company "Prishtina" - Prishtinë
- Office of environment/ Department for public services, protection and rescue – Municipality of Prishtina
- Departement of environment/Directorates of urbanism – Municipality of Drenas

Environmental Engineering prepares students for professional career and further studies in the field of environmental engineering. Environmental engineers understand and incorporate the concepts of engineering engineering, environment, economics, politics and social sciences for community service through participation and accountability as an environmental technician in professional and social activities. Environmental engineers, as multidicipliners, offer solutions to environmental problems such as: urban water management, water pollution protection, water treatment technologies, waste recycling and management and landfill engineering, soil protection, human activity planning versus environment and in controlling air pollution. Precislier, after successful completion of this program, students will be able to:

- Apply mathematics and engineering knowledge effectively and sustainably.
- Analyze and interpret data.
- Argues the importance of the environment for society.
- Identify, formulate and solve problems in the areas of: urban water management, water protection against pollution, water treatment technology, waste recycling and landfill engineering, soil protection and air pollution control.
- Understand the impact of engineering solutions in the environmental and social context.
- Play a critical role to address the challenges of water, soil and air pollution.

At the end of the studies, the student works the diploma thesis by verifying the achievements of the learning and application of information obtained during studies related to the fields of environmental engineering interest. With the successful completion of bachelor level studies in the Environmental Engineering study program, the "Bachelor of Civil Engineering" academic degree is awarded in the Environmental Engineering study program.

Within the scientific and educational cooperation of the University of Prishtina with other International Universities, also to the Faculty of Civil Engineering and Architecture with all study programs are offered studies in any field of interest with scholarships for study levels: bachelor, master or doctorate. From these co-operation programs for continuing the master studies, students of the BScEE study program have also benefited. Through the ERASMUS + Mobility program of the European Commission, interested students are offered mobility scholarships at International Universities in departments related to the fields of Environmental Engineering such as:

- Middle East Technical University, Turkey - Faculty of Engineering (2017, 2018)
- Silesian University of Technology - SUT, Gliwice, Poland (2018), and others offered

(see on the Study Exchange page, on the UP website: https://www.uni-pr.edu/).

Academic mobility for students is regulated through UP policies (see the Office for Foreign Relations website at the UP website: https://www.uni-pr.edu/).

To be informed about the scientific achievements, students have access to the renowned publishing house Elsevier (see ScienceDirect, on the UP website: https: //www.uni-pr. edu /). Finally (from December 2018), students have the opportunity to find electronic material at the National Central Bilbilup through the LibApps platform created by the University of Prishtina within the framework of the Erasmus +, "Library Network Support Services project.

2.1.5.1. SWOT analysis for students:

A. Strengths:

- Student activities within the curriculum are comprehensible with activities in the international curricula of the field.
- No student abandoning studies.
- Students can compete with students from the University of the Region and International Universities in the field of environmental engineering.
- Access to science journals through the ScienceDirect digital library provided by UP.

B. Weaknesses:

- Lack of master degree program.
- Insufficiency of student involvement in research projects.

C. Opportunities:

- Accreditation of the master degree program (or master level that integrates two study programs: Environmental Engineering and Hydrotechnics).
- Creating new opportunities for environmental engineers, promoting interdisciplinarity, through practical work, the employers' network.
- Environmental engineers can become part of environmental engineering assessment processes.
- Student's mobility through research projects at International Universities in the field of environmental engineering.

D. Threats:

- Continuing studies at master level.
- Promoting the value of environmental engineer in institutions and organizations.
- International practice.

2.1.6. Research

The teachers involved in the bachelor level environmental engineering program (BScEE) are selected through policies developed by the University of Prishtina. This means that the teachers involved, besides other criterias required, also meet the criteria for the publication of scientific papers in international journals, which are in accordance with the Administrative Guide on the principles of recognition of internationally revised platforms and journals (see Website: https://www.uni-pr.edu/desk/inc/media/C15E46D5-5159-4E97-B8CB-D69734E39CA4.pdf). Teacher research enables the curriculum in particular and the Faculty in general to bring about that same classroom experience as a source of real-world problems and contemporary issues.

The Faculty of Civil Engineering and Architecture (FCEA) has achieved, through the project "InWaterSense" (Intelligent Wireless Sensor Networks for Monitoring Surface Water Quality), funded by the European Union (EU) (see Website: https: //inwatersense.uni-pr .edu /) to cooperate among researchers in Kosovo from different fields such as: Hydrotechnics, Computer Engineering, Hydrometeorological Institute of Kosovo and EU Partner Universities involved in the project such as: Technical University of Vienna, Tyndall Institute and Linnaeus University. The "InWateSense" project has offered the possibility of publishing joint scientific works among the partners involved in the project. Also, the "InWaterSense" project has enabled the FCEA to be the carrier of some laboratory equipment (auto-sampler monitors and mobile sensors for water quality analysis) in service of BScEE study program students as eg. for preparation of the diploma thesis.

The Bachelor level of BScEE study program concludes with the work of the diploma thesis which is mainly individual research work. The diploma thesis can also be organized by a group of research students in a particular field. Part of the research is planned to be developed in cooperation with the relevant company on the topic subject. A collaborative relationship between the student and the company can be achieved even with the help of the advisory body within the FCEA, but also through the collaborations achieved within the practical work.

As a result of contact through practical work, a group of students of the program have developed a project for improvement of air in the city of Prishtina. The project was realized in cooperation with UPSHIFT, UNICEF Kosovo's Innovations Lab, as well as with the Municipality of Prishtina. Environmental Engineers through the project called :Te Pema" have not only pushed ideas for improving air in polluted cities (see http://kosovoinnovations.org/fighting-air-pollution- with-innovation-arlindas-quest-for-a-cleaner-prishtina /? fbclid = IwAR2Eni4TxGDWgBZVUbw5civMRBzgNxYJ-_G7yQcyN-GCVENML6B9SB0Q8YU) but have also shown fulfillment of program goals as well as

achievements in learning and quality management of the program bachelor level study Environmental Engineer.

2.1.6.1. SWOT analysis for research:

A. Strengths:

- Publications of research in national and international journals, in the service of science, education and technology for the society.
- Utilizing case studies (from research) as sources of real problems and contemporary issues to solve problems within the field.

B. Weaknesses:

- Lack of labs for some environmental engineering fields, within FCEA.
- Encouraging publications from UP policies and insufficient financial support from UP for research.
- Insufficient co-operation with business, industry, decision-makers and employer community for research and / or professional projects.

C. Opportunities:

- Increase of financial resources to support academic staff for research and publications.
- Cooperation with the community of business, commerce, industry to enable the development of research and / or professional projects.
- Information on recent achievements of the relevant field of environmental engineering through other digital libraries, besides ScienceDirect provided by UP.
- Provision of financial resources through scientific / professional projects in the field of environmental engineering.

D. Threats:

- Possible development of research through self funding, or through research projects to be applied.
- Providing funds through scientific / professional projects in the field of environmental engineering.
- Provide data in relevant environmental engineering fields, from local institutions, to research.

2.1.7. Infrastructure and resources

The Faculty of Civil Engineering and Architecture has two physically separated spaces, for the development of the teaching process. One space belongs to the Department of Civil Engineering and the other to the Department of Architecture. The Department of Civil Engineering offers sufficient space for teaching development (1200 m2), including the BScEE study program. In this space of FCEA, in service of the study program BscEE, there are: management offices, administration offices, lecture halls, laboratories (in particular, with labyrinth surfaces and their accompanying spaces of 1268 m^2, are the laboratories: fluid mechanics, geotechnics, building materials), library, corridors, sanitary nodes and other

auxiliary offices. The management, administration and teaching offices are equipped with computers and printers. Also, there are classrooms equipped with dedicated computers for specific subjects. Owned by FCEA (in the facility of laboratories) are also 2000 m^2 which are renovated and prepared for the development of additional activities of this study program.

2.1.7.1. SWOT analysis for infrastructure and resources:

A. Strengths:

- Sufficient space for developing the learning process.
- Sufficient space for laboratories.
- Opportunities in Digital ScienceDirect libraries.
- Possibility to use the INKOS Institute's labs such as: The Geomachinery Laboratory for Physical-Mechanical Trolley Testing, Oil and Fuel Analyzers Laboratory and Industrial Oil, Laboratory for Mineral Analysis, Water Analysis Laboratory , Laboratory for Microbiological Water Analysis, Air Analysis Laboratory (the agreement as an electronic attachment: Documents).

B. Weaknesses:

- Inadequate use of laboratories by other institutions for the development of practical works and research.
- Insufficient number of textbooks in the library.
- Inadequate maintenance of spaces for the activities of the learning process.

C. Opportunities:

- Establishment of a laboratory in FCEA spaces, dedicated to the field of environmental engineering.
- Establish a single laboratory (eg water quality analysis) within the UP in service of common needs for all faculties.

D. Threats:

- Providing funds for the creation of laboratories through research projects.
- Expand international research and teaching cooperation with the aim of supplying library with books and laboratories with equipment.

2.1.8. Short Course Descriptions within the Environmental Engineering Program (BSc)

Course title:	Mathematics I
Rationale and description of the course:	The subject concentrates on the information from the field of mathematics with the aim to facilitate and help other subjects 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.
Course Goals:	Introduction with the mathematical knowledge applicable in the sciences dealing with measurement of environmental factors.
Expected 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 completion of this course students will be able to: - apply numerical sets while analyzing and presenting other concepts from algebra as well as mathematical analysis - to understand the concept of matrix and determinants, to know the properties of determinates which are used in solving of the system of equations. - to solve systems of equations in a different manner - to understand the concept of vectors, linear and non-linear operations with vectors, application of vector properties in the technical sciences. - to present different forms of the equation of plane and line in the space as well as their mutual relations. - to present in the geometrical and analytic way the forms of surfaces in the space.
Teaching Methods:	Lectures, exercises during class using different materials, one project work in group of 2-3 students (independent work), individual homework
Assessment Methods:	First assessment 20% Second Assessment 20% Activity during exercises 10% Attendance 10% Final Exam 40% Total 100%
Primary Literature:	1. Fevzi Berisha-Abdullah Zejnullahu: Matematika- për arkitekturë , 1996, Prishtinë. 2. Fevzi Berisha: Përmbledhje detyrash të provimit nga matematika1,2, Prishtinë 2006. 3. Alexs Himonas , Alan Howard- Calculus Ideas and applications,2003 USA 4. Robert T. Smith , Roland B. Minton -CALCULLUS Single Variable, 2002 USA.
Additional Literature:	1. Ejup Hamiti – Matematika I, II. Elektro - Prishtinë 2. Isak Hoxha – Matematika I,I Ndërtimtari, Prishtinë 3. Ismet Dehiri – Matematika I,II Fakultet Teknik, Prishtinë 4. Përmbledhje të ndryshme të detyrave 5. Interneti

Course title:	General chemistry
Rationale and description of the course:	The course of general chemistry is required for students of environmental engineering, because it provides the chemistry foundation required to pursue a career in the environmental engineering. This is an introductory college level chemistry course which covers 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.
Course Goals:	The aim of the general chemistry course is to prepare students to the environmental chemistry and courses close to the important field of chemistry for environmental engineering which will be held in the following semesters. 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.
Expected Learning Outcomes:	Students successfully completing general chemistry should be able to: ✓ use knowledge of molecular structure and properties in describing and solving real technological problems; ✓ explain and appreciate the relationship between experiment and theory in science in general and chemistry in particular; ✓ demonstrate quantitative problem solving skills in many aspects of chemistry, including stoichiometry, thermochemistry, chemical equilibrium, and reaction kinetics; ✓ describe the modern theoretical basis for understanding important areas of chemistry, including atomic structure, chemical bonding, and molecular structure.
Teaching Methods:	Teaching methodology is based on: Lectures, exercises, seminars, debates
Assessment Methods:	Firs midterm evaluation: 25% Second midterm evaluation: 30% Homework and seminars: 5% Regular attendance: 5% Final exam: 35% Total 100% The final grade will be calculated as follows: 51%- 60% = 6 61% -70% = 7 71% - 80% = 8 81% - 90% = 9 91%-100% =10
Primary Literature:	1. Filipovic - Lipanovic; Kimia e përgjithshme, (përkthim Xh. Ahmeti) Prishtinë, 1996. 2. Si literaturë e bazë e kursit do të jenë ligjëratat e autorizuara nga mësimdhënësi.
Additional Literature:	1. Mujë Rugova & Tahir Gjecbitriqi: Kimia Inorganike, Prishtinë 1998. 2. R.Petruci, F.Herring, J.Maduro, C.Bissonnette: General Chemistry-Principles and Modern Application, 10th edition, USA, 2011. 3. Larry Brown, Tom Holme; Chemsitry for Engineering Students, 2nd edition, USA. 4. J. Mc.Murry and R. Fay, Chemistry, 4th edition, New Jersey, USA, 2004.

Course title:	Physics
Rationale and description of the course:	The course includes basic knowledge of required to gain general knowledge that are basic in Engineering.
Course Goals:	Students should understand the basic knowledge of physics at the basic level of engineering. To familiarize students with the general concepts of physical laws which apply in solving problems in Civil Engineering.
Expected Learning Outcomes:	Students will obtained basic knowledge required basic law. With the obtained knowledge a student must take physical laws to solve problem in civil engineering. The use of physical laws in the model and solving concrete problems in civil engineering
Teaching Methods:	Lectures and seminar work in groups
Assessment Methods:	The assessment should set percentage of each rating intermedier partial or final assessment. One of the methods of evaluation will was as follows: The first evaluation: 25% Homework or other commitments 10% Regular attendance 10% Final exam 30% Total 100%
Primary Literature:	[1].S.Skenderi, R. Maliqi, Fizika për studentët e fakulteteve teknike, 2005, Prishtine
Additional Literature:	[2]. I. Serway, Physics for scientistis and engineerings, Thomson Books, 2004 [3].D. Halliday, R.Rechnick, etc, Fundamentals of Physics, Jon Wiley &Sons, 2006

Course title:	Introduction to environmental engineering
Rationale and description of the course:	This is a fundamental sustainability course for students on the first year. This course introduces students to sustainability principles in the field of environmental engineering. During this class, students will apply these principles to engineering problems in order to evaluate the environmental, economic, and social implications of engineering and design decisions. Topics include definition(s) of sustainability, main engineering sustainability challenges (e.g., water, energy, climate, and materials), pollution generation and prevention, and sustainability assessment tools (e.g., life cycle assessment).
Course Goals:	By the end of this course, students will be able to: 1. Define sustainability as it applies to engineering problems. 2. Describe the main sustainability challenges in engineering (e.g., water, energy, climate, materials, etc.). 3. Calculate and balance the material and energy flows over multiple life cycle stages of engineered systems. 4. Describe the mechanisms of environmental impacts due to pollution (e.g., for smog, ozone depletion, eutrophication, etc.). 5. Interpret life cycle assessment results to recommend potential solutions engineering problems. 6. Compare engineering systems and justify engineering design decisions based on the results of sustainability assessments by identifying and describing the relevant environmental, economic, and/or social impacts.
Expected Learning Outcomes:	By the end of this course the students will be able to understand and address the challenges on environmental engineering, make decisions based on results of sustainability assessments, calculate and balance the material and energy flows over multiple life cycle of engineering systems.
Teaching Methods:	The course is conducted through regular lectures and numerical exercises selected in the classroom and home.
Assessment Methods:	One of the ways of evaluation would be as follows: • First Assessment: 35% • Second Assessment 35% • Homework 30% • Regular attendance - decisive in border cases • Final exam
Primary Literature:	James R. Mihelcic Julie B. Zimmerman “Environmental Engineering: Fundamentals, Sustainability, Design”, second edition. Other texts as provided during the lectures
Additional Literature:	Tom Theis & Jonathan Tomkin “Sustainability: A Comprehensive Foundation”

Course title:	Introduction to construction engineering and impact on environment
Rationale and description of the course:	Module: Engineering of construction and impact on the environment includes : General knowledge's on problems to be studied by students, during study in Civil engineering faculty
Course Goals:	Module targets:To inform students with possibilities of gaining knowledge on study problems of Civil engineering faculty.
Expected Learning Outcomes:	To obtain knowledge on basic problems of Mathematics Introduction on Mechanics problems, on Construction materials and on professional modules. To obtain presentation technics, by presenting results from field exercise.
Teaching Methods:	Lessons and grouped workshop
Assessment Methods:	In evaluation, should be estimated weight of each partial evaluation and its impact on final evaluation. One of the methods is as follows: First estimation: 25% Home works and other activities 10% Presence 10% Final exam 55% Total 100%
Primary Literature:	[1] Prof. Ass. Dr. Hajdar Sadiku Hyrje në Ndërtimtari (lessons), FNA, Prishtinë
Additional Literature:	[2] Prof. Dr. Fetah Jagxhiu, Mekanika I (lessons), FNA, Prishtinë [3] Prof asoc. Dr. Fisnik Kadiu, Construction material technology , FIN, Tiranë

Course title:	English language
Rationale and description of the course:	The *English Language Course* in the Environmental Engineering Program is built upon two crucial fundations: (a) English for Specific Purposes, which dominates the course and (b) English for General Purposes, which has narrower scope within the course. The student will be exposed to the contextual language of environmental engineering domain, who will then be able to convert the structures learnt gradually in other professional courses into English. In addition, s/he also develops the ability to write professionally in relevant domain s/he is studying, where s/he will be able to write formal and informal emails, resumes, motivational letters, and so on. The course is content-based, where specific English is the language that will echo in the classroom, where words, phrases, clauses, expressions, and sentences that s/he uses will be but in English.
Course Goals:	The course aims at maximizing the individual and collective performance of students, thus inspiring the learning interest and instilling a sense of self-confidence in each of them. Further, English in this study program aims to make students competent in the use of contextual language, especially in the context of speaking and writing skills. Students will also be able to use literature in their particular field and participate in various international conferences and professional discussions, freely, with a sound self-esteem.
Expected Learning Outcomes:	At the end of the course, the student assessed positively will be able to: • enrich his/her vocabulary and discourse with environmental engineering terminology, satisfactorily; • speak correctly, fluently, and use the contextual language fairly; • use English at a more advanced level for academic and specific needs; • surf through relevant websites in the specific field of the study and be able to understand and select the material needed, and • write e-mails, requests and motivational letters in English.
Teaching Methods:	Our teaching methodology is based on the main learning styles, i.e. visual, auditory, and kinesthetic styles. Videos, roundtable discussions, assignments and activities that contribute to the development of student skills will accompany our teaching methodology throughout the semester. In addition, our methodology includes group work, seminars, and student presentations. In short, interaction will prevail, and it is the student who will be in the center.
Assessment Methods:	**Evaluation is achieved through:** Attendance & Active Participation: **10%** Seminar Paper / Presentation: **10%** Mid-term Test: **20%** Final Test: 60% **Points per grade:** 92-100 10 81-91 9 70-80 8 60-69 7 50-59 6
Primary Literature:	Kolentay, Miloslav. English for Environmental Studies. Usti nad Labem, (2014).
Additional Literature:	Evans, Virginia et al. “Career Paths: Construction I Book 1”, 2013: Express Publishing; Students will be provided with different downloadable materials in English related to their specific domain such as: worksheets, texts, transcripts, etc.

Course title:	Mathematics II
Rationale and description of the course:	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.
Course Goals:	Introduction with the mathematical knowledge applicable in the engineering sciences.
Expected 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 completion of this course students will be able to: - To create sequences given their general formula - -the apply arithmetic and geometric sequences in solving various problems - to find the graphs of elementary functions - to apply the limit of the function in order to determine the continuity of the function - To find the derivative of elementary functions and based on the properties of derivative to find the derivative of other functions, - To plot the graph of a function by using the derivatives - To find the indefinite integral for some classes of functions - To apply definite integral in solving some problems of geometry and mechanics.
Teaching Methods:	Lectures, exercises during class using different materials, one project work in group of 2-3 students (independent work), individual homework
Evaluation Methods:	First assessment 20% Second Assessment 20% Activity during exercises 10% Attendance 10% Final Exam 40% Total 100%
Primary Literature:	1. Fevzi Berisha-Abdullah Zejnullahu: Matematika- për arkitekturë , 1996, Prishtinë. 2. Fevzi Berisha: Përmbledhje detyrash të provimit nga matematika1,2, Prishtinë 2006. 3. Alexs Himonas , Alan Howard- Calculus Ideas and applications,2003 USA 4. Robert T. Smith , Roland B. Minton -CALCULLUS Single Variable, 2002 USA.
Additional Literature:	1. Ejup Hamiti – Matematika I, II. Elektro - Prishtinë 2. Isak Hoxha – Matematika I,I Ndërtimtari, Prishtinë 3. Ismet Dehiri – Matematika I,II Fakultet Teknik, Prishtinë 4. Përmbledhje të ndryshme të detyrave 5. Internet

Course title:	Environmental chemistry
Rationale and description of the course:	The course of environmental chemistry is required for students of environmental engineering, because it provides the environmental chemistry foundation required to pursue a career in the environmental engineering. This is an introductory college level chemistry course which covers 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.
Course Goals:	The aim of the general chemistry course is to prepare students to courses close to the important field of chemistry for environmental engineering which will be held in the following semesters. This course is intended to provide environmental engineering students with a background in important concepts and principles of environmental chemistry. 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.
Expected Learning Outcomes:	On successfully completing this module, students will be able to: ✓ Understand the fundamentals of environmental chemistry ✓ Understand the chemistry of soil, air, and water; ✓ Understand the mechanisms by which pollutants can affect the quality of soil, air, and water; ✓ Understand the connections among soil, air, and water, and the movement of elements among them; ✓ Understand the major sources of energy and the environmental impacts of each.
Teaching Methods:	Teaching methodology is based on: Lectures, exercises, seminars, debates, projects presentations
Assessment Methods:	Firs midterm evaluation*:* *25%* Second midterm evaluation*:* *30%* *Homework and seminars:* *5%* *Regular attendance:* *5%* *Final exam:* *35%* *Total* *100%* The final grade will be calculated as follows: 51%- 60% = 6 61% -70% = 7 71% - 80% = 8 81% - 90% = 9 91%-100% =10
Primary Literature:	1. A. Çullaj, Kimia e mjedisit, Tiranë, 2012. 2. Si literaturë e bazë e kursit do të jenë ligjëratat e autorizuara nga mësimdhënësi.
Additional Literature:	1. Manahan, Environmental Chemistry, 5th Edition, 1991. 2. R. M. Harrison, An Introduction to Environmental Chemistry and Pollution, London, 1994. 3. O. Nill, Environmental Chemistry, See. Ed. London, 1993

Course title:	Mechanics I
Rationale and description of the course:	Module: Mechanics I includes: General knowledges of solid body statics, Space and surface forces system, Body and body system , Lattice girders and methods of methods of rods force calculation , Gravity center and solution of Space linear beams .
Course Goals:	Module targets: To introduce to students Mechanics problems which shall be basics for profesional modules, during study in Civil Engineering Faculty.
Expected Learning Outcomes:	To obtain knowledge on basic problems of Mathematics, Introduction on Mechanics problems, Force and loadnes understanding, Body equiliber conditions, of body systems and Lattice girders both in surface and space. Calculation of gravity center of bodies generally, and especially of plain figures
Teaching Methods:	Lessons, Exercise and Individual works
Assessment Methods:	In evaluation, should be estimated weight of each partial evaluation and its impact on on final evaluation. One of the methods is as follows: First estimation: 25% Home works and other activities 10% Reilable presence 10% Final exam 55 % Total 100%
Primary Literature:	[1] Prof. Ass. Dr. Hajdar Sadiku Mechanics I (Lessons by slides), C.E.&A.F., Prishtinë
Additional Literature:	[2] Prof. Dr. Fetah Jagxhiu, Mechanics I (lessons), C.E.&A.F., Prishtinë [3] Prof. Dr. Fetah Jagxhiu, Mechanics I (Exercises), C.E.&A.F., Prishtinë

Course title:	Descriptive geometry
Rationale and description of the course:	Technical Descriptive Geometry is a science which enables a much easier and simpler presentation of any three-dimensional body, by providing two-dimensional drawings which offer a much clearer image and accurate drawing. Descriptive Geometry represents that branch of geometry, where the volumetric forms of objects and their geometric relevant laws are studied by means of projections. Bringing together the theory and practice of descriptive geometry with engineering practice is done with the help of graphical presentation methods, at the same time increasing the design and constructive ability among engineers.
Course Goals:	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.
Expected Learning Outcomes:	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 Methods:	Lectures + Exercises
Assessment Methods:	Evaluation of home assignment and models 10 % First Assessment 45% Second Assessment 45% If students fails on any of two first evaluations he needs to take the Final Examl90%
Primary Literature:	1.Flamur DOLI, Gjeometria Deskriptive, Prishtinë, 1990
Additional Literature:	1. An Elementary Course in Descriptive Geometry, Solomon Wolf, 2007 2.B. QURÇIQ, Vizatim teknik me Gjeometri deskriptive, Prishtinë 1983, All other relevant literature on the taught subject.

Course title:	Introduction to informatics and programming
Rationale and description of the course:	This course teaches students about basics of informatics, such as processing of word files, spreadsheets and presentations. In addition, the course teaches about fundamental concepts of programming languages, including techniques for designing flow diagrams for solving various computing problems.
Course Goals:	This course aims to teach students with basics of informatics and programming techniques. The main focus is oriented towards Python programming language.
Expected Learning Outcomes:	After finishing this course, the student will have the following knowledge: • Will be able to use software tools for document processing, • Will be able to use software tools for spreadsheet processing, • Will be able to use software tools for presentation preparation, • Understand the principles behind programming, • Be able to understand and use basic commands of Java programming language, • Be able to design flow diagrams for solving different problems that might arise during study period, • Understand principles behind object oriented programming
Teaching Methods:	Lectures, laboratory works and homework.
Assessment Methods:	Test 1 (40%) Test 2 (40%) In class activities (20%)
Primary Literature:	1. Introduction to Computers, Peter Norton, 6th International Edition (McGraw-Hill) 2. Fundamentals of Python Programming, Richard L. Halterman, 2018
Additional Literature:	1. Algorimet dhe Programimi, Ivana Ognjanovic, Ramo Shendel, (Teksti mësimor për vitin e tretë ose të katërt të gjimnazit) 2. Algorimet dhe Programimi, Ivana Ognjanovic, Ramo Shendel, (Përmbledhje detyrash për vitin e tretë ose të katërt të gjimnazit)

Course title:	Engineering thermodynamics
Rationale and description of the course:	Course Engineering Thermodynamics deals with the study of first and second law of thermodynamics and handles ways haw to estimate the properties of homogeneous substances. Further, the subject of the course is estimation of mass balance, energy and entropy for solving of different engineering problems.
Course Goals:	Focus of the course is given in development of student's skills to: 1. Apply principles of conservation of mass and energy for evaluation of performance of simples engineering problems 2. Analyze thermodynamic properties of simple homogeneous substances 3. Analyze of processes and cycles by utilization of second law of thermodynamics for estimation of maximal efficiency 4. Assessment of properties of humid air 5. Analyze the processes of air conditioning *6.* Analyze lows of heat transfer for solving of simple problems related to energy conversion
Expected Learning Outcomes:	Upon completion of this curse, student will be able to: 1. Be familiar with the course 2. To use knowledge gained in the course for developing of idea projects and for performing of professional projects.
Teaching Methods:	Lectures, exercises during class using different materials, one project work in group of 2-3 students (independent work), individual homework
Assessment Methods:	Limit to pass the course is 60%. Student attendance 80%; Individual works performed in the class 60%; Individual home works 60%; Assessment from tests 80%; Final exam 80%.
Primary Literature:	1. Lectues prepared from Prof. Dr. Xhemajl Fejzullahu 2. Termodinamika dhe hidraulika, Krasniqi, F. dhe Fejzullahu, Xh., Enti i botimeve, Prishtinë 1996
Additional Literature:	1. Windisch, H. THermodynamik, Oeldenburg Verlag, Munchen,1008 2. Çengel, Y.; Boles, D.: Thermodinamics- an Engineering Appraoch, McGraw Hill, 2011

Course title:	Environmental microbiology
Rationale and description of the course:	This subject is related to principles and concepts of interaction between microorganisms and the environment, the influence of ecological factors on microorganisms, the role of microorganisms in matter and energy circulation, the ways of life-cycle interaction between microorganisms and the environment, and microorganisms ability to live in extreme conditions.
Course Goals:	The Environmental microbiology course aims to develop knowledge about the relationship between microorganisms and the environment, between microorganisms and other organisms, the role of microorganisms in the circulation of matter in the environment, and the ability of microorganisms to live in environments with extreme conditions.
Expected Learning Outcomes:	After completing this course students will be able to: • Describe ways of interaction between microorganisms and the environment. • Define the role of ecological factors in the life of microorganisms. • Understand and describe the ways and role of microorganisms in the biogeochemical circulation of C, N, S, P, etc. • Understand the ways of co-existence of microorganisms: examples of symbiosis, mutual dependence, water and terrestrial environment conditions. • Understand the ability of microorganisms to live in environments with extreme conditions.
Teaching Methods:	Lecture, interactive lesson with students in groups, discussion, debates, illustrations, drawings, slides, models, etc.
Assessment Methods:	Periodic exam I: 30% Periodic exam II: 25% Assignment: 10% Attendance and activity: 5% Final exam: 30% Total: 100%
Primary Literature:	1. Prescot, L. M. HARLEY., P. J. and D. A. KLEIN (1999): MICROBIOLOGY, 4th edition, McGraw-Hill, faqet 831-906. 2. Tortora, Funke, Case (1986): Microbiology an Introduction. Faqe: 700-726
Additional Literature:	1. Muje Plakolli: Mikrobiologjia e pergjithshme, botoi ETMM, Prishtine, 2001. 2. Alexander−Strete−Niles: Lab Exercises in Organismal and Molecular Microbiology., The McGraw−Hill Companies, 2003 3. MYUNG-BO KIM (2008): PROGRESS IN ENVIRONMENTAL MICROBIOLOGY., by Nova Science Publishers, Inc. New York 4. I.L. Pepper and C.P. Gerba (2004): Environmental Microbiology A Laboratory Manual., Elsevier Academic Press 30 Corporate Drive, Suite 400, Burlington, MA 01803, USA 525 B Street, Suite 1900, San Diego, California 92101-4495, USA 84 Theobald's Road, London WC1X 8RR, UK

Course title:	Building materials
Rationale and description of the course:	Course: Basic knowledge of applications the materials in different times period in Civil Engineering or similar Engineering Science. Properties of Building Materials: Physical; Chemical; Mechanical and Physic-Mechanic. Stone such building Material, properties and applications in Civil Engineering Structures. Aggregate, a product of stone, properties and used for concrete or mortar. Clay materials, kind and examinations of properties according to the EN. Glass and applications the glass in engineering. Inorganic binder materials: Cement; Lime and Gypsum. Concrete, properties and applications in engineering structures. Mortar, types and properties. Steel, light metals, properties and applications. Wood, laminated wood, properties and applications in structures. Recycling of materials and applications the recycled materials.
Course Goals:	To understand the main properties of building materials , examinations and applications in Civil Engineering Fields, including the Environmental Engineering
Exptected Learning Outcomes:	At the end of the course the student will be able to: 1. to know the building materials and applications of materials 2. to know to examine the properties of materials according the EN. 3. to apply the knowledge in development of new materials focused in composite materials and 4. improvement the properties . 5. 4. to use the materials in adequate positions in structures and behavior the materials under different environmental conditions
Teaching Methods:	- Lectures and presentations usng the practical examples focused in Building Materials - Numerical exercises. - seminars and practical examples. - Interactivity during the lectures and exercises - work in group.
Assessment Methods:	During the semester organize the two tests and evaluations based on the following percents: - First test 40 %,(50 % of teaching materials) - Second test 40 %,(50 % of teaching materials) - Seminar work 20 % Avarage of the two tests will be used on final grade Otherwise the final exam will be organized: - Written part 50% - Oral part 50%
Literature	
Primary Literature:	1/ N.Kabashi- Materialet Ndertimore IA (ligjerata) 2/ Prof asoc. Fisnik Kadiu: Teknologjia e Materialeve te Ndërtimit
Additional Literature:	1/ Randall McMullan: Environmental Science in Building 2/ Neil Jackson and Ravindra K. Dhir: Civil Enginering Materials 3/ K.van Breugel: Simulation of hydration and formation of structure in hardening cement-based materials 4/ Schaffler/Bruz/Schelling: Bausstofkunde 5/ A.M.Neville: Properties of Concrete

Course title:	Engineering geology
Rationale and description of the course:	The first part includes the major principles of physical geology covering the structure of the Earth, volcanism and other mountain building processes, plate tectonics, the surface erosion process, and the formation and properties of minerals and rocks. The second part includes concerns with the application of geological knowledge to civil engineering problems such as landslide, subsidence and earthquake etc. The third part includes the engineering classification of soil and rocks.
Course Goals:	To introduce the basic geology to civil engineering students To inspire the students to think clearly and critically the solution of the civil engineering problems in the context of geological knowledge such as earth, earthquake, volcanism and to apply this knowledge in projects such as dams, tunnels, bridges, roads, airport and harbor as well as to choose types of foundations.
Expected Learning Outcomes:	At the end of this course students should be able to: • Apply the geological knowledge of the most important rocks and minerals in the civil engineering • Understand the internal structure and composition of the earth • Gain knowledge about the structures of the rocks and their considerations in the selection of site for dams, tunnels, bridges and highways • Understand weathering as they influence in civil engineering works • Understand mass movement as they influence in civil engineering works • Effectively utilize earth's materials such as mineral, rocks and water in civil engineering practices • Assess various structural features and geological tools in ground water exploration, Natural resource estimation and solving civil engineering problems • Understand the soil and rocks classification system • Apply and asses use of building materials in construction and asses their properties
Teaching Methods:	Lectures, exercises during class using different materials, one project work in group of 2-3 students (independent work), individual homework
Assessment Methods:	Presence at lectures 5%, Individual assignments completed in class 10%; Individual assignments completed at home 10%; Assessment by tests 50% Final Exam 25%.
Primary Literature:	1. Islam Fejza – Ligjerata të autorizuara 2. Nikolla Konomi., 2006. Engineering Geology, University text. Tiranë. Albania
Additional Literature:	1. Blyth F.G.H. and de Freitas M.H., Geology for Engineers, Edward Arnold, London, 2010. 2. Bell .F.G.. "Fundamentals of Engineering Geology", B.S. Publications. Hyderabad 2011

Course title:	Meteorology
Rationale and description of the course:	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 .
Course Goals:	Understanding the physical-biological, meteorological, climatologically and agro-meteorological of the complex interactions within the crop-soil-atmosphere and their main components
Expected Learning Outcomes:	After completing this course (course) the student will be able to: ➢ 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. ➢ 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. ➢ 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 Methods:	
Assessment Methods:	Students must be able to work in groups, to show what they have learned during the lectures and to show critical thinking. Evaluation of students : First evaluation: 30 % Second evaluation : 25% Homework : 10% Regular attendance 5% Final exam: 30% Total: 100%
Primary Literature:	1. Mandili,T, Tili ,I.Meteorologjia Bujqesore per fakultetine Agronomise pjesa e I dhe e II 1980 Tiranë 2. Tahirsylaj,S:(Fizika me Agrometeorologji dispencë, 2006) 3. Zorba,P(Klimatogjeografia- Tiranë, 2006 4. Tahirsylaj,S: (Praktikum i meteorologjisë, 2005) 5. Tahirsylaj, S:(Ushtrime numerike në meteorologji dhe agrometeorologji dispencë ,2005
Additional Literature:	1. ASHAT(Klima e Shqiperisë,1978 Tiranë) WMO(OBM) Atllasi i reve pjesa e I, II në CD

Course title:	Health safety
Rationale and description of the course:	Health and disease - definitions according to WHO. Basic knowledge of environmental factors, positive and negative impacts on health. Environmental risk assessment, diseases caused by environmental factors. Occupational Health
Course Goals:	The course is aimed at providing basic knowledge of environmental health and providing safeguards for human health. Discovery of the negative impact of environmental factors. Implementation of knowledge from lessons learned in the professional practice conditions found in specific situations, protective measures at work and community
Expected Learning Outcomes:	
Teaching Methods:	Interactive, scenario, case study and situations
Assessment Methods:	Seminars, presentations; 10% First Evaluation : 20% Final exam; 70% Regular attendance-decisive in dilemma cases
Primary Literature:	1. Ekologjia Humane dhe shendeti publik; Pollozhani,Krasniqi,Kendrovski 2. Medicinska Ekologija; Valic F.
Additional Literature:	• Public Health and EnvironmentalEpidemioligy; J. Last • Environmental Health; Oxford textbook of Public Health

Course title:	Engineering economy
Rationale and description of the course:	Most of the engineering projects will have to meet three major tests in order to be built: a) the project must be technically sound and workable, b) in a free market economy the project must make an economically attractive investment, c) the project must be legal to complete (a big part of this has to do with environmental soundness). This course will ensure to give knowledge and background to studentens regarding the those major issues.
Course Goals:	The students knowledge and background to design technically sound and workable projects. Although On this degree they will not become experts in business and finance, they will know how to assess Whether earnings from the projects will satisfy investors sufficiently to obtain the capital to build the project. This is the class where they will learn how to assess whether the earnings potential of a project will make it the type of project in which people will invest. In addition to teaching them how to assess the economic viability of the engineering projects this class also has the added goal of showing them how investment decision techniques that work in engineering can also be used to help them increase their personal wealth and avoid financial mistakes.
Expected Learning Outcomes:	Students, at the end of the course will be abble to know: 1. Why there is a time value of money Writing down cash flows 2. Four Components of Interest Rates Equivalent Real and Nominal Rates 3. Compounding Interest Future Value of a Present amount 4. Discounting Cash Flows to a Single Point in Time 5. Present Value of Money in the Future 6. Converting Present Values to Annuities
Teaching Methods:	The course is conducted through regular lectures and numerical exercises selected in the classroom and home.
Assessment Methods:	Evaluation during classes: 40% Seminar 50% Attendance: 10% **Total** **100%**
Primary Literature:	1. Donald G Newnan: “Engineering Economic Analyses” 2. Leland T Blank: “Engineering Economy”
Additional Literature:	3. Raftery, John (1991): “Principles of Building Economics”, Blackwell, Oxford.

Course title:	Probability and statistics
Rationale and description of the course:	*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.
Course Objectives:	To provide students with the knowledge from the Mathematical Statistics and prability which are necessary when implementing mathematical concepts in the field of engineering and the error theory.
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 use this knowledge as an aide in other subjects which use mathematical statistics as well as to implement this knowledge in solving practical problems from the field of geodetic engineering and geodetic measurement. Upon completion of this course students will be able to: - to understand the concept of event and the set, types of events and their interaction - to implement combinatory in the statistical theory and to evaluate the number of equally possible events - to define the classical, geometrical and axiomatic probability - to present the discrete and continues random variables - to implement some theoretical probability distributions - to implement knowledge from mathematical statistics, analysis method and the descriptive statistics in the possible researches.
Teaching Methods:	Lectures, exercises during class using different materials, one project work in group of 2-3 students (independent work), individual homework
Assessment Methods:	First assessment 20% Second Assessment 20% Activity during exercises 10% Attendance 10% Final Exam 40% Total
Primary Literature:	1. A.Zejnullahu ,F.Berisha –Matematika III,1997,Prishtinë 2. Sh. Leka – Teoria e probabilitetit dhe statistika matematike,1998,Tiranë. 3. Marilyn K. Pelosi, Theresa M. Sandifer- Elementary statistics, 2003, USA 4. William Navidi- Statistics for Engineers and Scientists, 2006 USA
Additional Literature:	1. Ll.Puka – Probabilitetit ,1998,Tiranë. 2. S. Bushati – Ushtrime të zgjidhura të probabilitetit dhe statistikës,1999,Tiranë. 3. W.Feller –An introduction to probability theory and its application,1970,New York 4. B. Ruseti – Teoria e probabilitetit dhe statistika matematike I dhe II,1975,Tiranë. 5. S.Elzar – Matematiçka statistika ,1968 ,Sarajevë

Course title:	Fluid mechanics
Rationale and description of the course:	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, fluid flow specification by Lagrange and Eurer, 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. Low through pipes and open chanel flow.
Course Goals:	To identify and obtain values of fluid properties and relationship between them. To understand the concept of viscosity and its importance to real fluid flow.To understand principles of continuity and energy of fluids in motion. Student is introduced to the principles of fluid statics, kinematics and dynamics. To be able to use the given formulae for the energy loss calculation in different systems.
Expected Learning Outcomes:	On successful completion of this course, student should be able: 1. To define basic terms and laws in the areas of fluids properties, statics, kinematics and dynamics of fluids. 2. To apply fundamental principles and laws of the Fluid Mechanics. 3. To be able to use the Bernoulli to solve the real situations of fluid flow. 4. To be able to apply The Energy Equation in solving practipcal problems of luid flow.
Teaching Methods:	Frontal lecture, ex cathedra, numerical problems, seminar work in groups,
Assessment Methods:	First evaluation: 45% Second evaluation: 45% Home work: 10% Final exam.
Primary Literature:	1. Kusari, L. Notes on Fluid Mechanics
Additional Literature:	2. Potter, M; Wiggert, D. Mechanics of Fluids;
	3. Mott, Robert; Applied Fluid Mechanics;

Course title:	Hydrology
Rationale and description of the course:	Hydrology includes: Water Balance and Its Size, Hydrometry and Meteorological Measurement Processes, Methods and Equipment for Water Level and Water Metering, Solid Feed Measurement, First Intermediate Evaluation, General Knowledge on Rivers, Climatic Conditions affecting river hydrological regime, use of probability theory and math statistics in hydrology, statistical range and case allocation, histogram distribution of occurrences, etc.
Teaching Methods:	The course consists of lectures, site vist and seminars.
Course Goals:	Basics of hydrology: precipitation, evaporation, hydrometry, correlative relation, hydrological prediction. After the course, students will be able to: 1. know hydrological measurement equipments, 2. select measurement equipments and measuring methods, 3. select methods of data estimation 4. process hydrological data for determined problems.
Primary Literature:	1. Dr. Naim Hasani: Ligjëratat dhe ushtrimet e Hidrologjisë 2. B. Shehu dhe K. Karanxha: Hidrologjia Inxhinierike I (Shtëpia botuese e librit Universitar Tirane) 3. Manik: Hidrologie und Wasserwirtschaf
Additionl literature:	1. Prof. Dr. M. Disse: Hydrologie und Wasserwirtschaft I,

Course title:	Soil mechanics
Rationale and description of the course:	Corse Soil mechanics includes: Soil exploring from the surface of the ground, "In Situ" tests. Soil porosity, specific gravity and volume weight, soil moisture and consistency, soil compression, laboratory and field examinations. Soil drainage, laboratory tests for determination of coefficient of soil filtration in laboratory and field . Shear strength of soil. Compressibility of soil. Distribution of stress in soil mass, Boussinqq equations, Steinbrenner and Newmark method. Consolidation of the soil. Slope stability. Earth pressures on the retainig wall. Soil bearing capacity.
Course Goals:	Course Objectives: Understand the basic principles of soil Mechanics, which will later be used for the analysis of the stability of various constructions in civil engineering.
Expected Learning Outcomes:	Upon completing the lectures of this course, students will have understood the fundamentals of soil mechanics, will be able to carry out laboratory testing and field tests, interpretation of laboratory examination data, and field examinations. To possess the application of physico-mechanical and engineering features in engineering practice, to know all calculation methods during stability analysis, to compile the test program for the "Geomachanic Elaboration" of the site of the respective construction facility.
Teaching Methods:	Lectures, exercises and elaborates, “In situ”
Assessment Methods:	In the assessment should be assigned the percentage of each estimate intermedier partial or final assessment. One of the ways the assessment would have been as follows: The first assessment: 25% Homework or other commitments 10% Regular attendance 10% Final Exam 55% Total 100%
Primary Literature:	[1] Dr.sc. Qani V. KADIRI, Authorised lecture of Soil Mechanics, Faculty of Civil Engineering & Arhitecture, Prishtinë [2] Dr. Sc. Fikret Ahmedi, Soil Mechanics, Faculty of Civil Engineering & Arhitecture, Prishtinë [3] Braja Das, Principle of Geotechnical Engineering, USA
Additional Literature:	[4] Prof.Dr. Ervin Nonweiler, Mehanika tla i temeljenje gradevina, Zagreb [5] V.N.S Murthy, Geotechnical Engineering, USA

Course title:	Urban water management
Rationale and description of the course:	Through the course the possibilities of urban water management will be presented. Topics elaborated in this course are: Introduction to urban water management; water characteristics and water quality; Drinking water demands; Wastewater sources; Sewerage and wastewater treatment; Planning the urban water infrastructure.
Course goals:	Course aims to provide global picture on water supply, sewerage and wastewater treament as topics of urban water management. The focus will be placed on develoing the student's ability, to understand how the supply and sewerage systems could be and for what they may serve. Comparing these systems, they may assess the appropriate system to manage urban water.
Expected learning outcomes:	Upon completion of this course the student will be able to: • assess water quality based on its pollutant composition • determine the water quantity for water users, and • planning the urban water supply and sewerage infrastrucutre.
Teaching methods:	Through lectures, classroom work in a group of 2-3 students (exercises) and individual homework.
Assessment methods:	Prerequisite: Fliud mechanics Evaluation is done from 0-100 % First midterm: 35 % Second midterm: 35 % Home works: 30 % Regular attandance – decisive in borderline cases Final exam.
Primary literature:	1. Lectures prepared by Prof. asoc. F. Ahmedi
Additional literature:	1. Jahic. M., *Urbani Vodovodni Sistemi.* Sarajevo, *1988*. 2. Metcalf & Eddy, Inc. Wastewater Engineering: Treatment and Reuse. 4th ed, McGraw Hill, Inc., New York, 2003 3. Daka. S., Furnizimi me ujë, 2007 4. Butler. D., Davies. J. Urban Drainage, 2000

Course title:	Landfill design
Rationale and description of the course:	Course: Landfill design includes solid waste issues, landfill planning, storage technology, landfilling effects and their characteristics, design and implementation of landfills, landfill sites, geotechnical properties of the landfill - as a geotechnical structure, Remediaton of landfills, Equipment at landfills, Landfill management and work control, Protection of water at landfills.
Course Goals:	Course Objectives: Know the basics of influencing factors in landfills, which serve to design and repair landfills.
Expected Learning Outcomes:	Upon completing the lectures of this course, students will have understood the basic principles of landfill design, will be able to carry out field examination tests of the deposited materials, the way of achieving base isolation from the filters derived from the body landfill, ventilation of landfills, planning and storage technology of solid materials, type and manner of landfill mechanics during landfill implementation phase, landfill management and control of landfill exploitation, analysis of stability of the landfill from the geomechanical parameters gained on the ground as well as to work on the landfill sanitation project.
Teaching Methods:	Lectures, exercises and elaborates, “In situ”
Assessment Methods:	In the assessment should be assigned the percentage of each estimate intermedier partial or final assessment. One of the ways the assessment would have been as follows: The first assessment: 25% Homework or other commitments 10% Regular attendance 10% Final Exam 55% Total 100%
Primary Literature:	[4] Dr.sc. Qani V. KADIRI, Authorised lecture of “Landfill Design”, Faculty of Civil Engineering & Arhitecture, Prishtinë [5] Braja Das, Principle of Geotechnical Engineering, USA
Additional Literature:	[3] Timothy G. Townsend&other: Sustainable Practices for Landfi ll Design and Operation

Course title:	Cartography
Rationale and description of the course:	The subject begins with Cartography as science and its connection with other sciences, then is given the short history of cartography, continues with the math maps and mapping, then to continue with mapping geographic elements, cartographic generalization, contemporary automation in cartography, thematic cartography, and cartometry. The course ends with practical lessons for mapping and presentation of individual and seminary works of students.
Course Goals:	This course enables students to acquire basic theoretical and practical knowledge of cartography as a science, starting with the presentation of its basic elements, its classification into scientific sub-disciplines, the mathematical and geodetic maps, their taling, coordinate systems, basic knowledge of the globe and geographic atlas, mapping processes, mapping geographic elements, mapping and contemporary digital methods, map load, thematic mapping and cartometry. Recognition of mathematical elements that contain maps, mapping processes, and standardized ways of presenting geographic elements will help students acquire initial knowledge about mapping and cartography.
Expected Learning Outcomes:	1. The student recognizes cartography as science, history of cartography and cartographic products **Contents:** - Understanding cartography as a science. - Explanation of the history of cartography. - Linking cartography with other sciences. - Characteristics of cartographic products. 2. Student recognizes mapping processes. **Contents:** - Explanation of the project on mapping. - Explain the stages on mapping - Definition of the mathematical elements of the map. - Explanation of ways of collecting spatial data. - Interpretation of publication, reproduction and map updates. - Explanation of compilation of maps of medium and small scale. 3. Student recognizes the contents of the map **Contents:** - Explanation of the mathematical elements of the map. - Explain the geographic elements of the map. - Explain the editing and mapping elements. 4. The student recognizes the methodology-mapping standards. **Contents:** - Knowing mapping standards. - Interpretation of standards on the presentation of geographical elements on the map. - Knowledge of the mapping generalization process - Applies methods for compiling thematic maps. 5. Students recognize contemporary trends in cartography. **Contents:** - Explanation of automation in cartography. - Explanation of the link between GIS and cartography. - Explanation of the global / global digital map of the world. 6. The student recognizes the methods for measuring the maps. **Contents:** - Using distance mapping methods. - Use of surface measurement methods from the map. - Using methods for computing volumes from the map. - Building the terrain profile from the map. - Determining the coordinates and altitudes from the map.
Teaching Methods:	- Presentations and practical demonstration of maps. - Empirical exercises.

	- Semester seminar with concrete assignments. - Compilation of the map as an individual semester work. - Discussion during lectures. - Exercises in groups.
Assessment Methods:	Attendance in lectures: 10% Seminar work: 10% Individual work: 10% Essays: 10% First Column: 30% The second column: 30% Final exam: 60% Total: 100%
Primary Literature:	**Idrizi B**.: Përpilimi i hartave dhe përgjithësimi hartografik, Shkup 2006. **Idrizi B**.: Hartografi, Shkup 2006.
Additional Literature:	**Terry A**.: Thematic cartography and geovisualization, Prentice, 3rd edition, 2008. www.icaci.org

Course title:	Air pollution control
Rationale and description of the course:	This course enables students to acquire theoretical and practical knowledge of air pollutants from emissions, road traffic, air traffic, and other pollutants.
Course Goals:	Meaning of physicochemical, meteorological, climatologically and complex interactions within the system of air quality monitoring at country level. Establish a database of monitored data in the air quality monitoring network from the emission process. Control of air quality even in closed facilities such as factories, schools, and other premises.
Expected Learning Outcomes:	Upon completion of this course the student will be able to: 1. To be independent in its work to analyze all monitored air quality parameters according to the air quality monitoring network nationwide. Air dispersion and wind scattering dispersion on a national scale. 2. To gain basic knowledge about the application of contemporary methods in the air quality monitoring system through physical chemical analysis in laboratories. 3. Acquire knowledge on the calibration and maintenance of measuring and analyzing equipment in laboratories that are obtained and certified for physical-chemical quality assay of air.
Teaching Methods:	Lectures, exercises, practical work in groups, seminars, consultations, interactive approaches, student presentations etc.
Assessment Methods:	First evaluation 30 %, Second Evaluation 25%, Homework and other commitments 10%, Regular attendance 5%, Final exam 30% Total 100%
Primary Literature:	1. Kimia e mjedisit grup autoresh FSHMN Tirane 2010 2. MM dhe PU Monitorimi i cilësisë se ajrit urban Tirane 2007 3. Kimia e mjedisit Akademik N.Daci 2005
Additional Literature:	http://www.ammk-rks.net, https://mmph.rks-gov.net

Course title:	Law on environmental protection
Rationale and description of the course:	This course enables students to acquire basic knowledge in the field of environmental legislation, environmental strategies and integration policies in relation to European environmental standards
Course Goals:	The course aims at: To provide knowledge on the environmental law that deals with environmental protection. Study Material: The subject includes chapters like: Law on Environment: Importance. Resources of the Law on the Environment. International agreements. Protocols. Ordinary law. Legal decisions. Principles of the organism. Some important cases of the law on the environment. Training of Legal Experts in the Field of Law on the Environment. Groups of the Law on the Environment. Scientific research in the field of environmental law.
Expected Learning Outcomes:	Students from this course will be able to familiarize themselves with all legal and national legal resources that regulate environmental protection. They will especially recognize institutes and basic principles on the establishment and functioning of a legal system in the environmental field both in the central and local level. The course is unique in terms of explaining the link between local environmental legislation and conventions, international contracts, protocols that in the final stage provide additional and permanent information and tasks to recognize international environmental obligations. Knowledge is deepened not only in terms of local legislation but also of their comparability in those of the European Union.
Teaching Methods:	Lectures, exercises, practical work in groups, seminars, consultations, interactive approaches, student presentations etc.
Assessment Methods:	First evaluation 30 %, Second Evaluation 25%, Homework and other commitments 10%, Regular attendance 5%, Final exam 30% Total 100%
Primary Literature:	1. Ekologija i ekolosko pravo – Dr. B. Golic 2. MM dhe PU Monitorimi i cilësisë se ajrit urban Tirane 2007 http://www.kuvendikosoves.org/?cid=1,122 http://mmph.rks-gov.net/?cid=1,4 http://www.ammk-rks.net,
Additional literature:	

Course title:	Environmental data analyses
Rationale and description of the course:	Subject of this course includes: Acquisition and processing of environmental information focusing on several areas such as air and water pollution, sediment analysis, 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 analysis, including probability and statistics, correlation, sampling and coherence.
Course Goals:	The 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 and applied knowledge of probabilistic and statistical methods to analyze some phenomena, with an emphasis on several environmental data study
Expected Learning Outcomes:	Students who attend this course, will: • obtain necessary background hwo to deal with environmental data • use the proper statistical treatment tests • apply statistical packages to data set • prepare project based on data treatment
Teaching Methods:	Lecture, exercises, field visits and seminar work
Assessment Methods:	Evaluation methods will be as follows: First evaluation 25 % Second evaluation 25 % Homework or other commitments 10 % Regular attendance 10 % Final exam 30 % Total 100 %
Primary Literature:	[1] Handbook of Solid Waste Management by, Frank Kreith , George Tchobanoglous
Additional Literature:	[1] Municipal Solid Waste Management, by: Ludwig Christian, Hellweg Stefanie [2] Integrated Solid waste management A Life cycle inventory, by Forbes McDougall

Course title:	Solid waste management
Rationale and description of the course:	Course: Solid Waste Management addresses sustainable and efficient system of solid waste management including development of new technologies and techniques of modern management and implementation of EU directives and standards. It also addresses the methods of recycling / reuse, and disposal of solid waste.
Course Goals:	Gaining of appropriate knowledge about analysis, planning and sustainable management of solid waste
Expected Learning Outcomes:	Students will be equipped with the knowledge for assessments and prevention of pollution and will be instructed to apply the laws, standards and EU directives of solid waste.
Teaching Methods:	Lecture, exercises, field visits and seminar work
Assessment Methods:	Evaluation methods will be as follows: First evaluation 25 % Second evaluation 25 % Homework or other commitments 10 % Regular attendance 10 % Final exam 30 % Total 100 %
Primary Literature:	[1] Solid waste management.Amra Serdarevic. University of Sarajevo, Faculty of civil engineering, 2016 [2]. Solid wastes and their treatment. Elmaz Shehu, Tirane,2009 [2] Handbook of Solid Waste Management by, Frank Kreith , George Tchobanoglous
Additional Literature:	[1] Municipal Solid Waste Management, by: Ludwig Christian, Hellweg Stefanie [2] Integrated Solid waste management A Life cycle inventory, by Forbes McDougall

Course title:	Wastewater treatment technologies
Rationale and description of the course:	Course adresses the needs of water quality and the manners how the adequate water quality may be achieved by treating the water before serving for drink, and treating wastewater before discharging it in receiving waters. Initially, the subject discuss the basic concepts of wastewater treatment (WWT). The focus lies on the description of some basic pollutants and treatment technologies used for WWT. Topics included (covered): 1. Basic properties and quality characteristsics of water 2. Material balance, reactions and recators 3. Standards of water and wastewater 4. Drinking water treatment technologies 5. Wastewater treatment technologies 6. Factors of concern to water treatment plant design
Course goals:	Increase in demand for healthy environment in our country, imposes the need for the construction of WWT. Therefore, this course aims to give students the opportunity for gaining the basic knowledge in the field of WWT: by analyzing wastewater treatment processes and their appropriate application.
Expected learning outcomes:	Students who attend the course will be able to: • Describe the fundamentals of water quality, and categorize the water quality in relation to required quality and standards • Describe and select the right processes of wastewater treatment • Schematize the wastewater treatment systems
Teaching methods:	Through lectures, class-works (exercises) and home-works. In order to encourage students with first impressions on wastewater treatment, the visit/s of wastewater treatment plant/s will be arranged as well.
Assessment methods:	Prerequisite: Urban water management Evaluation is done from 0-100 % First midterm: 35 % Second midterm: 35 % Home works: 30 % Regular attandance – decisive in borderline cases Final exam.
Primary literature:	1. Ahmedi, F. Teknologjite e Trajtimit te Ujerave, 2010
Additional literature:	5. Crittenden, J., Montgomery, W. H. Water Treatment Principles and Design. 2nd ed, MWH, Canada, 2005. 6. Metcalf & Eddy, Inc. Wastewater Engineering: Treatment and Reuse. 4th ed, McGraw Hill, Inc., New York, 2003. 7. Qasim, S. R. Wastewater Treatment Plants: Planning, Design and Operation. 2nd ed, CRC,Texas, 1999.

Course title:	Protection and improvement of soils
Rationale and description of the course:	Coure:Soil protection and reinforcement includes: knowledge of the weak soil, soil research from the surface of the ground, “in situ”tests, soil reinforcement methods, mechanical strengthening of soils, deep soil stabilization, cement stabilization, lime stabilization, fly ash stabilization, chemical soil stabilization, hydraulic soil stabilization, precompression soil stabilization, knowledge of geosynthetic materials, geosynthetic soil reinforcement, application of geosynthetic materials in road infrastructure.
Course Goals:	Course Objectives: Know the basics of soil reinforcement, which will later be used for the stability analysis of the retaining walls, slopes, and road construction.
Expected Learning Outcomes:	Upon completing the lectures of this course, the students will have understood the fundamental principles of soil reinforcement, knowledge of laboratory and in situ test of soils, research works, soil reinforcement methods, soil interaction and geosynthetic materials, stability analysis of wall andslopes with geosynthetic materials.
Teaching Methods:	Lectures, exercises and elaborates, “In situ”
Assessment Methods:	In the assessment should be assigned the percentage of each estimate intermedier partial or final assessment. One of the ways the assessment would have been as follows: The first assessment: 25% Homework or other commitments 10% Regular attendance 10% Final Exam 55% Total 100%
Primary Literature:	[6] Dr.sc. Qani V. KADIRI, Authorised lecture of “Protection and soil reinforcement”, Faculty of Civil Engineering & Arhitecture, Prishtinë [7] Braja Das, Principle of Geotechnical Engineering, USA
Additional Literature:	[8] Jie Han, Principles and Practice of Ground Improvement, John Wiley& Sons, Inc., Hoboken, New Jersey

Course title:	Environmental impact assessment
Rationale and description of the course:	This course enables students to acquire theoretical knowledge for assessing environmental impacts. In this context, they include: knowledge of the basic concepts of implementation of EIA and SEA, legal and institutional requirements for implementation of EIA and SEA, instruments, forms and processes of implementation in EIA and SEA, implementation of EIA and SEA within different sectors developmental ones in order to prevent environmental impact, etc.
Course Goals:	Enhance students in the field of Environmental Impact Assessment and Strategic Environmental Assessment.
Expected Learning Outcomes:	Upon completion of this course, the student will be notified of the basic concepts of Environmental Impact Assessment-EIA and Strategic Environmental Assessment-SEA. Ways of implementing the EIA and SEA for the prevention of impacts on the environment. Instruments, forms and processes of implementation of EIA and SEA. Projects, plans, programs and policies that require the implementation of EIA and SEA. The role of local and central institutions in the implementation of EIA and SEA. The role of EIA and SEA in implementing the principles of sustainable development.
Teaching Methods:	Lectures, exercises, practical work in groups, seminars, consultations, interactive approaches, student presentations etc.
Assessment Methods:	First evaluation 30 %, Second Evaluation 25%, Homework and other commitments 10%, Regular attendance 5%, Final exam 30% Total 100%
Primary Literature:	[1] Sallari.S (2013); Vleresimi i Mjedisit, Universiteti Bujqesor i Tiranes. [2] Terrivel. R (2010) Strategic Environmental Assessment in Action, Earth Scan, London-Washington DC. [3] Glasson J. et al (2012) Introduction to Environmental Impact Assessment, Fourth Edition, Routledge, New York. [5] Ramadani I. (2011) Mjedisi jetësor, sfidat dhe perspektivar-roli i njeriut. [4] Materiale dhe shenime të përgatitura nga profesori i lëndës.
Additional Literature:	http://www.ammk-rks.net, https://mmph.rks-gov.net

Course title:	Energy and environment
Rationale and description of the course:	Energy – where do we take it, how do we use it efficiently and how do we decrease its negative impact from its production, conversion, distrubution and usage. This is the bigest environmental and social challenge of the world today. This course will give a knowledge to the students, on this issue.
Course Goals:	This course is a chance that students give a direct contribution on energy management of the local communities. This course will have an Project approach by gathering the students to work and study together and making them develop understanding of energy systems, through their projects. These projects will focus on energy management, efficiency dhe greenhouse reduction.
Expected Learning Outcomes:	The students, on this course will gain knowledge on basic problems on the energy source and the environment and will be able to propose a solution, to understand, apply and discuss concepts and relationship between the energy and environment and the appliance on Environmental engineering.
Teaching Methods:	Lectures and group projects
Assessment Methods:	Attendance: 10 % First evaluation: 20% Second evaluation: 20 % Project 50% Total 100%
Primary Literature:	[9] Prof. Ass. Dr. Mimoza Dugolli Leksione: Energjia dhe Ambienti, FNA, Prishtinë
Additional Literature:	[10] Roger A. Hinrichs and Merlin Kleinbach. "Energy: Its Use and the Environment", Fifth edition, Thompsoh Learning, 2013. [11] Michale Allaby, "Basics of Environmental Science", Taylor and Francis Group. [12] Gopal Nath Tiwari and Rajeev Kumar Mishra, "Advanced Renewable Energy Sources"

Course title:	Project management
Rationale and description of the course:	Project management today is one a tool for a successful project.Currently, but also in the future, it is considered that in Project Management more people will be involved from all types of fields and work activities.Students will get enough knowledge needed to manage a project or to be part of a project, making them (students) an important asset for each sector.This course provides basic knowledge of the project management process, resource management (time, finance and human resources), quality control, communication, and risk management
Course Goals:	The course aims to provide students with the opportunity to apply project management principles in practice and enable a future manager to successfully complete projects while respecting the time, cost and other resource constraints of a project .
Expected Learning Outcomes:	By completing the course, students will be able to: • Capability to determine what a project is and explain the basic concepts of project management • Main principles of organizing and managing one project at all stages • Using a software package for Project Management application
Teaching Methods:	Lecture, exercises, field visits and seminar work
Assessment Methods:	Evaluation methods will be as follows: First evaluation 25 % Second evaluation 25 % Homework or other commitments 10 % Regular attendance 10 % Final exam 30 % Total 100 %
Basic literature:	1. Menaxhimi I Projektit, Prof.Dr Suzana Panariti,Tirane 2009
Additional literature:	**2.** Menaxhimi I Projekteve, Prof.Dr Shyqyri Kelmendi,Prishtine 2011 **3.** A guide to the project management body of knowledge (PMBOK® guide).-Fifth edition. 2013

Course title:	Flood protection
Rationale and description of the course:	Flood Protection contents: Introduction in the theory of flood risk management. Resilience measures for flood mitigation in inland waters. Construction principles and hydraulic design of retention measures in nature and urban environment (rain water retention on the surface, Sustainable Drainage Systems in cities, flood polders). Design principles of technical flood defense systems (dikes and walls, mobile abatement systems, inland drainage). Consideration of nature landscape and cultural heritage aspects in flood defense measures. Assessment methods of flood damages as well as the effectiveness and economic efficiency of flood mitigation measures.
Course Goals:	Understanding and applying the methods and concepts of the integrated management of flood protection. The evaluation of the areas prone to flooding, methods and protection structures that can be taken for the prevention and mitigation of the flood occuring in the different locations. The determination of the design discharge for flood protection.
Expected Learning Outcomes:	On successful completion of this course, student should be able to: 1. Understand the methods and concepts of flood risk management at rivers, 2. Identify flood risk factors and mitigation measures associated, 3. Calculate design discharge for flood protection works, 4. Familiarize with planning and design techniques of flood defense structures, 5. Familiarize with methods of non-structural flood mitigation measures.
Teaching Methods:	Frontal lecture, ex cathedra, discussion and study case analyses, individual seminar work,
Assessment Methods:	Individual assignments completed in class 30%; Individual assignments completed at home 30%; Exam 40%.
Primary Literature:	1. Kusari, L., Lecture notes
Additional Literature:	2. Jansen, P.Ph. et al., - Principles of river engineering - The non tidal alluvial river

Course title:	On-site decentralized wastewater treatment systems
Rationale and description of the course:	Given the fact that complete sewerage is unlikely for many residents, on-ste decentralized wastewater management becomes of great importance to the future management of the environment. Topics elaborated in this course are: Constituents in wastewater, wastewater sources and avarage flowrates; Wastewater pretreatment processes; Alternative wastewater collection systems; Biologic treatment; Intermittent and recirculating filters; Effluent disposal for decentralized systems; Biosolids and septage management; Management of decentralized wastewater systems.
Course goals:	The cours aims to present the importance of on-site decentralized systems for communities where complete sewerage is unlikely; To demostrate types of on-site decentralized systems; To provide concepts of system management.
Expected learning outcomes:	Students who attend the course will be able to : • Understand and reflect the need for using on-site wastewater treatment systems • Recognize the differences of on-site wastewater treatment systems and • Select and present the management steps of on-site systems
Teaching methods:	Through lectures, classroom work in a group of 2-3 students (exercises) and individual homework.
Assessment methods:	Prerequisite: Urban water management Evaluation is done from 0-100 % First midterm: 35 % Second midterm: 35 % Home works: 30 % Regular attandance – decisive in borderline cases Final exam.
Primary literature:	1. Ahmedi, F. Lecture notes
Additional literature:	1. Crites, R., Tchobanoglous, G. Small and Decentralized Wastewater Management Systems, McGraw-Hill, 1998 2. US EPA. Onsite Wastewater Treatment Systems Manual, 2002 3. Metcalf & Eddy, Inc. Wastewater Engineering: Treatment and Reuse. 4th ed, McGraw Hill, Inc., New York, 2003

Course title:	Impact of urban planning in the environment
Rationale and description of the course:	Urban Planning and Sustainable Living Areas provide an overview of contemporary practice in designing and planning a built environment for sustainable development. Concepts of Sustainable Urban Development. Physical development of cities influenced by the complex and interdependent range of social, ecological, economic, and political factors. Special ways in spatial expression of urbanization characteristics and implications for both approaches, both as multi-dimensional and sustainable development. Issues, concepts and study approaches are closely related to those covered in Urban, Cultural and Social Policies.
Course Goals:	Purpose Learning Outcomes and Outcomes: To explore sustainability concepts and urban planning tools to use to achieve sustainable urban development; To provide a sense of the relationship between the various urban sectors, such as infrastructure with other built environment systems and ecological systems. To assess the role of urban planners in promoting social, economic and sustainable development issues for the environment, and to increase listening, observation,
Expected Learning Outcomes:	Upon completion of the course, students will be able to understand the idea of city development based on natural factors, urban, cultural and social policies.
Teaching Methods:	The course is conducted through regular lectures and numerical exercises selected in the classroom and home.
Assessment Methods:	• One of the ways of evaluation would be as follows: • First Assessment: 35% • Second Assessment 35% • Homework 30% • Regular attendance - decisive in border cases • Final exam
Primary Literature:	• Dieter Prinz :Urbanizmi -Spatial Planning .Prishtina,2012 • Urban Design Associates: The Urban Design Handbook, Techniques and Working Methods, W.W. Noton & Company, 2003
Additional Literature:	• Antonia Layard, Simin Davoudi and Susan Batty: Planning for a sustainable future, SPON Press, First Edition, 2001 • Patsy Healey, Abdul Khakee, Alain Motte, Barrie Needham: Making Strategic Spatial Plans-Inovation in Europe, Taylor &Francis, 2006

Course title:	GIS in environment
Rationale and description of the course:	Application of Geographic Information Systems to studies of the natural environment, such as: definition of GIS, GIS components, nature and source of geographic data, automatic data processing, map digitization, cartographic projections, creation of geo-databases, features, etc.
Course Goals:	The objective of this course is to introduce the student to the most effective computer-based methods for constructing geoscience maps. Emphasis will be on the production of digital GIS maps from scratch using field data, rather than maps based on previously digitized data sets. The course primarily uses commercial and noncommercial software used in GIS.
Expected Learning Outcomes:	After completion of this course, students should be able to do as following: 1. Digitize several maps and add data 2. To use geoinformations in environment 3. To have knowledge on application of GIS for different purposes 4. To design different professional projects independently
Teaching Methods:	- Lecture - Discussion during lectures - Exercises - Work in group
Assessment Methods:	In evaluation, the percentage of the attendance of each partial evaluation in the final evaluation must be determined. One of the ways of evaluation would be: First Evaluation: 10% Second Evaluation: 10% Homework or other engagement: 5% Attendance 20% Final Exam 55% Total 100%
Primary Literature:	1) Ian H.: An Introduction to Geographical Information Systems, Fourth Edition, 2012 2) Robert S.: GIS for environmental management, 2006
Additional Literature:	1) An Introduction to the Theory of Spatial Object for GIS, Taylor & Francis Ltd, London, Molenaar, M (1998)

Course title:	Polymer materials and applications in environmental engineering
Rationale and description of the course:	Course: Basic knowledge about Polymer Materials. Technological Proses and manufacturing. Challenges and replace the conventional materials with Polymer Materials. Behaviour the polymer Materials under loadings. Applications the Polymer materials in Civil Engineering field. FRP and applications in strengthening and reinforcement the structures elements. Applications the fibers in micro reinforcement. Industrial floors. Recycling the Polymer Materials.
Course Goals:	To understand the main properties of Polymer Materials , examinations and applications in Civil Engineering Fields, including the Environmental Engineering
Exptected Learning Outcomes:	At the end of the course the student will be able to: 1. to know the polymer materials and applications in elements of structure 2. to know to examine the properties of materials according the EN. 3. to apply the knowledge in development of new materials focused in composite materials and improvement the properties . 4. to use the materials in adequate positions in structures and behavior the materials under different environmental conditions
Teaching Methods:	- Lectures and presentations usng the practical examples focused in Polymer Materials - professional practice - seminars and practical examples. - Interactivity during the lectures and exercises - work in group.
Assessment Methods:	The final exam will be organized: - Written part 50% - Oral part 50% - Oral part include the presentation of group works
Primary Literature:	1/ N.Kabashi- Materialet Polimere dhe Aplikimi ne Inxhinierine e Ambientit (ligjerata) 2/ Prof asoc. Fisnik Kadiu: Teknologjia e Materialeve te Ndërtimit
Additional Literature:	1/ Mustafa Akay: Inroduction to Polymer Science and Technology 2/ Robert O.Ebewele: Polymer Science and Technology 4/ Zelimir Simunic: Polimer u Graditeljstvo 5/ Dr.Miltiadis A.Boboulos: Manufacturing Processes and Materials: Exercises

Course title:	Hydrogeology
Rationale and description of the course:	Hydrogeology is a branch of earth sciences that deal with the movement and storage of water in the Earth's crust and other rocky bodies on earth,so the course will also treat the flow of water and the phenomena that are caused by the flow occurring in the earth's crust and rocky bodies.The course will treat from the beginning the water cycle to the aquifers, the principles of underground flow and flow in the wells, infiltration and recharging.Also, the part of the water chemistry and the tracing of the water into the environment will be treated
Course Goals:	This course aims to provide an overview of the hydro geological processes in environment. We will also review basic theoretical analysis and methods used in field hydrogeology
Expected Learning Outcomes:	Upon completing this course the students must be in condition to: 1.Understanding physical factors controlling transport Groundwater in porous media 2.Environmental impact on water movement and options for exploitation 3.Basic knowledge on solving practical problems in the field of protection and exploitation of groundwater
Teaching Methods:	Lecture, exercises, field visits and seminar work
Assessment Methods:	Evaluation methods will be as follows: First evaluation 25 % Second evaluation 25 % Homework or other commitments 10 % Regular attendance 10 % Final exam 30 % Total 100 %
Primary Literature:	[1] Hidrogjeologjia II, H.Dakoli ,Tiranë, 1997 [2] Applied Hydrogeology, C.W. Fetter, 4th Edition, Prentice Hall, 2001
Additional Literature:	[1] Chemical and Isotopic Groundwater hydrology, Emanuel Mazor,2004

Course title:	CAD
Rationale and description of the course:	CAD (Computer Aided Drafting) is a flexible program for design/ drawing, designated for various technical sciences. With the application of CAD programs the process of design in the fields of Engineering is enabling bigger preciosity in drafting; easier modifications in projects; effectiveness; especially in projects where the plans/drawings need to multiply. This course will help produce plans/drawings which are presentable, useable, printable and easy to exchange among other professionals.
Course Goals:	Introduction with the basic knowledge of CAD as well as the advancement in application of AutoCAD program.
Expected Learning Outcomes:	By the end of this course, student will be able to understand the basic principle of CAD system and work on two dimensional vector drawings or 3D basic models with AutoCAD.
Teaching Methods:	Lectures + Exercises (AutoCAD vers.2013)
Assessment Methods:	Attendance 5%; First Evaluation 35%; Second Evaluation 35%; Individual work 25%, final exam for those who have not passed the first and second evaluation.
Primary Literature:	1.Berisha, R. (2011), AutoCAD 2010, Prishtine
Additional Literature:	1.Byrnes, D., (2011), AutoCAD2012 , John Wiley&Sons, Inc. 2.Gindis, E., (2012), Up and Running with AutoCAD, Elsevier Inc. 3.And all other relevant literature on the subject

Course title:	General ecology
Rationale and description of the course:	This introduction to ecology covers population, community and ecosystem level ecology of plants and animals. It focuses on the interactions of organisms with each other and with their abiotic environment. In ecology nearly everything depends on other things, i.e., the presence or absence of other organisms or whether it was a wet or dry year, etc. This makes it very difficult to consider facts in isolation, and this class will focus on understanding the interconnections among different concepts and facts. Although the class focuses on basic ecology, we will often consider the relationships between basic ecological science and current environmental problems. Global warming and their impact on living organisms. Pollution, pollutants and their effects in environment. Air pollution: source, level of pollutants in atmosphere and health problems. Soil and water pollution.
Course Goals:	The goals of this course are to understudying the basic facts of population, community and ecosystem level ecology, and the role of different components of biosphere.
Expected Learning Outcomes:	After completing this course, the students will be able to: • Know the basic facts of population, community and ecosystem level ecology. • Be able to clearly and concisely speak about and write about the major concepts in ecology. Recognize the interconnections among the major concepts of ecology. • Be able to design an ecological study that addresses relevant questions, carry out the study using the appropriate equipment, and interpret and present your study to your peers. • Investigate how the ecological concepts you learn in class relate to current environmental problems. • Apply practical skills in solving problems in ecology.
Teaching Methods:	Lectures, practical exercises, discussions, quizzes, commentaries, teamwork, etc. ..
Assessment Methods:	Thefirstevaluation(exam) 15% Seminarsorothercommitments10% Regular attendance5% Final Exam70% Total100%
Primary Literature:	1. Ekologjia: Niko Peja and Laura Qorlaze (red.) Botuar, Tiranë: SHBLU, 1999. 2. Mjedisi jetësor dhe zhvillimi i qëndrueshëm: Ibrahim Ramadani, Libri Shkollor, Prishtinë, 2017.
Additional Literature:	• Ecology: Concepts and applications. Manuel C. Molles Jr. University of New Mexico, 2005.