

ANNUAL REPORT

1 September 2017 – 31 July 2018





Annual Report

1 September 2017 – 31 July 2018



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A. Organization & Management

Introduction

General

Civil Engineering covers a wide range of engineering applications from dams, tunnels, pipelines and highways to buildings. Civil Engineering is distinguished as being one of the earliest engineering disciplines. Throughout the ages it has provided creative and feasible solutions to many of the basic human needs and problems, and it still continues to take pride in being a fundamental building block of civilization

Mission

Understanding of the fundamentals of science and engineering so that they can develop solutions to Civil Engineering problems and enhance their computing, communication, and research skills. It is aimed to especially emphasize teamwork, independent and innovative thinking and leadership qualities. In particular, the Civil Engineering Program aims to:

- Train the students to have theoretical background in basic sciences and engineering and to be equipped with necessary technical skills,
- Develop students' competency in reading, writing and oral communication,
- Provide practical experience which will enable students to utilize and enhance their engineering knowledge,
- Promote students' self-discipline and self-assurance and the ability to learn on their own,
- Encourage team work, collaboration and development of interpersonal skills,
- Motivate the students towards contributing to the progress of science and technology,
- Teach the importance of ethical behavior in social and professional life,
- Produce graduates for the engineering and the business communities who are observant, inquisitive and open to new technologies for developing better solutions,
- Produce graduates for the engineering and business communities with integrity, determination, judgment, motivation, ability and education to assume a leadership role to meet the demanding challenges of the society.



Study programs offered by the Department

1. The Bachelor

The Bachelor Program in Civil Engineering is composed of three years of full-time academic study.

The first year of the degree program present a broad, practical overview of the field of civil engineering. During this first year, presentation of the course material is primarily delivered at a foundational level with engineering fundamentals stressed and reinforced across the curriculum. A strong understanding of practical and physical principles is fostered and promoted and an abundance of learning opportunities is provided to apply these fundamentals to the solution of real-world design scenarios that would be encountered by both technologists and engineers. Throughout the program, opportunities are presented to students to strengthen their graphical, written, and oral communication skills. A significant amount of time is directly related to hands-on training in material testing, surveying, manual and computer-aided drafting, and instruction in the use of engineering software tools.

The second and third year are mainly composed of basic engineering courses involving the study and application of the principles of geotechnical engineering (behavior of soils, design of foundations), structural engineering (analysis and design of reinforced concrete and steel structures), hydraulics engineering (flow of water in pipes, open channels, water resources), and the general systems approach to engineering problems. The final two years of the degree program are academically rigorous, with thorough investigation of the theoretical foundations of civil engineering science and design topics. At the same time, the practical application of civil engineering knowledge is presented and applied through course assignments and project work. Additionally, the student is challenged to view the engineer's role from an interdisciplinary and multidisciplinary perspective. The role of the engineer as a manager is also developed. In the final two years of the program, the student's educational experience is enriched through a series of liberal studies courses. To further develop engineering skills for professional practice, the degree concludes with the completion of a summer practice.

In the second semester of third year, students whose GPA is higher than 3.0 have the chance to chose between graduation project (Microthesis) or comprehensive exam. Students whose GPA is below 3.0 are obliged to enter the comprehensive exam.



2. Professional Master

The Professional Master of CE Program offers a year of advanced study for graduate students with previous professional degrees in civil engineering (or equivalent with a strong knowledge background). This Professional Master's degree program is an interdisciplinary program of study with a concentrated time for completion. The program is intended for qualified students who already have professional work experience. Students without professional experience after completion of the professional degree may be admitted, depending on the quality of their work. Students must demonstrate evidence of high-quality work and potential for development based on their grade-point average, letters of recommendation. Classes generally take place in the evenings (6.00 pm – 9.00 pm). The program's goals are to further train professionals in civil engineering who are able to work effectively in teams across a large range of scales and with a well-developed knowledge. The program offers a unique blend of courses in different areas. Students will share working methods, acquire additional skills, and explore new avenues of professional development under the supervision of an interdisciplinary group of faculty members in the Department of Civil Engineering at Epoka University.

Curriculum

The Professional Master degree combines a core curriculum with the opportunity to take elective courses tailored to a student's particular areas of interest. These courses typically relate to the student's field of interest and are selected by the student in consultation with department advisor. To earn the Professional Master degree, students must complete one year in residence, 60 ECTS credits of coursework and the core curriculum.

Course Structure

The program is taught in English. Therefore, Albanian and international applicants from countries in which the official language is not English are required to submit official evidence of English language proficiency.



3. Master of Science

Our practice-oriented Master of Science in Civil Engineering (MSc) program builds upon an undergraduate education and facilitates more advanced study in one of the branches of civil engineering. The program consists of 120 ECTS, and all graduate courses are offered in the late afternoon or evening.

Mission Statement

The Master of Science in Civil Engineering (MSc) program is intended to serve graduate students who have a Bachelor on Civil Engineering or closely-related undergraduate degree in order to strengthen their knowledge and understanding of civil engineering principles and practices. The program is primarily intended for students who currently are, or intend to become, practicing civil engineers, and thus focuses on the application of these principles and practices to real-world problems encountered by professional civil engineers.

Another purpose of the program is to facilitate applied research on relevant civil engineering topics. Such research should 1) serve societal needs by addressing contemporary issues, 2) contribute to the professional development of both students and faculty and 3) provide preparation for further academic study and research for those students who wish to pursue a Ph.D.

Educational Objectives

Graduates of the MSc program should have:

- 1. A knowledge of engineering principles sufficient to understand the bases and applicability of standard analysis, design, and implementation practices within their emphasis area.
- 2. The ability to conduct engineering analyses and to develop and implement designs and problem solutions that conform to applicable codes and standards of practice.
- 3. An understanding of the various technical and non-technical factors that impact the feasibility and implementation of civil engineering projects, including: technical feasibility, multi-party involvement, environmental assessment, financial/economic planning, owner/public works administration, owners' strategic plans, and socioeconomic/equity issues.
- 4. The foundation needed to develop engineering judgment via professional practice, and to effectively identify, consider, and account for multiple and competing objectives.



- 5. The technical knowledge and skills needed to pursue lifelong learning with the ability to independently extend personal knowledge and understanding of engineering topics and practices by conducting literature searches, consulting with others, and using other similar techniques.
- 6. Knowledge and skills necessary to pass specialty license examinations in their respective emphasis areas.

Curriculum

The Master of Science in Civil Engineering offers to the students the possibility of specializing into four profiles such as: Structural Engineering, Construction Management, Construction Materials and Water Resources Engineering. It combines a core curriculum with the opportunity to take elective courses tailored to a student's particular areas of interest. These courses typically relate to the student's thesis topic and are selected by the student in consultation with department advisor. To earn the MSc degree, students must complete in total 120 ECTS credits from their coursework and a Master thesis.

Curriculum:

Structural Engineering

Construction Management

Construction Materials

Water Resources Engineering

Course Structure

The program is taught in English. Therefore, Albanian and international applicants from countries in which the official language is not English are required to submit official evidence of English language proficiency.



Master Thesis

Thesis topics are developed individually by the student in consultation with faculty advisor. To prepare for their thesis research and writing, students must complete a course that offers instruction in research methods and academic writing. Thesis committees consist of three members, usually faculty members of the Department of Civil Engineer at Epoka University. Students can also invite an outside reader to partake in the thesis committee.

A preliminary thesis proposal is prepared during the fall semester and presented to the department after the winter break. The thesis project is substantially developed during the spring semester in close collaboration with the academic advisor. The thesis is typically finalized during the summer and formally presented to E/A faculty. (Although MSc students are strongly encouraged to complete their written thesis during the summer, students have the option of going on filing fee for an extra semester and finalizing their written thesis during the fall.)

4. PhD (Doctorate)

The objective of the doctoral study program is the advancement of analytical and/or experimental knowledge through a combination of specialized courses and a research thesis under the supervision of an experienced researcher forms the main component of the doctoral programs. Where possible, research of interest to industry is encouraged. CE-PhD Program in Civil Engineering is necessary for the formation of academicians in various fields of research in Civil Engineering. Program also gives opportunity to qualified students from various academic disciplines for further education at an advanced level in Civil Engineering. The PhD study program for full-time students lasts for a minimum of six semesters (three academic years), up to a maximum of eight semesters (four academic years) and for part-time students, it lasts for a minimum of six semesters (three academic years), up to a maximum of twelve semesters (six academic years). The first year is devoted to the core courses. Formal work on the dissertation begins in the second year; students are encouraged to get the start on their thesis by research and writing.



B. Resources

Department Staff

Full time Academic Staff

Assoc Prof. Dr. Miriam Ndini. She is an Associated Professor in the Department of Civil Engineering at Epoka University. Her research and teaching focuses on water, she is a hydrologist.

With a background in Civil Engineering- Hydraulics, she has been working as a researcher on the field of Hydrology. This work consists on estimation the water resources in the watershed, evaluating the flow parameters, measuring the data from the hydrologic network, elaboration and analysing them.

Actively she is involved in projects dealing with effects of climate changes on water resources and its impact on different sectors.

All through research, she is involved in teaching. From the year 2000 she is teaching on the courses as Fluid Mechanics; River Mechanics; Water Resources Engineering and Hydrology.

She is also the Head of Department of Civil Engineering.

Assoc. Prof. Dr. Huseyin Bilgin in the Civil Engineering Department at Epoka University, Tirana Albania. He is actively taking part in teaching, research and the practice of structural and earthquake engineering, with emphasis on the response, analysis and design of reinforced concrete and masonry structures.

He teaches the compulsory core courses Engineering Mechanics and Mechanics of Materials for secondyear students and, he is the coordinator of the elective courses Introduction to Structural Dynamics, Supervised Independent Study and Research and Introduction to Earthquake Resistant Design in the 7th and 8th semester of the area of structural engineering specialization. He also teaches the graduate courses Structural Dynamics and Earthquake Engineering.

His main research interests are related to the response of structures to extreme loads focusing on the areas of structural and earthquake engineering with the emphasis on problems of non-linearity and performance evaluation of members, connections and structures.

He has been involved in several research projects in these areas and has worked as an expert consultant on numerous engineering projects mostly made of reinforced concrete, but also of other structural materials. He has also participated in various national and international scientific activities related to structural and earthquake engineering.



He has supervised PhD, MSc and undergraduate students studying in the above fields.

Assist. Prof. Dr. Erion Luga is the Director of Center of Research and Design in Applied Sciences at Epoka University and a Lecturer in the Department of Civil Engineering. He got his integrated diploma in Civil Engineering in February 2009 from the Civil Engineering Department at the Polytechnic University of Tirana, then completed his Master of Second Level in February 2011 at Epoka University in the subdiscipline of Construction Materials. In February 2015 he completed the PhD studies in the same field at Erciyes University/Turkey. His current research focuses on recycling of industrial byproducts in construction materials, mainly in concrete, sustainability and optimization in their production etc. During his PhD studies Mr. Luga has also worked in the investigation of several structures and materials in the region of Kayseri, Turkey. During his research he has been dealing with the design of different materials to be introduced in the construction sector. Regarding his lecturing experience, he has been teaching courses such as: General Chemistry, Materials Science, Introduction to Conctruction Materials, Properties of Fresh & Hardened Concrete, Durability of Concrete, Special Concretes, Supplementary Cementing Materials and Advanced Concrete Technology. On the other hand Dr. Luga has several journal publications in indexed journals also he has participated in different conferences related to concrete and construction materials. He has also supervised some very successful Master thesis.

Dr. Julinda Keçi is a faculty member of the Civil Engineering Department at Epoka University, Albania. She has a Master of Science degree in Structural Engineering from Polytechnic University of Tirana, and a PhD in Civil Engineering, specializing in Construction Management. Her research interests include construction management and technology, project planning, risk management, and economic assessment of engineering projects. One of the primary foci of her work is the implementation of sustainable methods in projects management and building performance. She was involved in international projects and in the organization of several international Civil Engineering conferences. She has published works on risk management, construction management, project planning, building optimization through geotechnical and earthquake design, etc.

Dr. Enea Mustafaraj is a full-time lecturer at the Department of Civil Engineering at Epoka University. He has actively been taking part in teaching of fundamental courses related to reinforced concrete design and the fundamentals of steel design, as well as analysis of structures in bachelor and master level. He has also supervised bachelor and master students. His research activities are related to structural



assessment of structures, mainly the historical ones, improvement of the performance of existing URM buildings using various retrofitting techniques. He completed his master studies in June 2012 with my thesis entitled "A Case Study of Structural Assessment of Five Ottoman Mosques in Albania". He was awarded the PhD degree in June 2016, with a dissertation entitled "External Shear Strengthening of Unreinforced Damaged Masonry Walls". During the last years, he has been studying structural performance of unreinforced, reinforced and damaged masonry walls subjected to diagonal compression (as of ASTM E-519-04). Dr. Mustafaraj has participated in national and international projects, conferences and workshops, and is author of more than 19 publications.

Dr. Endrit Hoxha actual lecturer at EPOKA University earned a degree in "Structural Engineering" from the Polytechnic University of Tirana in 2010. An intern at Ecole Speciale des Travaux Publics du Bâtiment et de l'Industrie (ESTP) and EIFFAGE construction (Paris), he earned a Master's of Science from the Ecole Nationale des Ponts et Chaussées (ENPC, Paris) in Mechanics of Materials and Structures in 2011, and a PhD in Environmental Science and Technology from the Université Paris-Est. In 2017, he completed a post-doc as part of the Building 2050 research group at EPFL, and later joined the Structural Xploration Lab in the same institution.

MSc. Marsed Leti is a Research Assistant in Civil Engineering Department at Epoka University, Tirana, Albania. He holds a Master of Science degree in structural engineering from Epoka University therefore his main research interests are related to the response of reinforced concrete structures under static and dynamic loading conditions conducted mainly by the non-linear analysis methods. He is dynamically taking part in teaching, research and student activities since 2014-2015 academic year. He has been teaching and assisting in: Civil Engineering Drawing, Engineering Mechanics I, Mechanics of Materials, Statics and Strength of Materials and Structural Mechanics. Moreover he has been involved in several activities such as: Open Forums, Workshops, Site Visits, Laboratory experiments etc. organized at Epoka University during 2014-2018 academic years. He owns good command of: English, Civil Engineering, AutoCAD, SAP2000, Etabs, Zeus NL, Perform 3D, Stereo Statika, Microsoft Office, Google sheet, Matlab, USEE, Nonlin, Photoshop, Illustrator, After effects etc...

Part time Academic Staff

Dr. Erion Bukaci. In 2005 acquired M.Sc. degree in Structural Engineering from the Polytechnic University of Tirana, Faculty of Civil Engineering and at the same Institution, in 2016 he completed his



doctoral studies defending the thesis: "Stochastic methods used in tunnel design". Has an experience of 10+ years as a structural and geotechnical engineer and consultant. From 2005 is Assistant Professor, Lecturer in different subjects included in the Department of Construction and Transport Infrastructure, Geotechnical Engineering section. From 2007 has been involved in publishing articles in national and international refereed journals also has prepared various conference papers and presentations presented in international conferences. Currently is a member of ISSMGE (International Society for Soil Mechanics and Geotechnical Engineering), ISRM (International Society for Rock Mechanics) and AGS (Albanian Geotechnical Society).

Academic Visitors (2016-2017)

Mr. Alket Kumaraku was invited on October 15th, 2017 from the department of Civil Engineering as a guest speaker to have an open lecture on the Water Supply Systems. Alket Kumaraku is a Hydrotechnic Engineer, Water Supply and Sewerage System at Polytechnic University of Tirana. Mr. Alket Kumaraku introduced the audience the water supply system focusing mainly on the Tirana region. In this open lecture, the guest presented the types of water supply systems, systems schemes of water supplies, components of the system, design of the water supply system, installation of the water supply systems as well as the loss of the water in the supply systems which is considered as Non-Revenue Water (NRW). General conclusions and drawbacks were outlined. Students of Civil Engineering Department were welcomed to ask questions and express their ideas about the topics that were discussed.

Administrative Staff

Ms. Bevli Hoxha was graduated in Political Science and International Relations in the Faculty of Law and Social Sciences at Epoka University. She also holds a master degree for the same field of study. Due to an internship at the Albanian Parliament, provided by the Epoka University, she had the opportunity to be part of different commissions like: Defence, Foreign Policies, Law, Finance & Economic. She currently works as the coordinator of Civil Engineering Department at Epoka University.



Finance

Income and Expenditure Summary As a Some text here ...

Annual Report





IT Resources, Physical Infrastructure and Library Resources

Some text here ...



C. The Curriculum

Undergraduate Teaching

Bachelor Study Program

| | Faculty of Architecture a | and Engine | eering | | | | | | | | | | | | |
|------------|---|----------------|-------------------------|---------|------------------|---------|-----------|-------------|-------------------------------------|------------|----------|---------------|-----------|--------------|--------------|
| D | epartment of Civil | | - | | | | | | | | | | | | |
| | Engineering | | | | | | | | | | | | | | |
| | FIRST YEAR | | | | | | | | | | | | | | |
| | First Semester | | | | | | | | | | | | | | |
| COURS | ES | Course Type | Compulsory /Elective | | eekly Distrib | | | Epo ka | Sen | nestral | Lectu | | d study | ing | E C TS |
| Code | Course Name | | | The ory | Pra ct. | L ab | Tota 1 | Cred its | Lec t. | Pra ct. | La b. | Si te W | Oth er | Tot al | |
| MTH 101 | Calculus I | A | Compulsory | 3 | 2 | 0 | 5 | 4 | 48 | 32 | 0 | 0 | 95 | 175 | 7 |
| PHY 101 | General Physics I | A | Compulsory | 3 | 2 | 0 | 5 | 4 | 48 | 32 | 0 | 0 | 95 | 175 | 7 |
| CHM 103 | General Chemistry | A | Compulsory | 3 | 0 | 0 | 3 | 3 | 48 | 0 | 0 | 0 | 36 | 84 | 4 |
| CE 101 | Introduction to Civil Engineering | В | Compulsory | 2 | 0 | 0 | 2 | 2 | 32 | 0 | 0 | 35 | 33 | 100 | 4 |
| CE 121 | Civil Engineering Drawing | В | Compulsory | 2 | 2 | 0 | 4 | 3 | 32 | 32 | 0 | 0 | 36 | 100 | 4 |
| ENG 103 | Development of Reading and Writing Skills in English I | E | Compulsory | 3 | 0 | 0 | 3 | 3 | 48 | 0 | 0 | 0 | 52 | 100 | 4 |
| Semestra | al Total | | | 16 | 6 | 0 | 22 | 19 | 256 | 96 | 0 | 35 | 347 | 734 | 30 |
| | | | | | | | | | | | | | | | |
| | FIRST YEAR | | | | | | | | | | | | | | |
| | Second Semester | | | | | | | | | | | | | | |
| COURS | ES | Course Type | Compulsory /Elective | | eekly Distrib | | | Epo ka | Semestral Course and studying hours | | | | ing | E C TS | |
| Code | Course Name | | | The ory | Pra ct. | L ab | Tota 1 | Cred its | Lec t. | Pra ct. | La b. | Si te W | Oth er | Tot al | |
| CE 132 | Engineering Mechanics I | В | Compulsory | 2 | 2 | 0 | 4 | 3 | 32 | 32 | 0 | 10 | 76 | 150 | 6 |
| CE 122 | Materials Science | С | Compulsory | 3 | 0 | 0 | 3 | 3 | 48 | 0 | 0 | 10 | 42 | 100 | 4 |
| MTH 102 | Calculus II | A | Compulsory | 3 | 2 | 0 | 5 | 4 | 48 | 32 | 0 | 0 | 95 | 175 | 7 |
| ENG 104 | Development of Reading and Writing Skills in English II | E | Compulsory | 3 | 0 | 0 | 3 | 3 | 48 | 0 | 0 | 0 | 52 | 100 | 4 |
| CEN 104 | Introduction to Computers and Programming | E | Compulsory | 2 | 2 | 0 | 4 | 3 | 32 | 32 | 0 | 0 | 61 | 125 | 5 |



| CE | Geology for Civil | В | Compulsory | 3 | 0 | 0 | 3 | 3 | 48 | 0 | 0 | 32 | 20 | 100 | 4 |
|------------|---|----------------|-------------------------|---------|-------------------|---------|-----------|-------------|-----------|------------|----------|---------------|-----------|-----------|--------------|
| 104 | Engineers | | | 1.0 | | 0 | 22 | 10 | 25.6 | 0.6 | 0 | 50 | 246 | 750 | 20 |
| Semestr | ai iotai | | | 16 | 6 | 0 | 22 | 19 | 256 | 96 | 0 | 52 | 346 | 750 | 30 |
| | SECOND YEAR | | | | | | | | | | | | | | |
| | Third Semester | | | | | | | | | | | | | | |
| COURS | | Course | Compulsory | V | Veekly | Cour | rse | Еро | Sen | nestral | Lectu | ire an | d study | ring | Е |
| | | Туре | /Elective | | Distrib | | | ka | | | ho | urs | | | C TS |
| Code | Course Name | | | The ory | Pra ct. | L ab | Tota 1 | Cred its | Lec t. | Pra ct. | La b. | Si te W | Oth er | Tot al | |
| MTH 201 | Differential Equations | A | Compulsory | 3 | 0 | 0 | 3 | 3 | 48 | 0 | 0 | 0 | 77 | 125 | 5 |
| CE 223 | Introduction to Construction Materials | В | Compulsory | 3 | 0 | 2 | 5 | 4 | 48 | 0 | 32 | 65 | 55 | 200 | 8 |
| CE 213 | Mechanics of Materials I | В | Compulsory | 2 | 2 | 0 | 4 | 3 | 32 | 32 | 10 | 0 | 101 | 175 | 7 |
| MTH 205 | Probability and Statistics for Engineers | A | Compulsory | 3 | 0 | 0 | 3 | 3 | 48 | 0 | 0 | 0 | 77 | 125 | 5 |
| CE 233 | Engineering Mechanics II | В | Compulsory | 3 | 0 | 0 | 3 | 3 | 48 | 0 | 0 | 0 | 77 | 125 | 5 |
| Semestra | al Total | | | 14 | 2 | 2 | 18 | 16 | 224 | 32 | 42 | 65 | 387 | 750 | 30 |
| | | | | | | | | | | | | | | | |
| | SECOND YEAR | | | | | | | | | | | | | | |
| | Fourth Semester | C | C1 | 11 | 71-1 | C | | Ena | Con | | Carre | | d | : | T |
| COURS | ES | Course Type | Compulsory /Elective | | Veekly Distrib | | | Epo ka | Sei | nestrai | ho | | d study | ıng | E C TS |
| Code | Course Name | | | The ory | Pra ct. | L ab | Tota 1 | Cred its | Lec t. | Pra ct. | La b. | Si te W | Oth er | Tot al | |
| | *Elective | D | Elective | 3 | 0 | 0 | 3 | 3 | 48 | 0 | 0 | 0 | 77 | 125 | 5 |
| CE | Mechanics of Materials | В | Compulsory | 3 | 0 | 0 | 3 | 3 | 48 | 0 | 0 | 0 | 77 | 125 | 5 |
| 214 CE | II Engineering Hydrology | В | Compulsory | 2 | 2 | 0 | 4 | 3 | 32 | 32 | 0 | 42 | 35 | 141 | 5 |
| 240 CE | Structural Mechanics | В | Compulsory | 4 | 0 | 0 | 4 | 4 | 64 | 0 | 0 | 20 | 66 | 150 | 6 |
| 260 CE | Surveying | С | Compulsory | 2 | 2 | 0 | 4 | 3 | 32 | 32 | 0 | 36 | 25 | 125 | 5 |
| 284 | Non-technical elective | D | Elective | 3 | 0 | 0 | 3 | 3 | 48 | 0 | 0 | 0 | 52 | 100 | 4 |
| Semestra | | D | Dicente | 17 | 4 | 0 | 21 | 19 | 272 | 64 | 0 | 98 | 332 | 766 | 30 |
| | | | | | | | | | | | | | | | |
| | THIRD YEAR | | | | | | | | | | | | | | |
| COURS | Fifth Semester | C | C1 | 11 | 71-1 | C | | Ena | Carr | 4 1 | T and | | ما مدياء | i | Е |
| COURS | ES | Course Type | Compulsory /Elective | | Veekly Distrib | | | Epo ka | Sen | nestrai | ho | | d study | ing | C TS |
| Code | Course Name | | | The ory | Pra ct. | L ab | Tota 1 | Cred its | Lec t. | Pra ct. | La b. | Si te W | Oth er | Tot al | |



| CE | Summer Practise I | E | Compulsory | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 70 | 5 | 75 | 3 |
|---------|-----------------------|---|------------|----|---|---|----|----|-----|----|---|----|-----|-----|----|
| 301 | | | 1 , | | | | | | | | | | | | |
| CE | Engineering Economics | С | Compulsory | 2 | 2 | 0 | 4 | 3 | 32 | 32 | 0 | 0 | 61 | 125 | 5 |
| 311 | | | • | | | | | | | | | | | | |
| CE | Principles of | В | Compulsory | 3 | 2 | 0 | 5 | 3 | 48 | 32 | 0 | 10 | 60 | 150 | 6 |
| 381 | Transportation and | | | | | | | | | | | | | | |
| | Traffic Engineering | | | | | | | | | | | | | | |
| CE | Structural Analysis | В | Compulsory | 4 | 0 | 0 | 4 | 4 | 64 | 0 | 0 | 30 | 56 | 150 | 6 |
| 395 | _ | | | | | | | | | | | | | | |
| CE | Soil Mechanics | В | Compulsory | 4 | 0 | 0 | 4 | 4 | 64 | 0 | 0 | 40 | 21 | 125 | 5 |
| 361 | | | 1 3 | | | | | | | | | | | | |
| CE | Fluid Mechanics | В | Compulsory | 2 | 2 | 0 | 4 | 3 | 32 | 32 | 0 | 32 | 29 | 125 | 5 |
| 341 | | | • | | | | | | | | | | | | |
| Semestr | al Total | • | | 15 | 6 | 0 | 21 | 17 | 240 | 96 | 0 | 18 | 232 | 750 | 30 |
| | | | | | | | | | | | | 2 | | | |

| | THIRD YEAR | EAR | | | | | | | | | | | | | |
|-----------|---|----------------|-------------------------|---------|------------------|---------|-----------|--------------------------------|--|------------|----------|---------------|-----------|-----------|--------------|
| | Sixth Semester | | | | | | | | | | | | | | |
| COURS | ES | Course Type | Compulsory /Elective | | eekly Distrib | | | Epo ka | Ser | nestral | Cour | | d study: | ing | E C TS |
| Code | Course Name | | | The ory | Pra ct. | L ab | Tota 1 | Cred its | Lec t. | Pra ct. | La b. | Si te W | Oth er | Tot al | |
| CE 332 | Reinforced Concrete Fundamentals | В | Compulsory | 4 | 0 | 0 | 4 | 4 | 64 | 0 | 0 | 36 | 25 | 125 | 5 |
| CE 322 | Construction Engineering and Management | В | Compulsory | 4 | 0 | 0 | 4 | 4 | 64 | 0 | 0 | 36 | 25 | 125 | 5 |
| CE 382 | Foundation Engineering | В | Compulsory | 2 | 2 | 0 | 4 | 3 | 32 | 32 | 0 | 36 | 25 | 125 | 5 |
| CE 326 | Hydromechanics | В | Compulsory | 4 | 0 | 0 | 4 | 4 | 64 | 0 | 0 | 36 | 25 | 125 | 5 |
| CE 348 | Fundamental of Steel Design | В | Compulsory | 2 | 2 | 0 | 4 | 3 | 32 | 32 | 0 | 36 | 25 | 125 | 5 |
| CE 388 | Graduation Project | F | Compulsory | 0 | 0 | 0 | 0 | 0 | 16 | 59 | 0 | 0 | 50 | 125 | 5 |
| CE 366 | Final Comprehensive Exa | ım | | 0 | 0 | 0 | 0 | 0 16 0 0 0 109 125 | | | | | | | |
| Semestra | al Total | | | 16 | 4 | 0 | 20 | 18 | 18 288 123 0 18 284 875 0 <td< td=""><td>875</td><td>30</td></td<> | | | 875 | 30 | | |

Graduate Teaching

Master of Science Program, Construction Management Profile

| | First Year | | | | |
|----------------|-------------------------------------|----|---|----|------|
| | First Semester | | | | |
| Course Code | Course Name | Т | P | С | ECTS |
| CE 489 | Fundamentals of Steel Design | 2 | 2 | 3 | 7 |
| CE 401 | Supervised Group Study and Research | 1 | 4 | 3 | 6 |
| CExxx | Technical Elective | 3 | 0 | 3 | 6 |
| CExxx | Technical Elective | 3 | 0 | 0 | 6 |
| CExxx | Technical Elective | 3 | 0 | 3 | 6 |
| Semestra | l Total | 12 | 6 | 12 | 31 |

| | First Year | | | | |
|----------|-------------------------------------|----|---|----|------|
| | Second Semester | | | | |
| Course | Course Name | Т | P | C | ECTS |
| Code | | | | | |
| CE 402 | Supervised Independent Study and | 1 | 4 | 3 | 9 |
| | Research | | | | |
| CE 490 | Special Topics in Civil Engineering | 3 | 0 | 3 | 9 |
| CExxx | Technical Elective | 3 | 0 | 3 | 6 |
| CExxx | Technical Elective | 3 | 0 | 3 | 6 |
| Semestra | l Total | 10 | 4 | 12 | 30 |
| | | | | | |
| | Second Year | | | | |
| | Third Semester | | | | |
| Course | Course Name | T | P | C | ECTS |
| Code | | | | | |
| CE 560 | Supervised Independent Study and | 0 | 0 | 0 | 10 |
| | Research | | | | |
| CE 591 | Special Topics in Civil Engineering | 3 | 0 | 3 | 14 |
| CExxx | Technical Elective | 3 | 0 | 3 | 6 |
| Semestra | l Total | 6 | 0 | 6 | 30 |

| | Second Year | | | | |
|----------|-----------------|---|---|---|------|
| | Fourth Semester | | | | |
| Course | Course Name | T | P | C | ECTS |
| Code | | | | | |
| CE 500 | Master Thesis | 0 | 0 | 0 | 30 |
| Semestra | l Total | 0 | 0 | 0 | 30 |

List of Elective courses:

| Course Code | Course Name | T | P | С | ECTS |
|----------------|--|---|---|---|------|
| CE 411 | Legal Aspects in Construction Works | 3 | 0 | 3 | 6 |
| CE 412 | Construction Site Techniques | 3 | 0 | 3 | 6 |
| CE 414 | Construction Planning | 3 | 0 | 3 | 6 |



| | T | ı | ı | | |
|--------|--|---|---|---|-----|
| CE 421 | Properties of Fresh and Hardened Concrete | 3 | 0 | 3 | 6 |
| CE 446 | Intermediate Fluid Mechanics | 3 | 0 | 3 | 6 |
| CE 451 | Groundwater Engineering | 3 | 0 | 3 | 6 |
| CE 452 | Statistical Techniques in Hydrology | 3 | 0 | 3 | 6 |
| CE 461 | Foundation Engineering II | 3 | 0 | 3 | 6 |
| CE 462 | Ground Improvement | 3 | 0 | 3 | 6 |
| CE 471 | Coastal Zone Management | 3 | 0 | 3 | 6 |
| CE 481 | Highway Design | 3 | 0 | 3 | 6 |
| CE 482 | Traffic Safety and Accident | 3 | 0 | 3 | 6 |
| | Investigation | | | | |
| CE 491 | Reinforced Concrete Structures | 3 | 0 | 3 | 6 |
| CE 492 | Advanced Structural Analysis | 3 | 0 | 3 | 6 |
| CE 493 | Prestressed Concrete | 3 | 0 | 3 | 6 |
| CE 494 | Structural Design: Concrete | 3 | 0 | 3 | 6 |
| | Structures | | | | |
| CE 489 | Fundamentals of Steel Design | 3 | 0 | 3 | 6 |
| CE 451 | Water Resources Engineering | 3 | 0 | 3 | 6 |
| CE 448 | Intermediate Structural Dynamics | 3 | 0 | 3 | 6 |
| CE 495 | Introduction to Earthquake Resistant | 3 | 0 | 3 | 6 |
| | Design | | | | |
| CE 514 | Special Topics in Data Collection, | 3 | 0 | 3 | 7.5 |
| | analysis and modelling in | | | | |
| | Construction Industry | | | | |
| CE 515 | Computer Applications in | 3 | 0 | 3 | 7.5 |
| | Construction Management | | | | |
| CE 520 | Modelling in Hydrology | 3 | 0 | 3 | 7.5 |
| CE 521 | Fundamentals of River Engineering | 3 | 0 | 3 | 7.5 |
| CE 525 | Computational Fluid Dynamics | 3 | 0 | 3 | 7.5 |
| CE 526 | Water Resources Engineering | 3 | 0 | 3 | 7.5 |
| CE 533 | Soil Improvement Techniques | 3 | 0 | 3 | 7.5 |
| CE 534 | Geotechnical Investigations | 3 | 0 | 3 | 7.5 |
| CE 535 | Geotechnical Earthquake | 3 | 0 | 3 | 7.5 |
| | Engineering | | | | |
| CE 540 | Advanced Materials Science | 3 | 0 | 3 | 7.5 |
| CE 542 | Durability of Building Materials | 3 | 0 | 3 | 7.5 |
| CE 543 | Advanced Concrete Technology | 3 | 0 | 3 | 7.5 |
| CE 544 | Materials Testing and Measurements | 3 | 0 | 3 | 7.5 |
| CE 550 | Advanced Mechanics of Materials | 3 | 0 | 3 | 7.5 |
| CE 552 | Structural Design | 3 | 0 | 3 | 7.5 |
| CE 553 | Nonlinear Problems in Reinforced | 3 | 0 | 3 | 7.5 |
| | Concrete | | | | |
| CE 554 | Prestressed and Prefabricated | 3 | 0 | 3 | 7.5 |
| | Systems | | | | |
| CE 555 | Earthquake Resistant Design of | 3 | 0 | 3 | 7.5 |
| | Structures | | | | |
| CE 556 | Matrix Methods of Structural | 3 | 0 | 3 | 7.5 |
| | Analysis | | | | |
| CE 557 | Advanced Steel Structures | 3 | 0 | 3 | 7.5 |
| CE 558 | Advanced Reinforced Concrete | 3 | 0 | 3 | 7.5 |
| CE 559 | Structural Dynamics | 3 | 0 | 3 | 7.5 |



Professional Master in Civil Engineering

| | | | Ü | O | | | | | | | | | | | |
|---------------|--|------------------------|--------------------------|---------|------------|------------|---------|---------|--|-----------|----------|------------|-----------|-------|----------|
| FIRS | ST YEAR | | | | | | | | | | | | | | |
| First | Semester | | | | | | | | | | | | | | |
| COURSES | | Cour se Typ e | Compulsor y /Elective | Week | ly Cou | rse Distri | ibution | Epoka | Sei | nestral I | Lecture | e and st | udying | hours | EC TS |
| Code | Course Name | | | The ory | Pra ct. | Lab. | Total | Credits | L ec t. | Pract . | La b. | Site W. | Oth er | Total | |
| CE 400 | Eng. Application | Е | Compulsor y | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 70 | 30 | 100 | 10 |
| CE 489 | Fundamentals of Steel Design | В | Compulsor y | 2 | 2 | 0 | 4 | 3 | 32 | 32 | 0 | 70 | 45 | 179 | 8 |
| CE xxx | Technical Elective | D | Elective | 3 | 0 | 0 | 3 | 3 | 48 | 0 | 0 | 56 | 3 | 107 | 6 |
| CE xxx | Technical Elective | D | Elective | 3 | 0 | 0 | 3 | 3 | 48 | 0 | 0 | 38 | 20 | 106 | 6 |
| Semestral To | otal | | | 8 | 2 | 0 | 10 | 9 | 12 32 0 234 98 492 | | | | | 30 | |
| | | | | • | | | • | | • | | • | | | | |
| FIRST YEAR | | | | | | | | | | | | | | | |
| | d Semester | | | | | | | | | | | | | | |
| COURSES | | Cour se Typ e | Compulsor y /Elective | Week | ly Coui | rse Distri | ibution | Epoka | Sei | mestral (| Course | e and stu | udying | hours | EC TS |
| Code | Course Name | | | The ory | Pra ct. | Lab. | Total | Credits | L ec t. | Pract . | La b. | Site W. | Oth er | Total | |
| CE 402 | Supervised Independent Study and Research | С | Compulsor y | 1 | 4 | 0 | 5 | 3 | 16 | 64 | 0 | 100 | 65 | 245 | 12 |
| CE xxx | Technical Elective | В | Elective | 3 | 0 | 0 | 3 | 3 | 48 | 0 | 0 | 50 | 3 | 101 | 6 |
| CE xxx | Technical Elective | D | Elective | 3 | 0 | 0 | 3 | 3 | 48 | 0 | 0 | 50 | 3 | 101 | 6 |
| CE xxx | Technical Elective | D | Elective | 3 | 0 | 0 | 3 | 3 | 48 | 0 | 0 | 50 | 3 | 101 | 6 |
| Semestral To | otal | | | 16 | 4 | 0 | 14 | 18 | 16 | 64 | 0 | 250 | 74 | 548 | 30 |

List of Elective courses:

0



| Course Code | Course Name | T | P | C | ECTS |
|----------------|---|---|---|---|------|
| CE 411 | Legal Aspects in Construction Works | 3 | 0 | 3 | 6 |
| CE 412 | Construction Site Techniques | 3 | 0 | 3 | 6 |
| CE 414 | Construction Planning | 3 | 0 | 3 | 6 |
| CE 421 | Properties of Fresh and Hardened Concrete | 3 | 0 | 3 | 6 |
| CE 446 | Intermediate Fluid Mechanics | 3 | 0 | 3 | 6 |
| CE 451 | Groundwater Engineering | 3 | 0 | 3 | 6 |
| CE 452 | Statistical Techniques in Hydrology | 3 | 0 | 3 | 6 |
| CE 461 | Foundation Engineering II | 3 | 0 | 3 | 6 |
| CE 462 | Ground Improvement | 3 | 0 | 3 | 6 |
| CE 471 | Coastal Zone Management | 3 | 0 | 3 | 6 |
| CE 481 | Highway Design | 3 | 0 | 3 | 6 |
| CE 482 | Traffic Safety and Accident Investigation | 3 | 0 | 3 | 6 |
| CE 491 | Reinforced Concrete Structures | 3 | 0 | 3 | 6 |
| CE 492 | Advanced Structural Analysis | 3 | 0 | 3 | 6 |
| CE 493 | Prestressed Concrete | 3 | 0 | 3 | 6 |
| CE 494 | Structural Design: Concrete Structures | 3 | 0 | 3 | 6 |
| CE 489 | Fundamentals of Steel Design | 3 | 0 | 3 | 6 |
| CE 451 | Water Resources Engineering | 3 | 0 | 3 | 6 |
| CE 448 | Intermediate Structural Dynamics | 3 | 0 | 3 | 6 |
| CE 495 | Introduction to Earthquake Resistant Design | 3 | 0 | 3 | 6 |
| CE 515 | Computer Applications in Construction Management | 3 | 0 | 3 | 7.5 |
| CE 520 | Modelling in Hydrology | 3 | 0 | 3 | 7.5 |
| CE 521 | Fundamentals of River Engineering | 3 | 0 | 3 | 7.5 |
| CE 525 | Computational Fluid Dynamics | 3 | 0 | 3 | 7.5 |
| CE 526 | Water Resources Engineering | 3 | 0 | 3 | 7.5 |
| CE 533 | Soil Improvement Techniques | 3 | 0 | 3 | 7.5 |
| CE 534 | Geotechnical Investigations | 3 | 0 | 3 | 7.5 |
| CE 535 | Geotechnical Earthquake Engineering | 3 | 0 | 3 | 7.5 |
| CE 540 | Advanced Materials Science | 3 | 0 | 3 | 7.5 |
| CE 542 | Durability of Building Materials | 3 | 0 | 3 | 7.5 |
| CE 543 | Advanced Concrete Technology | 3 | 0 | 3 | 7.5 |
| CE 544 | Materials Testing and Measurements | 3 | 0 | 3 | 7.5 |
| CE 550 | Advanced Mechanics of Materials | 3 | 0 | 3 | 7.5 |
| CE 552 | Structural Design | 3 | 0 | 3 | 7.5 |
| CE 553 | Nonlinear Problems in Reinforced Concrete | 3 | 0 | 3 | 7.5 |
| CE 554 | Prestressed and Prefabricated Systems | 3 | 0 | 3 | 7.5 |
| CE 555 | Earthquake Resistant Design of Structures | 3 | 0 | 3 | 7.5 |
| CE 556 | Matrix Methods of Structural Analysis | 3 | 0 | 3 | 7.5 |
| CE 557 | Advanced Steel Structures | 3 | 0 | 3 | 7.5 |
| CE 558 | Advanced Reinforced Concrete | 3 | 0 | 3 | 7.5 |
| | | | | | |



| CE 559 | Structural Dynamics | 3 | 0 | 3 | 7.5 |
|--------|---------------------|---|---|---|-----|

PhD Study Program

| Year I - First Semes | ter | T | P | С | ECTS |
|----------------------|-----------------|----|---|----|------|
| CE 8xx | ELECTIVE COURSE | 3 | 0 | 3 | 7.5 |
| CE 8xx | ELECTIVE COURSE | 3 | 0 | 3 | 7.5 |
| CE 8xx | ELECTIVE COURSE | 3 | 0 | 3 | 7.5 |
| CE 8xx | ELECTIVE COURSE | 3 | 0 | 3 | 7.5 |
| Total: | | 12 | 0 | 12 | 30 |

| Year I - Second Sem | nester | T | P | C | ECTS |
|---------------------|-----------------|----|---|----|------|
| CE 8xx | ELECTIVE COURSE | 3 | 0 | 3 | 7.5 |
| CE 8xx | ELECTIVE COURSE | 3 | 0 | 3 | 7.5 |
| CE 8xx | ELECTIVE COURSE | 3 | 0 | 3 | 7.5 |
| CE 8xx | ELECTIVE COURSE | 3 | 0 | 3 | 7.5 |
| Total: | | 12 | 0 | 12 | 30 |

| Year II+III | | T | P | C | ECTS |
|-------------|------------|---|---|---|------|
| CE 800 | PhD Thesis | 0 | 0 | 0 | 120 |
| Total: | | 0 | 0 | 0 | 120 |



D. Teaching, Learning, Assessment & Research

Undergraduate Students' List of Theses

1. Rudi Lulaj, A Case Study on Core Drilling Test, Assist. Prof. Dr. Erion Luga.

Summary:

In this study a column imitation created in a site was used as the source of drilling test. The column was created in order only to perform the experiment, so the steel reinforcement used were minimal. In order to check the core drilling results, before performing it, also a non- destructive test was performed. Schmidt Hammer test showed that the concrete used in the column was C20/25 and both Schmidt Hammer test and Core drilling confirmed the result. The results were taken, analyzed and compared. The conclusions are taken based on those tests and the further comparisons.

2. Klajdi Qoku, Structural Analysis of a 5- storey building- Sap 2000, Dr. Enea Mustafaraj.

Summary:

This microthesis is about structural analysis of a 5-storey building. It is a reinforce concrete Framed- structure. The structure is modelled, designed, and analyzed using a computer program "SAP200". Building is an institutional (hospital) one, which is located in Tirana. This thesis includes different parameters for analysis and design of the structure, which are based on European Standards. The purpose of this study is Modelling in SAP200 and analyzing how the structure responses due to internal loads such as live and dead, along with external loads such as earthquake. The results are shown in very convenient tabular form.

3. Julian Tafa, Gypsum and Plasterboard, Assist. Prof. Dr. Erion Luga.

Summary:

Gypsum is a sedimentary mineral. It is found in layers that were formed under salt water millions of years ago. The water evaporated and left the mineral. This non-toxic mineral can be helpful to humans, animals, plant life, and the environment. Gypsum is one of the more common minerals in sedimentary environments. It is a major rock forming mineral that produces massive beds, usually from precipitation out of highly saline waters. Plasterboard is the most commonly used building material worldwide for internal wall and ceiling linings. Plasterboard is made from a core of a naturally occurring mineral called gypsum. Plasterboard systems provide a wide variety of



economical construction solutions that are recognized for their light weight and high performance. The face paper is suitable for paper.

4. Margarita Dajko, The Effect of Brick Dust/Ground Mortar Mixture as Partial Replacement of Portland Cement, Assist. Prof. Dr. Erion Luga.

Summary:

The aim of this paper is represent and analyze the effect of brick and ground mortar dust as partial replacement of Portland cement in concrete mortars. Construction sector is very intensive and as it is based on resources usage, there is not a 100% efficient usage of these resources and as a result the global community is facing with inert disposal in public spaces. The management of waste materials requires time, space and investment and as a result more practical ways are being considered. So, referring to this problem, which is an actual phenomenon in our country, through this paper it is represented a study on the potential usage of recycled clay bricks and ground mortar mixture. Therefore, the aim of this research is to recycle masonry materials and evaluate the possibility of reuse of them as components in cement. Moreover, in order to give real results and conclusions five types of specimens are produced in laboratory. One specimen is prepared only with Portland cement, two others are produced by adding brick dust with particle size of 0.25mm and 0.125mm, and two others are produced with mortar dust with particle size of 0.25mm and 0.125mm. The samples were tested for water absorption, flexural and compressive strength. The results gained from these tests lead us to the conclusion that these materials have good potentials for partial replacement of Portland cement, especially the ones that have the smallest grain size. This could lead to ecological treatments of wastes and reduction of expenses on extra materials.



Graduate Students' List of Theses

- 1. Izet Mehmetaj, Computational Fluid Dynamics of Different Submerged Vegetation Configurations in Open-Channels, Assoc. Prof. Dr. Miriam Ndini.
- Leda Durmishi, Culvert Analysis and a Lose Study in Tirana Country, Assoc. Prof. Dr. Miriam Ndini
- 3. Said Smoqi, Estimation of Scouring in Bridges- A Case Study of Three Bridges in the Tirana River, Albania, Assoc. Prof. Dr. Miriam Ndini.

Summary:

One of the main reasons for bridge failure is scouring of the foundations and bed material during floods. In this study scouring of three bridges in the Tirana River are studied and estimated. The three bridges are of different characteristics and construction age. In the first part of the study, detailed information is provided about scouring, how to estimate and evaluate scouring, as well as rehabilitation and solutions to prevent or lower the impact of further scouring in bridges.

In the second part of the study, three bridges in the Tirana River are studied and analyzed using the HEC-RAS software. The bridges that will be studied are the "Praktikeri" bridge, "Paskuqani" bridge and "Babrroi" bridge. The bridges were recently hit by a flood during the month of November 2016. After the analysis a conclusion and suggestions will be provided on rehabilitation of the bridges and preventing further scouring

- 4. Sidorela Meta, Seismic Performance of Residential Masonry Buildings in Albania, Assoc. Prof. Dr. Huseyin Bilgin.
- 5. Everest Varaku, Investigation on the Properties of Porous Asphalt, Assist. Prof. Dr. Erion Luga.

Summary:

This study is an investigation on the properties of porous asphalt (open graded) compared with conventional asphalt (dense graded).

This type of asphalt has high porosity, which offers significantly better drainage properties than dense graded asphalt. In this context several tests are made for both types of asphalt, such as:



marshall test, los angeles test, stability test, porosity test and bitumen content. Grading of aggregates used for analysing two types of asphalts are based on the job mix design formula rules of Ministry of Infrastruction and Energitic of Albania and EN 13108 specifications, while analysis made for dense graded and open graded asphalts are based on EN/ASTM standard procedures. Based on the laboratory tests it results that porous asphalt pavements provide excellent properties compared with conventional asphalt. They tend not to exhibit cracking and pothole formation problems.

 Elidon Lala, Compressive Strength and Modulus of Elasticity of Concrete, Assist. Prof. Dr. Erion Luga.

Summary:

This research was carried out as a part of Epoka University with its laboratory. In this experimental work is investigated the relationship between compressive strengths and modulus of elasticity. Three cylinder specimens with different classes of concrete were tested in order to gather information and make an assumption for modulus of elasticity.

7. Kujtim Zogu, Compressive Strength- Specimen Cube Test, Assist. Prof. Dr. Erion Luga.

Summary:

In this experimental work is investigated the effect of specimen damages on compressive strength of concrete. Investigation involves finding out the most likely specimen for testing compressive strength. The specimen used are of same size and same cement classes of concrete. Additional investigation is done about the cement class effect on compressive strength of concrete. The results have been studied carefully in order to give the right conclusions.



List of Incoming & Outgoing Students

(Student Name, & Surname: Name of Home & Host University, Country, Duration of Stay)

Some text here ...



Research Areas and Research Groups

1. Concrete materials and Design

One of the research focuses of this group is related to the analysis of material characteristics of existing RC structures which need to be invested and assessed. On the other hand, implementation of the new design tips in the optimization of concrete technology and new materials such as recycling of industrial wastes and production of alkali activated binders is a strong point of this research group. In this context, several structures and materials have been investigated on site and laboratory and different materials have been designed to be introduced to the construction sector. *Members of the group:* Assist. Prof. Dr. Erion Luga, Erald Silasi (MSc. Civil Engineering), Kemal Pervaqe (MSc. student), Terens Lamaj (MSc. student), Ardit Jakupllari (MSc. student).

2. Seismic Analysis of Reinforced Concrete, Hydraulic and Masonry Structures

Structural analysis and design with emphasis on Reinforced concrete and masonry structures, earthquake-resistant design, evaluation of ultimate capacity of structures under extreme loading including earthquake, wind and blast, employing mostly numerical (finite elements) but also experimental and analytic methods, nonlinear behavior, seismic damage assessment, repairing and retrofit.

Members of the group: Assoc. Prof. Dr. Huseyin Bilgin, Assoc. Prof. Dr. Miriam Ndini, Dr. Enea Mustafaraj, Res. Assist Marsed Leti.

3. Assessment and Rehabilitation of Unreinforced Masonry buildings and Historic Constructions

Conducting a research study on vulnerability assessment of old historical structures in Albania and the compliance with the modern standards. As Albania is located in an active seismic region, there is a risk against earthquakes. The main aim is to predict the structural response and identify the possible damage patterns by identifying the characteristics material properties and other mechanical parameters. Conducting a research study on retrofitting techniques and strategies for old masonry building in order to meet the requirements for modern standards. The main aim is to improve the structural response by adding additional reinforcing elements which would extend the working life of these building.



Members of the group: Dr. Enea Mustafaraj, Assoc. Prof. Dr. Huseyin Bilgin, Assoc. Prof. Dr. Enea Mustafaraj, MSc. Armando Demaj, Res. Assit Marsed Leti.

4. Construction Management

Explore the strategies for effective project planning and management, aiming the optimization of project time, budget and quality. More specially, this research field focus on project planning and organization, project scope, time and cost and project risk management.

Members of the group: Dr. Julinda Keci, Assoc. Prof. Dr. Miriam Ndini, Assoc. Prof. Dr. Huseyin Bilgin, Dr. Enea Mustafaraj, MSc. Armando Demaj, Res. Assist Marsed Leti.



List of Publications

The Academic staff of the Epoka University, during this period of functioning (2017-2018) has published articles in different scientific journals, proceeding books, newspapers, etc.

Assist. Prof. Dr. Erion Luga- Luga, E., & Atis, C. D. (2018). Optimization of heat cured fly ash/slag blend geopolymer mortars designed by "Combined Design" method: Part 1. Construction and Building Materials, 178, 393-404. Keci, J., (2016). "Using Public Private Partnership to Improve Infrastructure Provisions: The Case of Albania", XVI International Scientific Conference VSU(VSU'16), pp. 405-416, 9-10 June 2016, Sofia, Bulgaria.

Luga, E., Paja, A., & Atis, C. D. (2017). AN INVESTIGATION ON THE PARTIAL REPLACEMENT OF PORTLAND CEMENT WITH KOSOVO FLY ASH IN CEMENT MORTARS. MATTER: International Journal of Science and Technology, 3(3).

Dr. Enea Mustafaraj- In-plane Shear Strengthening of Unreinforced Masonry Walls Using GFRP Jacketing Periodic Polytechnic Civil Engineering 62(2), pp. 330–336, 2018 https://doi.org/10.3311/PPci.11311

3 | Assoc. Prof. Dr. Hűseyin Bilgin-

"Bilgin, H., & Uruçi, R. (2018). Effects of structural irregularities on low and mid-rise RC building response. Challenge Journal of Structural Mechanics, 4(2), 33-44 Earthquake performance assessment of low and mid-rise buildings: Emphasis on URM buildings in Albania` published in "Earthquakes and Structures, An International Journal", Volume 14, Number 6, June 2018"

Cited in: Bilgin, H. & Frangu, I. Int J Adv Struct Eng (2017). https://doi.org/10.1007/s40091-017-0164-v

Cited in: Vafaei, M., & Alih, S. C. (2018). Seismic vulnerability of air traffic control towers. Natural Hazards, 90(2), 803-822

Cited in:Tekeli, H., Dilmac, H., Demir, F., Gencoglu, M., & Guler, K. (2017). Shear stress indicator to predict seismic performance of residential RC buildings. COMPUTERS AND CONCRETE, 19(3), 283-291

Cited in: Palanci, M., Kayhan, A.H, Demir, A. (2018). "A statistical assessment on global drift ratio demands of mid-rise RC buildings using code-compatible real ground motion records", Bull. of EQ Eng., DOI: 10.1007/s10518-018-0384-y

Cited in:El-Ftooh, K. A., Seleemah, A. A., Atta, A. A., & Taher, S. E. D. F. (2018). Does a Single ANN Properly Predict Pushover Response Parameters of Low-, Medium-and High-Rise Infilled RC Frames? Arabian Journal for Science and Engineering, 1-23

Cited in:Gungor, A. A. M., Kaya, E. A. A., & Tasdelen, S. (2017). Geophysical Surveys in Engineering Geology Investigations With Field Examples. Handbook of Research on Trends and Digital Advances in Engineering Geology, 257

Cited in:Tekeli, H., Dilmac, H., Demir, F., Gencoglu, M., & Guler, K. (2017). Shear stress indicator to predict seismic performance of residential RC buildings. COMPUTERS AND CONCRETE, 19(3), 283-291



Cited in:Çavdar, Ö., Çavdar, A., & Bayraktar, E. (2017). Earthquake Performance of Reinforced-Concrete Shear-Wall Structure Using Nonlinear Methods. Journal of Performance of Constructed Facilities, 32(1), 04017122

Cited in:O'Reilly, G. J., Perrone, D., Fox, M., Monteiro, R., & Filiatrault, A. (2018). Seismic assessment and loss estimation of existing school buildings in Italy. Engineering Structures, 168, 142-162

Cited in:Ahmad, N., Shahzad, A., Ali, Q., Rizwan, M., & Khan, A. N. (2018). Seismic fragility functions for code compliant and non-compliant RC SMRF structures in Pakistan. Bulletin of Earthquake Engineering, 1-29

Cited in:Papa, G. S., & Silva, B. (2018). Assessment of Post-Earthquake Damage: St.

Salvatore Church in Acquapagana, Central Italy. Buildings, 8(3), 45

Cited in:Öztas, A., Ali, A. L. B. H., Ibrahim, A. L. I., & Ahmad, A. L. T. (2018).

Darbandikan Earthquake Investigation Report

Cited in:Elyamani, A., & Roca, P. (2018). A REVIEW ON THE STUDY OF HISTORICAL STRUCTURES USING INTEGRATED INVESTIGATION ACTIVITIES FOR SEISMIC SAFETY ASSESSMENT. PART I: DYNAMIC INVESTIGATION

Cited in:Marastoni, D., Benedetti, A., Pelà, L., & Pignagnoli, G. (2017). Torque Penetrometric Test for the in-situ characterisation of historical mortars: fracture mechanics interpretation and experimental validation. Construction and Building Materials, 157, 509-520

Cited in:Dang, C. T., & Dinh, N. H. (2017). Experimental Study on the Structural Performance of Beam-Column Joints in Old Buildings without Designed Shear Reinforcement under Earthquake. In Materials Science Forum (Vol. 902, pp. 33-40). Trans Tech Pub.

Cited in: Bilgin, H. & Frangu, I. Int J Adv Struct Eng (2017). https://doi.org/10.1007/s40091-017-0164-y

Cited in: Türkay, A., & Güler, K. (2017). Bir Okul Binasýnýn Tasarýmý ve Deprem Performansýnýn Deðerlendirilmesi. Uluslararasý Yenilikçi Mühendislik Uygulamalarý Dergisi, 1(2), 27-37

Cited in:Firat, F.K. Arab J Sci Eng (2016) 41: 4019. https://doi.org/10.1007/s13369-016-2077-7

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Cited in: Bilgin, H. & Frangu, I. Int J Adv Struct Eng (2017). https://doi.org/10.1007/s40091-017-0164-y

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Cited in:Özer, E, Kamal, M, Inel, M. (2017). Comparison of Linear and Nonlinear Seismic Behavior of 2D and 3D RC Buildings. International Journal Of Engineering & Applied Sciences, 9 (4), 17-27. DOI: 10.24107/ijeas.336034

Cited in:Isik, E., Özdemir, M. & Karabin, Y.B. Int J Steel Struct (2018).

https://doi.org/10.1007/s13296-018-0046-6

Cited in:Sisik, Ö. (2017). Edirne'de bulunan 15. yy ve 16. yy'da inþaa edilmiþ tarihi cami ve türbelerin tasiyici sistem analizi ve çözüm önerileri (Doctoral dissertation, Selçuk Üniversitesi Fen Bilimleri Enstitüsü).



Cited in:Bhosale, A. S., Davis, R., & Sarkar, P. (2018). Seismic Safety of Vertically Irregular Buildings: Performance of Existing Indicators. Journal of Architectural Engineering, 24(3), 04018013.

Cited in:陳清山. (2017). 以人工智慧理論探討臺中市中小學校舍耐震因子及耐震能力(To Interpret the Seismic Factors and Seismic Abilities of School Buildings in Taichung City using Artificial Intelligent Theories). 建築學報, (100), 95-116

Cited in:Bhosale, A. S., Davis, R., & Sarkar, P. (2017). Vertical Irregularity of Buildings: Regularity Index versus Seismic Risk. ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering, 3(3), 04017001

Cited in:Lai, W., Wei, X., Ning-ning, F., Shuping, C., Feng, L., & Qiumei, G. (2016). Research on Seismic Performance of Reinforced Concrete Frame with Unequal Span Under Low Cyclic Reversed Loading. The Open Civil Engineering Journal, 10(1)



Participation of Academic Staff in Academic Events

Assoc Prof. Dr. Huseyin Bilgin gave lectures to the Civil Engineering students of "Gheorghe Asachi" Technical University of Iași in Romania

On the 14th and 15th of November, Huseyin Bilgin gave lectures to the Civil Engineering students of Gheorghe Asachi" Technical University of Iaşi in Romania. The lectures were entitled "Design Principles for RC Building Structures" and "Practice Oriented Nonlinear Procedures for Seismic Performance Assessment". First lecture series aimed to present recent knowledge on earthquake protection measures for buildings in a simple and easy to understand manner to senior level bachelor students. Second topic was for master students and discussed the developments in the Earthquake Engineering with emphasis on nonlinear methods for performance evaluation.



Fig.1: Assoc Prof. Dr. Huseyin Bilgin gave lectures to the Civil Engineering students of "Gheorghe Asachi" Technical University of Iaşi in Romania.



Successful teaching exchange with Georghe Asachi Technical University in Iasi, Romania

In the context of Staff Mobility under Erasmus + program, during 14-19 May 2018, Dr. Julinda Keçi, lecturer at Civil Engineering Department, took part in a teaching exchange with Georghe Asachi Technical University in Iasi, Romania. With research interest in construction management, Dr. Julinda Keci's teaching duties at TUIASI included giving third year students the opportunity to study a module on construction project planning and management, including stages of project development, project planning, scheduling and cost estimation. Commenting on the exchange experience, Dr. Keci said: "This exchange represented a really valuable opportunity to experience higher education system from a different perspective, with new challenges and opportunities. It was interesting to find out how much we have in common. I hope to keep in touch with students and staff we got to know there and to keep the dialogue between our institutions open. Dr. Keçi also had meetings with the decision-makers of the university and faculty members, where further collaboration between universities was discussed.



Fig. 2: Successful teaching exchange with Georghe Asachi Technical University in Iasi, Romania

Annual Report





| Projects | |
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| E. Support, Resources & Representation | |
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List of Students' Internships

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Participation in Academic Events

For each research publication provide the full reference associated by a short summary of 100 words max.

For participation in Academic Events, include international/ national conferences, workshops, trainings, roundtables etc. Similarly, provide full references and a short summary (100 words max) of each activity.

Research Projects

(Write a paragraph for each project applied and/ or awarded highlighting the area of the project, members, targeted group, grant used, expected outcomes). Associate the text with at least one picture.

Industry Projects

(Write a paragraph for each project highlighting the area of the project, members, targeted group, grant used, expected outcomes). Associate the text with at least one picture.



Community Projects

(Write a paragraph for each project highlighting the area of the project, members, targeted group, grant used, expected outcomes). Associate the text with at least one picture.

Student Club Projects

(Write a paragraph for each project highlighting the area of the project, members, targeted group, grant used, expected outcomes). Associate the text with at least one picture.



Student Best Success Stories

1. Our Alumni, Almida Kaziu, won full scholarship at Technical University of Dresden



She said that: "My story with Epoka University has been a true coincidence. Based on the private university cliché at those years I must say, I had my own doubts about it. Today ... I can say I am very proud to have studied here. The university provides a lot of support and information regarding the opportunities that are offered to the students and professors push you to follow your ambitions as much as you can. I was encouraged to follow my ambitions from all my professors and also to realize that just being a good student and having good grades is not enough. Sometimes student and social life is the most important.

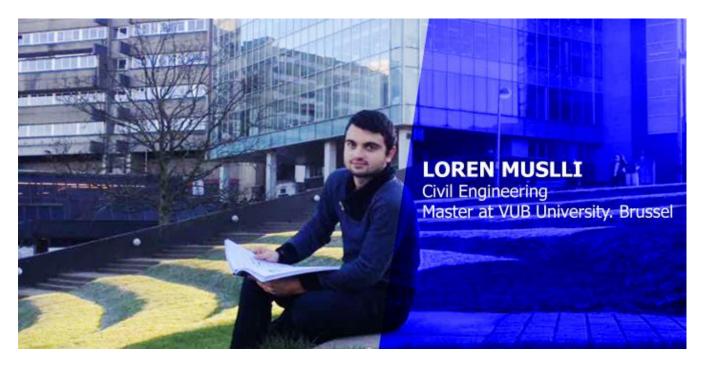
I am very happy to have been part of different student clubs that the university offers, to have been part of the management of such clubs and understand the real value of them. This is how I learnt that information is beyond borders and also professional relations. I learnt team work, improved my communication skills and shared knowledge. Today, I strongly confirm that one of the reasons I won a scholarship from the German Embassy and study in Germany is because of my participation in these activities.

The support I got from my professors, my classmates and my family was enormous. Hereby, you have all my gratitude.



In the end I have an advice for the current students. Never stop seeking into knowledge, never be enough with just classes and grades, a student can do more than that. For your own luck you study in such a university and Epoka offers these opportunities, use them".

2. Loren Muslli, Civil Engineering Student, at VUB University



Loren Muslli, after graduating from Epoka University in Department of Civil Engineering started his master studies at "Vrije Universiteit Brussel", VUB University in Brussel.

He said that: "After finishing the high school and driven by my ambition and thirst for improvement, I wanted to gain from better education and opportunities, which I found in the most reputable university in Albania, Epoka University, where competition would be much stronger. In addition, I wanted to experience other cultures and systems that would help me enrich my background, grow intellectually and personally, network with people all over the world and open new perspectives for me. Being interested in current affairs, I was continuously up to date with engineering development issues in my home country and worldwide, which since early in my life enhanced my enthusiasm on construction theory. Given my desire to deepen my knowledge in construction, I decided to study Civil Engineering at Epoka University.



Despite the initial difficulties, I managed to adapt to the new framework as well as succeed in my studies. Living and studying in a social environment where most of the students had different nationalities and many of my peers were from Turkey, helped me further build a strong, flexible and open character. During the first year of my studies, I was asked to join the Honors Program offered by the university to highly motivated students seeking a more in-depth perspective on engineering. As part of this program, I participated in courses such as Mechanics of Materials and Construction Engineering and Management, which offered me new insights into current engineering debates and topics. Other classes like Structural Analysis, Fluid Mechanics and Hydromechanics strongly aroused my curiosity to explore the field in more depth. During these courses, I was acquainted with the decision-making process within an organization, which is a key element to any successful organization. Combining economics and engineering courses has surely increased my eagerness to hover over the fields of leadership; strongly believing that there is a much greater potential outcome when we try to find solutions in the intersection of multiple disciplines. Finally I would say that my grades at Epoka University afforded the studies that I am attending in Belgium.







Office Holders

The department would like to thank the following for their valuable contribution to teaching, administration and management over the past year:

Some text here ...

Acknowledgements

In addition to the Office Holders listed above, the department would like to thank the following:

Some text here ...



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