CHAPTER 1
GENERAL PROVISIONS

Article 1
Subject of Regulation

The Regulation of the Professional Master in "Disaster Risk Management and Fire Safety Engineering" stipulates the functioning principles of this program.

Article 2
Legal Basis

The Regulation of the Professional Master in "Disaster Risk Management and Fire Safety Engineering" at Epoka University is based on the Law No. 85/2015, "On Higher Education and Scientific Research in Higher Education Institutions in the Republic of Albania", as amended, on the license issued by the Decision of Council of Ministers No. 281, dated 12.03.2008, "On the licensing of the Private Institution of Higher Education "Institution of Higher Education "Epoka", on the Statute and Basic Regulation as well as on the Regulation of the Professional Master study programs of this institution.

CHAPTER 2
PROGRAM CONTENT

Article 3
Specific formation aims of the program

The primary objective of this professional master program is to provide industry and society with qualified candidates who through in-depth knowledge in the field can contribute to a safer society. One of the most important aspects in this context is to reduce risks and improve safety. The program aims to be organized in close contact with industry partners focusing particularly on disaster risk management and fire safety issues. The courses of the program are mainly in the field of civil engineering, but also including other areas such as architecture, management, design, computer engineering and economics, thus intending to have a multidisciplinary prospectus of the study program. The main objective of the program is to provide a holistic and professional approach to develop the knowledge in the field of Disaster Risk Management and Fire Safety Engineering. The course seeks to provide participants with opportunities for improving their understanding of different topics including: Risk assessment applications, Flooding and River management, Conceptual approaches to vulnerability across different social dimensions/perspectives, fire science, including laboratory classes, fire safety

engineering and relevant structural engineering topics, such as concrete materials, earthquake engineering. The students will gain knowledge also of the critical issues in structural fire safety engineering, and understanding of relevant fire and structural behaviors. In addition, the students will be familiar with performance-based approaches to design and have an awareness of the capabilities – and limitations – of relevant advanced modeling methods for structures and fire. The program is one year Master Program consisting in 2 semesters. Students are required to take in the first semester 2 Core Courses and 2 Elective Courses, whereas in the second semester 2 Core Courses, 1 Practical Course and 1 Elective Course in the field of Disaster risk management and fire safety engineering. Each semester includes 30 ECTS, so in total the master program is composed of 60 ects.

The program aims to develop highly skilled human resources who can advance the knowledge in the field of Disaster Risk Management and Fire Safety Engineering. The students are expected to expand and upgrade their knowledge and skills in the field. This is a one-year full time program covering fundamental principle, technical skills and scientific knowledge related to Disaster Risk Management and Fire Safety Engineering.

The objectives and goals of the Professional Master in Disaster Risk Management and Fire Safety Engineering at Epoka University are:

1. To equip our students with solid technical knowledge in the field of Disaster Risk Management and Fire Safety Engineering by:

- broadening the horizon of the students in the field of DRM & FSE,
- increasing the ability of students to identify, formulate and solve complex issues in the reduction the negative impacts of disasters and fire in a systematic way,
- increasing awareness of students about cost, time and quality issues in construction.
- increasing their ability to collect, analyze, and interpret data,
- developing knowledge, skills and competencies to meet disaster management and fire safety demands

2. To reinforce their contemporary knowledge which will be necessary in their professional career:

- providing the students with knowledge on contemporary issues in the field of DRM & FSE,
- enhancing awareness of students about the impact of DRM & FSE in a global and societal context (social, economic, legal and/or environmental implications),
- increasing awareness of students about DRM &FSE issues in construction works.
- increasing their ability to use advanced communication tools such as web-based applications, software etc.
- understanding and use disaster risk management and fire safety engineering tools and approaches.

Article 4
List of teaching disciplines and other formation activities

The list of teaching disciplines and other formation activities of the program is as below:
T- Theoretical hours
P- Practice hours
C- American system credits
ECTS- ECTS system credits

First Semester									
COURSES		Course Type	Compulsory /Elective	Weekly Course Distribution				Epoka credits	ECTS
Code	Course Name			Theory	Pract.	Lab.	Total		
DRM-FS 401	Project Planning, Management and Coordination	B	Compulsory	2	2	0	4	3	7.5
DRM-FS 403	Structural Fire Safety	B	Compulsory	3	0	0	3	3	7.5
	Elective	B	Elective	2	2	0	3	3	7.5
	Elective	C	Elective	3	0	0	3	3	7.5
Semestral Total				10	4	0	13	12	30
Second Semester									
COURSES		Course Type	Compulsory /Elective	Weekly Course Distribution				Epoka credits	ECTS
Code	Course Name			Theory	Pract.	Lab.	Total		
DRM-FS 402	Risk Analysis in Decision-making Process	B	Compulsory	2	2	0	4	3	7.5
DRM-FS 404	Evaquation Calculation Modeling	B	Compulsory	2	0	2	4	3	7.5
DRM-FS 416	Internship	E	Compulsory	1	2	0	3	2	7.5
	Elective	D	Elective	3	0	0	3	3	7.5
Semestral Total				8	4	2	14	11	30

Article 5
Credits and obstructing obligations for each discipline or other formative activity

First cycle study programs enabling admission to the Professional Master study program in "Disaster Risk Management and Fire Safety Engineering":

A) No additional knowledge prior to entering the program;

From the same institution of higher education	
First cycle program or programs or integrated programs for which formative knowledge is not required	1. Civil Engineering 2. Architecture
From other institutions of higher education	
First cycle program or programs or integrated programs for which formative knowledge is not required	1. Civil Engineering 2. Environmental Engineering 3. Hydrotechnical Engineering 4. Electrical Engineering 5. Mechanical Engineering 6. Architecture

B) with supplementary training knowledge prior to entering the program;

Article 6
Curricula and specific formation objectives of every formation activity

The curricula offered to the students during the program and the specific formation objectives of every formation activity are found in the attached text.

Article 7
Type of study, exams and other verifications of knowledge received by the students

The type of study of the Professional Master in "Disaster Risk Management and Fire Safety Engineering" is full-time. The teaching process is composed of lectures, projects and homeworks, practices, seminars and other similar works foreseen in the course program. The evaluation from the academic point of view of lectures, projects and homeworks, practices, seminars and other similar works is done based on the measuring

unit hour performed in auditorium. The value of credits of one course is composed of the total of all weekly theoretical hours and half of weekly hours used for application, laboratory, projects and other workshops. The success level of the student is evaluated based on the midterm exams; final exams; homeworks; presentations; projects.

Article 8
Attendance

The student enrolled in the Profesional Master study program in "Disaster Risk Management and Fire Safety Engineering" is obliged to attend at least 60% of the teaching and research activities carried out in the auditoriums, of theory courses as well as teaching and research activities performed in the laboratories and of practice. Students trespassing this limit have to repeat the course with all corresponding obligations. The fulfillment or not of the requirements concerning the attendance is presented and is checked by the Head of the Department.

Article 9
Students Transfer

Quotas for horizontal transfers to the Professional Master study program in "Disaster Risk Management and Fire Safety Engineering" are defined by the Scientific Committee and approved by the Faculty Decanate, based on the principles established by the Scientific Council. Students who have been transferred to this program are granted a diploma with the condition they have completed at least one semester at Epoka University.
Students who have completed at least one semester in a Master program or Master of Science study program may apply to the Registrar's Office within the deadlines set in the academic calendar to be horizontally transferred to the Professional Master study program in "Disaster Risk Management and Fire Safety Engineering" in accordance with the principles set by the Academic Senate.
The request is reviewed by the Scientific Committee of the study program and the Faculty Decanate gives the final decision.

Article 10
Relations between credits and various formation activities

Relations between credits and various formation activities are shown as below:
Activities in characterizing disciplines of the study program for a specific profile: 37.5 ECTS; Activities in similar disciplines or/and integrated with characterizing disciplines of the study program: 7.5 ECTS; Discipline with elective courses offered by the study

program: 7.5 ECTS; Other formative knowledge (internships, practices etc.): 7.5 ECTS; Total: 60 ECTS

Article 11
Recognition of credits for previously acquired knowledge

In accordance with the legislation in force, the Scientific Committee may recognize as credits of university formations in the Professional Master study program in "Disaster Risk Management and Fire Safety Engineering" up to 30 ECTS from the formation activities gained previously by the student, which are in accordance with the specific aims of the program.

Article 12
Number of Students

The minimum number of students in the Professional Master study program in "Disaster Risk Management and Fire Safety Engineering" is 5 (five) and maximum 50 (fifty) students.

CHAPTER 3
FINAL PROVISIONS

Article 14
Execution

This regulation enters into force on the date of its approval by the Higher Board of "Epoka" University.
The enforcement of this regulation is ensured by the Rector.

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

COURSE INFORMATON **Course Title:** EVACUATION CALCULATION MODELLING							
Code	**Course Type**	**Regular Semester**	**Lecture**	**Recit.**	**Lab.**	**Credits**	**ECTS**
ARCH 428	B	2	2	0	2	3	7.5
Lecturer and Office Hours			Assoc. Prof. Dr. Sokol Dervishi				
Teaching and Assistants Office Hours							
Language			English				
Compulsory/Elective			Compulsory				
Classroom and Meeting Time							
Description	Provide a review of the mechanisms whereby people are affected by exposure to toxic effluent and heat in fires, including toxicology of fire effluent components, common fire scenarios to building occupants, examination of individual incidents through fire investigation, standard small and large scale experimental approaches and standards. In addition, the course aims to review the formulation and application of evacuation models.						
Objectives	- Review trends in human behavior and factors which affect the behavior of people in fire situations. - To create interest in fire safety risk management - To present the range of available preparedness and mitigation measures, consider their appropriateness, opportunities, limitations of implementation in the regional context						

COURSE OUTLINE	
Week	**Topics**
1	Introduction to life safety concepts
2	Human behavior in fire theories: decision-making, response to alarm systems, information, and environmental cues
3	Characteristics of people movement through smoke
4	Evacuation time analysis: Components of evacuation time, Transitions, Queues
5	Design of evacuation alarms
6	Panic
7	Social Impacts; Fire safety Education
8	General concepts of evacuation modelling part 1
9	General concepts of evacuation modelling part 2
10	Review of evacuation models
11	Use of evacuation models: Case studies; Uncertainties, Model defaults; Performance-based design concepts
12	FDS+Evac tutorial
13	FDS+Evac tutorial
14	FDS+Evac tutorial

Prerequisite(s)	No
Textbook	SFPE Handbook of Fire Protection Engineering, 4th Edition, P.J. DiNenno (ed.), Quincy: NFPA, 2008.
Other References	
Laboratory Work	No
Computer Usage	Building Simulation models
Others	

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

LEARNING OUTCOMES AND COMPETENCIES	
1	To learn the principles of fire life safety concepts
2	To design the buildings with concepts of fire safety evacuation
3	To include computational simulation methods in fire analysis
4	To design evacuation systems in project design integration

COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES
(Blank: no contribution, 1: least contribution … 5: highest contribution)

No	Program Learning Outcomes	Cont.
1	An ability to apply knowledge of mathematics, science, and engineering	**5**
2	An ability to design and conduct experiments, as well as to analyze and interpret data	**5**
3	An ability to design a system, component, or process to meet desired needs	**4**
4	An ability to function on multidisciplinary teams	**4**
5	An ability to identify, formulate, and solve engineering problems	**3**
6	An understanding of professional and ethical responsibility	**4**
7	An ability to communicate effectively	**3**
8	The broad education necessary to understand the impact of engineering solutions in a global and societal context	**2**
9	A recognition of the need for, and an ability to engage in life-long learning	**2**
10	A knowledge of contemporary issues	**4**
11	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice	**5**
12	Skills in project management and recognition of international standards and methodologies	**2**

COURSE EVALUATION METHOD

In-term studies	Quantity	Percentage
Mid-terms	1	40
Quizzes		
Projects		
Term Projects	1	60
Laboratory		
Others- Attendance		
Total		**100**

ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD

Activities	Quantity	Duration (Hour)	Total Workload (Hour)
Course Duration (Including the exam week: 16x Total course hours)	16	4	64
Hours for off-the-classroom study (Pre-study, practice)	16	2	32
Assignments			
Mid-terms	1	40	40
Final Project	1	52	52
Other			
Total Work Load			**188**
Total Work Load / 25 (h)			**7.5**
ECTS Credit of the Course			**7.5**

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

COURSE INFORMATON Course Title ***River Engineering***							
Code	**Course Type**	**Regular Semester**	**Lecture**	**Recit.**	**Lab.**	**Credits**	**ECTS**
CE 455	C	2	2	2	0	3	7.5
Lecturer			Dr. Miriam NDINI				
Teaching and Assistants Office Hours							
Language			English				
Compulsory/Elective			The course is an elective module and especially designed for students in civil engineering and environmental sciences.				
Classroom and Meeting Time							
Course Description	Fluvial geomorphology, sediment transport, and river response with special emphasis on environmental aspects. Technical communication across the fields of river hydraulics / mechanics, fluvial geomorphology, water quality management, and aquatic ecology is emphasized. Survey of water quality and quantity issues related to the management of rivers, streams, riparian areas, floodplains, watersheds, and aquatic ecosystems. Students are introduced to standard hydraulic and sediment transport models.						
Course Objectives	1. Describe stream and river behavior and response to alterations across different spatial and temporal scales 2. Apply standard mathematical and computational models of fluvial processes, including HEC-RAS and standard sediment transport relationships 3. Design stable channels with varying capacities to transport sand and gravel/cobble materials (longitudinal profile, planform, and cross-section) 4. Understand and be conversant in describing interactions between physical and ecological processes in streams and rivers 5. Gain perspective through case studies on water resources issues						

COURSE OUTLINE	
	Topics
1-2-3-4-5-6-7	Introduction to River Engineering- **Fluvial Geomorphology** • Fluvial system • Planform relationships • Bankfull and effective discharges • Hydraulic geometry • Stream classification • Stream and river response River Mechanics and Stable Channel Design • Regime relationships • Analytical solutions • Extremal hypotheses • Geotechnical considerations • Bank stabilization techniques • HEC-RAS – Copeland's stable channel design method
8-9-10-11	**Erosion and Sedimentation** • Incipient motion • Modes of sediment transport • Supply vs. capacity • Sediment transport equations • Sediment rating curves
12-13-14	**Management and Restoration of Streams and Watersheds-** • Water policy • Riparian areas, wetlands, and floodplains • Basic concepts and tools • Strategic vs. tactical restoration

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

	• Watershed analysis
Prerequisite(s)	The students must have a good foundation in Hydraulics, Hydrology; Soil Mechanics, Engineering Materials
References/ Others	- Knighton, A.D. 1998. Fluvial Forms and Processes. Arnold Publishers. -Richardson, E.V., D.B. Simons, P.F. Lagasse. 2001. River Engineering for Highway Encroachments: Highways in the River Environment. Federal Highway Administration, Report No. FHWA NHI 01-004 HDS-6. -Hydraulic Structures, P. Novak, A. I. B. Moffat, C. Nalluri and R. Narayanan, Taylor and Francis, U. K. -Hydraulics of Spillways and Energy Dissipators, R. M. Khatsuria, Marcel Dekker Publishing, New York -Hydraulic Design Manual- Texas Department of Transportation. 2004 Formal lectures; classroom exercises; home assignments; exercises & workshops in computer lab

COURSE CONTRIBUTION TO PROGRAM OUTCOMES
(Blank : no contribution, 1: least contribution ... 5: highest contribution)

Week	Program Learning Outcomes	Cont.
1	An ability to apply knowledge of mathematics, science, and engineering	2
2	An ability to design and conduct experiments, as well as to analyze and interpret data	4
3	An ability to design a system, component, or process to meet desired needs	4
4	An ability to function on multidisciplinary teams	2
5	An ability to identify, formulate, and solve engineering problems	4
6	An understanding of professional and ethical responsibility	1
7	An ability to communicate effectively	1
8	The broad education necessary to understand the impact of engineering solutions in a global and societal context	3
9	A recognition of the need for, and an ability to engage in lifelong learning	2
10	A knowledge of contemporary issues	
11	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice	2
12	Skills in project management and recognition of international standards and methodologies	2

COURSE EVALUATION METHOD

In-term studies	**Quantity**	**Percentage**
Mid-terms	1	30
Quizzes	2	20
Projects	4	10
Term Projects		
Final Exam	1	40
Others- Attendance		
Total		
Contribution of in-term studies to overall grade		**60**
Contribution of final examination to overall grade	**1**	**40**
Total		**100**

ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD

Activities	**Quantity**	**Duration (Hour)**	**Total Workload (Hour)**
Course Duration (Including the exam week: 16x Total course hours)	16	3	48
Hours for off-the-classroom study (Pre-study, practice)	16	5	80
Assignments			
Mid-terms	1	3	3
Final examination	1	3	3
Other	3	20	54
Total Work Load			**188**
Total Work Load / 25 (h)			**7.52**
ECTS Credit of the Course			**7.5**

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

COURSE INFORMATON Course Title ***FLOOD RISK ASSESSMENT***							
Code	**Course Type**	**Regular Semester**	**Lecture**	**Recit.**	**Lab.**	**Credits**	**ECTS**
CE 473	B	1	2	1	0	3	7.5
Lecturer			Assoc. Prof. Dr. Miriam NDINI				
Teaching and Assistants Office Hours							
Language			English				
Compulsory/Elective			The course is an compulsory module and especially designed for students in environmental sciences and civil engineering. The contents are harmonized with the elective-parallel course River Engineering.				
Classroom and Meeting Time							
Course Description	It includes assessing the potential for a hazard from floods to occur and a vulnerability analysis to provide an understanding of the consequences an event of a certain magnitude and frequency occur. Based on this, various mitigation measures, structural and non-structural measures can be evaluated to assess their ability for reducing risk exposure. Some topics will be focused on climate changes and it impacts in water resources in general and in floods and drought in specific.						
Course Objectives	The course objective is the identification of the risk from flooding, the assessment of flood risk and development of strategies and measures to reduce that risk, and the creation of policies and programs to put these measures into effect. On completion of this module the students are able to: 1. Understand and explain the main principles of flood and their risk; 2. Have acquired basic knowledge of flood risk management; 3. Understand and explain the necessity of measures for flood protection and mitigation. 4. Understand and have knowledge of what climate change is, its impact in floods and droughts and adaptive measures to be undertaken. 4. Have acquired understanding of the structural and non-structural measures for flood control, their characteristics and functioning; 5. Be able to make appropriate and critical use of flood risk management principles. 6. Be familiar with the main principles of EU flood directive and have knowledge about European experience in flood risk management;						

COURSE OUTLINE	
	Topics
1	Introduction to flood risk management. Types of floods and their processes, Characteristics of flood and their causes;
2	Definition of flood, events driven by rainfall/runoff processes and by different natural or anthropic factors.
3	Quantifying flood risk – probabilistic and statistical approaches.
4	Design floods - and estimation of peak flows methods, catchment characteristics method, storm hydrographs and unit hydrograph methods;
5	Measuring flood processes- Delineation of the flood-prone area- Floodway and flood plain- Monitoring River Hydraulic parameters. Vulnerability analysis.
6	Floods in a changing world. Changes in Flow regimes, Changes in water resources Climate Change and its impact in Flood.
7	Evaluation of Meteorological and Hydrologic Drought. Drought in water management
8	Implications of water management. “Bridging” DRM with climate change adaptation
9	Flood Control Mechanisms. Structural measures for flood control (dams, dikes, diversions).
10	Non-structural measures. Informational system of flood warning and forecasting. Updating the flood forecast.
11	Flood management plans, and operation rules of the structural measures.
12	Flood disaster management (Pre-, post- and during flood). Flood emergency response and flood preparedness
13	EU framework directive on floods

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

14	European experience in managing floods.
Prerequisite(s)	Fluid dynamics and River Hydraulics; Hydrology
Others	Formal lectures; classroom exercises; home assignments; exercises & workshops in computer lab

COURSE CONTRIBUTION TO PROGRAM OUTCOMES
(Blank : no contribution, 1: least contribution ... 5: highest contribution)

Week	Program Learning Outcomes	Cont.
1	An ability to apply knowledge of mathematics, science, and engineering	4
2	An ability to design and conduct experiments, as well as to analyze and interpret data	4
3	An ability to design a system, component, or process to meet desired needs	3
4	An ability to function on multidisciplinary teams	5
5	An ability to identify, formulate, and solve engineering problems	3
6	An understanding of professional and ethical responsibility	3
7	An ability to communicate effectively	3
8	The broad education necessary to understand the impact of engineering solutions in a global and societal context	4
9	A recognition of the need for, and an ability to engage in lifelong learning	4
10	A knowledge of contemporary issues	3
11	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice	3
12	Skills in project management and recognition of international standards and methodologies	3

In-term studies	**Quantity**	**Percentage**
Mid-terms	1	20
Quizzes	2	20
Projects	4	20
Term Projects		
Final Exam	1	40
Others- Attendance		
Total		
Contribution of in-term studies to overall grade		**60**
Contribution of final examination to overall grade		**40**
Total		**100**

ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD

Activities	**Quantity**	**Duration (Hour)**	**Total Workload (Hour)**
Course Duration (Including the exam week: 16x Total course hours)	16	3	48
Hours for off-the-classroom study (Pre-study, practice)	16	5	80
Assignments			
Mid-terms	1	3	3
Final examination	1	3	3
Other	3	20	54
Total Work Load			**188**
Total Work Load / 25 (h)			**7.52**
ECTS Credit of the Course			**7.5**

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

COURSE INFORMATON

Course Title

DRM-FS Internship

Course Name:	DRM-FS Internship

Code	Course Type	Regular Semester	Lecture	Recit.	Lab	Credits	ECTS
DRM-FS 416	E	2	1	2	-	2	7.5

Name of Lecturer(s):	Julinda Keçi
Teaching Assistant(s):	-
Course Language:	English
Course Type:	Compulsory
Timetable:	
Course Coordinator:	
Course Objectives:	Acquisition practical knowledge from the disaster risk management and fire safety engineering during the internship period in the related units
Course Description:	-

COURSE CONTENT

Week	**Topic**
1	Practice
2	Practice
3	Practice
4	Practice
5	Practice
6	Practice
7	Practice
8	Practice
9	Practice
10	Practice
11	Practice
12	Practice
13	Practice

COURSE LEARNING OUTCOMES

1	To learn the importance of disaster risk management and fire safety engineering
2	To learn working areas of disaster risk management and fire safety engineering
3	To learn related standards and practices in disaster risk management and fire safety engineering, basic teamwork skills, and engineering ethics

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

COURSE CONTRIBUTION TO PROGRAM OUTCOMES
(Blank : no contribution, 1: least contribution ... 5: highest contribution)

Week	Program Learning Outcomes	Cont.
13	An ability to apply knowledge of mathematics, science, and engineering	
14	An ability to design and conduct experiments, as well as to analyze and interpret data	
15	An ability to design a system, component, or process to meet desired needs	
16	An ability to function on multidisciplinary teams	2
17	An ability to identify, formulate, and solve engineering problems	3
18	An understanding of professional and ethical responsibility	3
19	An ability to communicate effectively	4
20	The broad education necessary to understand the impact of engineering solutions in a global and societal context	
21	A recognition of the need for, and an ability to engage in lifelong learning	4
22	A knowledge of contemporary issues	3
23	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice	4
24	Skills in project management and recognition of international standards and methodologies	4

Prerequisites:	-
Special Requirements:	-
Weekly Laboratory/Practice Plan:	
Textbook:	
Other Course Materials/References:	
Teaching Methods:	Practical Sessions, Presentation

COURSE EVALUATION CRITERIA

Nr	Method	Quantity	Percentage
1	Presentation	1	100
		Total Percent:	100%

ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD)

Nr	Activities	Quantity	Duration(hour)	Total Workload
1	Course Duration (Including the exam week: 16x Total course hours)			0
2	Hours for off-the-classroom study (Pre-study, practice)	30	6	180
3	Mid-terms			0
4	Final examination			0
5	Other	1	7	7
			Total Workload:	**187**
			ECTS(Workload/25}:	**7.5**

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

COURSE INFORMATON

Course Title

PROJECT PLANNING, MANAGEMENT AND COORDINATION

Course Name:	PROJECT PLANNING, MANAGEMENT AND COORDINATION						
Code	Course Type	Regular Semester	Lecture	Recit.	Lab	Credits	ECTS
CE 431	B	1	2	2	-	3	7.5

Name of Lecturer(s):	Julinda Keçi
Teaching Assistant(s):	-
Course Language:	English
Course Type:	Compulsory
Timetable:	
Course Coordinator:	
Course Objectives:	This course aims to provide the student with an understanding of the concepts and practices of project planning, management and coordination used to provide value added services to clients. The course develops understanding of the issues related to the management of project stakeholders and how their needs can be coordinated, managed and delivered from the project's conceptual stages through production to occupation and maintenance within the context of overarching project constraints of time, cost, quality sustainability, health and safety management.
Course Description:	Planning, management and coordination of projects. Application and integration of project management processes to the typical project lifecycle (initiating, planning, executing, monitoring, and closing). Studies in the nine knowledge areas defined by the Project Management Institute (PMI): Project Integration, Scope, Time, Cost, Quality, Human Resources, Communications, Risk and Procurement Management. Tools/ techniques for construction project planning and control of costs, time, risk and quality; Issues relating to TQM and health and safety; teamwork and leadership roles.

COURSE CONTENT

Week	**Topic**
1	Introduction to Program Planning
2	Project Management Knowledge Areas; Project Management Process Groups
3	Discussion of Project Delivery Methods, Contract Terms, Project Documentations and Quality Assurance Systems
4	Discussion of Project Delivery Methods, Contract Terms, Project Documentations and Quality Assurance Systems
5	Stages of a Project Development
6	Work Breakdown Structure; Application
7	Stochastic Network Techniques in Project Planning
8	Midterm Exam
9	Critical Path Method
10	Program Evaluation and Review Technique
11	Project Cost Plan
12	Resource Handling , Leveling and Constrained Scheduling
13	Project Cash Flows; Project Funding
14	Application; Final Review

COURSE LEARNING OUTCOMES

1	To understand project management concepts, standards and services
2	To learn principles of program planning
3	To learn the organizational structures for delivery of project management services
4	To learn the techniques and methods used for the project lifecycle planning and control of costs, time, risk and quality
5	To develop cost and schedule plans
6	To develop a construction project planning

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

COURSE CONTRIBUTION TO PROGRAM OUTCOMES
(Blank : no contribution, 1: least contribution ... 5: highest contribution)

Week	Program Learning Outcomes	Cont.
1	An ability to apply knowledge of mathematics, science, and engineering	
2	An ability to design and conduct experiments, as well as to analyze and interpret data	
3	An ability to design a system, component, or process to meet desired needs	4
4	An ability to function on multidisciplinary teams	
5	An ability to identify, formulate, and solve engineering problems	3
6	An understanding of professional and ethical responsibility	
7	An ability to communicate effectively	
8	The broad education necessary to understand the impact of engineering solutions in a global and societal context	2
9	A recognition of the need for, and an ability to engage in life long learning	
10	A knowledge of contemporary issues	
11	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice	
12	Skills in project management and recognition of international standards and methodologies	5

Prerequisites:	-
Special Requirements:	-
Weekly Laboratory/Practice Plan:	N/A
Textbook:	Project Management: Planning and Control Techniques, Rory Burke, Wiley-Blackwell, 2013 Project Management: A Systems Approach to Planning, Scheduling, and Controlling, Harold Kerzner, Wiley-Blackwell, 2013
Other Course Materials/References:	Construction Planning for Engineers, F. H. Griffis, McGraw-Hill, 2002. Construction Management Fundamentals, Kraig Knutson, McGraw-Hill, 2008 A Handbook for Construction Planning and Scheduling, Andrew Baldwin, David Bordoli, John Wiley & Sons
Teaching Methods:	Lectures, Exercises, Presentation, Assignments, Case Studies,

COURSE EVALUATION CRITERIA

Nr	Method	Quantity	Percentage
1	Midterm Exam(s)	1	30
2	Presentation	3	10
3	Final Exam	1	40
		Total Percent:	100%

ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD)

Nr	Activities	Quantity	Duration(hour)	Total Workload
1	Course Duration (Including the exam week: 16x Total course hours)	16	4	64
2	Hours for off-the-classroom study (Pre-study, practice)	14	5	70
3	Mid-terms	3	12	36
4	Final examination	1	17	17
5	Other			0
			Total Workload:	**187**
			ECTS(Workload/25}:	**7.5**

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

Course Name:	Risk Analysis in Decision-making Process						
Code	Course Type	Regular Semester	Lecture	Recit.	Lab	Credits	ECTS
CE 454	B	2	2	2	-	3	7.5

Name of Lecturer(s):	Julinda Keçi
Teaching Assistant(s):	-
Course Language:	English
Course Type:	Compulsory
Timetable:	
Course Coordinator:	
Course Objectives:	The course aims to demonstrate the nature, typology and dynamics of risk & risk management, apply them to strategic and tactical problems and illustrate their tools and techniques through case studies. Through this course students shall gain fundamental knowledge and understanding of risk analysis, risk evaluation and risk management, with applications in a broad array of areas including safety, health, environment and society. The course also aims that the students shall gain the ability to utilize tools and techniques for risk
Course Description:	A broad based understanding of the critical elements of risk and risk management in pre- and post-disaster scenarios. Key elements include risk identification with regard to the forms and types of risk, risk analysis and response.

COURSE CONTENT

Week	**Topic**
1	Putting risk into perspective: Risk attitudes and impact on decision-making
2	Background to risk and uncertainty
3	Risk management system
4	Tools and techniques of risk management
5	Risk identification tools
6	Risk analysis tools: Quantitative and qualitative analysis
7	Risk response tools
8	Midterm exam / case study presentation
9	Utility and risk attitude
10	Risks related to projects constraints- Time, Cost and Quality
11	Sensitivity, breakeven and scenario analysis
12	Risk analysis using Monte Carlo simulation
13	Contracts and risks
14	Application; Final Review

COURSE LEARNING OUTCOMES

1	To be able to describe the scientific foundation for risk management
2	To be able to describe different perspectives of the concept of risk and be aware of the implications of adopting the different perspectives in a risk management context.
3	To be able to describe methods for risk analysis, evaluation and management, their areas of applicability, especially in the area of safety, health, environment and society.
4	To be able to describe different ways of presenting risk, their limitations and strengths and how they can be applied to evaluate risks.
5	To be able to describe different types of uncertainty and how they can be addressed and handled in a risk analysis and evaluation context.
6	To be able to critically, systematically and autonomously utilize concepts, methods and tools for risk analysis and evaluation, also in new situations.
7	To be able to report, both orally and in writing, and discuss the implications of a performed risk assessment in a way understandable to persons with different knowledge backgrounds.
8	To be able to suggest risk reduction and risk management measures, also where there is a lack of information

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

COURSE CONTRIBUTION TO PROGRAM OUTCOMES
(Blank : no contribution, 1: least contribution ... 5: highest contribution)

Week	Program Learning Outcomes	Cont.
1	An ability to apply knowledge of mathematics, science, and engineering	
2	An ability to design and conduct experiments, as well as to analyze and interpret data	
3	An ability to design a system, component, or process to meet desired needs	4
4	An ability to function on multidisciplinary teams	
5	An ability to identify, formulate, and solve engineering problems	3
6	An understanding of professional and ethical responsibility	
7	An ability to communicate effectively	
8	The broad education necessary to understand the impact of engineering solutions in a global and societal context	2
9	A recognition of the need for, and an ability to engage in lifelong learning	
10	A knowledge of contemporary issues	
11	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice	
12	Skills in project management and recognition of international standards and methodologies	5

Prerequisites:	-
Special Requirements:	-
Weekly Laboratory/Practice Plan:	N/A
Textbook:	How to Manage Project Opportunity and Risk, Stephen Ward, Chris Chapman, Wiley-Blackwell, 2012 Project Risk Management, Bruce Barkley, McGraw-Hill, 2004 Managing Risk in Construction Projects, Nigel J. Smith, Tony Merna, Paul Jobling, Wiley-Blackwell, 2014 Project Risk Management Guidelines: Managing Risk in Large Projects and Complex Procurements, Dale Cooper, Stephen Grey, Geoffrey Raymond, Phil Walker, Wiley-Blackwell, 2012
Other Course Materials/References:	Kaplan, S., Haimes, Y. Y. and Garrick, B. J.: Fitting hierarchal holographic modeling into the theory of scenario structuring and a resulting refinement to the quantitative definition of risk. 2001. Risk Analysis 21(5), pp. 807-819. Apostolakis, G.: How Useful is Quantitative Risk Assessment. 2004. Risk Analysis 24(3); 515-520. Hansson, S. O. : Risk: objective or subjective, facts or values. 2010. Journal of Risk Research 13(2): 231-238. Henrion, M. and Granger Morgan, M.: Uncertainty: A Guide to Dealing with Uncertainty in Quantitative Risk and Policy analysis. Cambridge, Cambridge University Press, 1990. Kaplan, S. & Garrick, B. J.: On the Quantitative Definition of Risk. 1981. Risk Analysis 1(1): 11-27. Paté-Cornell, M. E.: Uncertainties in Risk Analysis: Six Levels of Uncertainty Treatment. 1996. Reliability Engineering & System Safety 54: 95-111. Slovic, P. : The Risk Game. 2001. Journal of Hazardous Materials 86: 17-24. Tehler, H.: A general framework for risk assessment. Department of Fire Safety Engineering and Systems Safety, Lund University, Sweden, 2013. CCPS: Chapter 4: Risk measures & 8.1 Case study. Center for Chemical Process Safety, American Institute of Chemical Engineers, 2000. Guidelines for Chemical Process Quantitative Risk Analysis. New York.
Teaching Methods:	Lectures, Presentation, Assignments, Case Studies,

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

COURSE EVALUATION CRITERIA

Nr	Method	Quantity	Percentage
1	Midterm Exam/ Case study presentation	1	20
2	Assignments	2	10
3	Final Exam	1	60
		Total Percent:	100%

ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD)

Nr	Activities	Quantity	Duration(hour)	Total Workload
1	Course Duration (Including the exam week: 16x Total course hours)	16	4	64
2	Hours for off-the-classroom study (Pre-study, practice)	14	5	70
3	Mid-terms	3	12	36
4	Final examination	1	17	17
5	Other			0
			Total Workload:	**187**
			ECTS(Workload/25}:	**7.5**

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

COURSE INFORMATON **Course Title:** Earthquake Disaster Mitigation							
Code	**Course Type**	**Regular Semester**	**Lecture**	**Recit.**	**Lab.**	**Credits**	**ECTS**
CE 484	C	2	3	0	0	3	7.5

Lecturer and Office Hours	Dr. Hüseyin Bilgin (hbilgin@epoka.edu.al)
Teaching and Assistants Office Hours	-
Language	English
Compulsory/Elective	Elective
Classroom and Meeting Time	
Description	Earthquake Damage; Disaster Management; Seismic Vulnerability and Risk Assessment of Buildings and Bridges; Post-Earthquake Assessment; Retrofitting and Strengthening of Structures; Earthquake Awareness, Preparedness and Education; Social and Economic Issues.
Objectives	- To create interest in earthquake disaster mitigation and management - To present the range of available preparedness and mitigation measures, consider their appropriateness, opportunities, limitations of implementation in the regional context.

COURSE OUTLINE

Week	**Topics**
1	Video showing about Earthquakes; Overview of the course requirements and references
2	Overview of Disaster Management
3	Earthquakes and Earthquake Hazard Analysis
4	Review of Seismic Design Concepts and Building Code Requirements
5	Disaster Preparedness; Seismic Vulnerability & Risk Assessment; (Cases from different countries)
6	Rapid Visual Screening of Buildings (FEMA154)
7	Case Studies on Seismic Vulnerability & Risk Assessment of Buildings
8	Earthquake Damage and Seismic Vulnerability Assessment of Bridges
9	Disaster Response; Post-Earthquake Assessment
10	Rehabilitation and Reconstruction; Public buildings (School, hospitals..etc)
11	Disaster Mitigation Structural Retrofitting & Strengthening
12	Case Studies on Seismic Rehabilitation, Retrofitting & Strengthening
13	Technologies and Research on Earthquake Damage & Mitigation
14	Social Impacts; Earthquake Education

Prerequisite(s)	Earthquake Engineering; Structural Design Concepts
Textbook	There are no assigned textbooks for this class. Lecture notes will be assigned in class. The textbooks listed below provide useful reference material for the class.
Other References	
Laboratory Work	
Computer Usage	Excel, PowerPoint, Mathcad, Matlab, Sap2000
Others	

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

LEARNING OUTCOMES AND COMPETENCIES	
1	- To create interest in earthquake disaster mitigation and management
2	- To present the range of available preparedness and mitigation measures, consider their appropriateness, opportunities, limitations of implementation in the regional context
3	

COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES
(Blank : no contribution, 1: least contribution … 5: highest contribution)

No	**Program Learning Outcomes**	**Cont.**
1	Engineering graduates with sufficient theoretical and practical background for a successful profession and with application skills of fundamental scientific knowledge in the engineering practice.	3
2	Engineering graduates with skills and professional background in describing, formulating, modeling and analyzing the engineering problem, with a consideration for appropriate analytical solutions in all necessary situations	
3	Engineering graduates with the necessary technical, academic and practical knowledge and application confidence in the design and assessment of machines or mechanical systems or industrial processes with considerations of productivity, feasibility and environmental and social aspects.	4
4	Engineering graduates with the practice of selecting and using appropriate technical and engineering tools in engineering problems, and ability of effective usage of engineering technologies	3
5	Ability of designing and conducting experiments, conduction data acquisition and analysis and making conclusions	4
6	Ability of identifying the potential resources for information or knowledge regarding a given engineering issue	5
7	The abilities and performance to participate multi-disciplinary groups together with the effective oral and official communication skills and personal confidence	4
8	Ability for effective oral and official communication skills in foreign language	3
9	Engineering graduates with motivation to life-long learning and having known significance of continuous education beyond undergraduate studies for science and technology	4
10	Engineering graduates with well-structured responsibilities in profession and ethics	3
11	Engineering graduates who are aware of the importance of safety and healthiness in the project management, workshop environment as well as related legal issues	4
12	Consciousness for the results and effects of engineering solutions on the society and universe, awareness for the developmental considerations with contemporary problems of humanity	

COURSE EVALUATION METHOD

In-term studies	**Quantity**	**Percentage**
Term Project	1	60
Final Exam	1	40
Total		100
Contribution of in-term studies to overall grade		**60**
Contribution of final examination to overall grade		**40**
Total		**100**

ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD

Activities	**Quantity**	**Duration (Hour)**	**Total Workload (Hour)**
Course Duration (Including the exam week: 16x Total course hours)	16	3	48
Hours for off-the-classroom study (Pre-study, practice)	16	4	56
Mid-terms	4	6	24

Final examination	1	25	25
Site visits	1	5	5
Other	1	30	30
Total Work Load			**188**
Total Work Load / 25 (h)			**7.52**
ECTS Credit of the Course			**7.5**

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

COURSE INFORMATON **Course Title:** STRUCTURAL FIRE SAFETY							
Code	**Course Type**	**Regular Semester**	**Lecture**	**Recit.**	**Lab.**	**Credits**	**ECTS**
CE 447	B	Fall	3	0	0	3	7.5

Lecturer and Office Hours	Assist. Prof. Dr. Erion Luga
Teaching and Assistants Office Hours	
Language	English
Compulsory/Elective	Compulsory
Classroom and Meeting Time	
Description	Structural integrity and compartmentation are principal aspects of fire safety in buildings. This course addresses the effects of fire on materials used in construction assemblies. Characteristics and limitations of standard fire resistance tests are reviewed along with empirical guidelines and correlations from the standard tests. Heat transfer and mechanics based analyses are applied to evaluate the fire resistance of construction assemblies.
Objectives	Upon completion of the course the student will: Demonstrate an understanding of building construction as it relates to fire safety, building codes, fire prevention, code inspection etc. Classify major types of building construction. Analyze the hazards associated with the various types of building construction. Explain the different loads and stresses that are placed on a building and their interrelationships. Identify the principle structural components of buildings and demonstrate an understanding of the functions of each. Differentiate between fire resistance and flame spread and describe the testing procedures used to establish ratings for each. Classify occupancy designations of the building code. Identify the indicators of potential structural failure.

COURSE OUTLINE

Week	**Topics**
1	Introduction
2	Principles of Construction
3	Building Construction
4	Principles of Fire Resistance
5	Fire Behavior vs. Building Construction
6	Wood Construction
7	Ordinary Construction
8	Midterm
9	Concrete Construction
10	High Rise Construction
11	Collapse
12	Non-Combustible materials
13	Review
14	Final Project

Prerequisite(s)	No
Textbook	Buchanan, A., Structural Design for Fire Safety, New York, John Wiley, 2001.
Other References	
Laboratory Work	No
Computer Usage	Microsoft Office
Others	

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

LEARNING OUTCOMES AND COMPETENCIES	
1	To adopt the Principles of Construction
2	To learn the Principles of fire safety
3	To understand the Behavior of materials under the effect of fire
4	To develop studies, projects related to the improvement of fire safe structures

COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES
(Blank : no contribution, 1: least contribution … 5: highest contribution)

No	**Program Learning Outcomes**	**Cont.**
1	An ability to apply knowledge of mathematics, science, and engineering	**5**
2	An ability to design and conduct experiments, as well as to analyze and interpret data	
3	An ability to design a system, component, or process to meet desired needs	**4**
4	An ability to function on multidisciplinary teams	
5	An ability to identify, formulate, and solve engineering problems	**3**
6	An understanding of professional and ethical responsibility	
7	An ability to communicate effectively	
8	The broad education necessary to understand the impact of engineering solutions in a global and societal context	**2**
9	A recognition of the need for, and an ability to engage in life-long learning	
10	A knowledge of contemporary issues	
11	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice	
12	Skills in project management and recognition of international standards and methodologies	
13		

COURSE EVALUATION METHOD

In-term studies	**Quantity**	**Percentage**
Mid-terms	1	45
Quizzes		
Projects		
Term Projects	1	55
Laboratory		
Others- Attendance		
Total		**100**
Contribution of in-term studies to overall grade		
Contribution of final examination to overall grade		
Total		100

ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD

Activities	**Quantity**	**Duration (Hour)**	**Total Workload (Hour)**
Course Duration (Including the exam week: 16x Total course hours)	16	3	48
Hours for off-the-classroom study (Pre-study, practice)	16	2	32
Assignments			
Mid-terms	1	40	40
Final Project	1	68	68

Other			
Total Work Load			**188**
Total Work Load / 25 (h)			**7.5**
ECTS Credit of the Course			**7.5**

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

COURSE INFORMATON **Course Title:** Advanced Construction Materials							
Code	**Course Type**	**Regular Semester**	**Lecture**	**Recit.**	**Lab.**	**Credits**	**ECTS**
CE 458	D	Spring	2	0	2	3	7.5

Lecturer and Office Hours	Assist. Prof. Dr. Erion Luga
Teaching and Assistants Office Hours	
Language	English
Compulsory/Elective	Elective
Classroom and Meeting Time	
Description	Refractories. Glass: manufacturing, various types and uses in construction. Lightweight aggregates. Fiber reinforced concrete. Ferrocement. Insulation methods of buildings for heat, sound and moisture. Asbestos. Paints. Fire regulations and risks. Concrete burning issue. Assessment of fire damaged buildings.
Objectives	Learn the properties and use of refractories, glass, asbestos, and paints. Learn the Importance of lightweight aggregates in concrete. Learn the properties of fiber reinforced concrete, ferrocement. Learn the importance and methods of heat, sound and water insulation of buildings. Learn the assessment of fire damaged buildings.

COURSE OUTLINE

Week	**Topics**
1	Introduction
2	Refractories
3	Raw materials, manufacture of glass, types and properties
4	Lightweight Aggregates, Natural lightweight aggregates, manufactured lightweight aggregates,
5	Stress-strain behaviour of fiber reinforced concrete, amount of fibers in concrete, mechanical properties of fiber reinforced concrete,
6	Ferrocment, Insulation of buildings, Asbestos, Definition of ferrocement, mixture of ferrocement, reinforcement for ferrocement, placing of ferrocement, corrosion protection,
7	Thermal insulation, thermal properties, kinds of thermal insulation, vapour insulation, acoustical materials, sound control materials. Asbestos fibers, properties of fibers, health hazard, and assessment of health risk, asbestos cement, low density insulating boards and wall boards, other products of asbestos.
8	Midterm Exam
9	Fire Regulations and risks, concrete burning, Fire regulation considered for buildings during design. Risks of fire for buildings.
10	Combustion process. Stages of fire. Initiation of fire.
11	Assessment of fire damaged buildings, Damage assessment after fire.
12	Important factors to be considered. Classification of fire damage.
13	Review
14	Final Project

Prerequisite(s)	No
Textbook	G.D. Taylor, Materials in Construction, Pearson Education, 2000.

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

Other References	
Laboratory Work	Yes
Computer Usage	Microsoft Word, Excel
Others	

LEARNING OUTCOMES AND COMPETENCIES

1	To learn internal structure of Concrete
2	To learn the techniques and methods used during analysis
3	To understand the Microstructure of mortar and concrete Mortar
4	To develop studies, projects related to the improvement of concrete microstructure

COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES
(Blank : no contribution, 1: least contribution … 5: highest contribution)

No	Program Learning Outcomes	Cont.
1	An ability to apply knowledge of mathematics, science, and engineering	**5**
2	An ability to design and conduct experiments, as well as to analyze and interpret data	
3	An ability to design a system, component, or process to meet desired needs	
4	An ability to function on multidisciplinary teams	
5	An ability to identify, formulate, and solve engineering problems	**4**
6	An understanding of professional and ethical responsibility	
7	An ability to communicate effectively	
8	The broad education necessary to understand the impact of engineering solutions in a global and societal context	
9	A recognition of the need for, and an ability to engage in life-long learning	
10	A knowledge of contemporary issues	
11	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice	**5**
12	Skills in project management and recognition of international standards and methodologies	**3**
13		

COURSE EVALUATION METHOD

In-term studies	Quantity	Percentage
Mid-terms	1	40
Quizzes		
Projects		
Term Projects	1	60
Laboratory		
Others- Attendance		
Total		**100**
Contribution of in-term studies to overall grade		40
Contribution of final examination to overall grade		60
Total		100

ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD

Activities	Quantity	Duration (Hour)	Total Workload (Hour)
Course Duration (Including the exam week: 16x Total course hours)	16	4	64

Hours for off-the-classroom study (Pre-study, practice)	14	4	56
Assignments			
Mid-terms	1	30	30
Final examination	1	38	38
Other			
Total Work Load			**188**
Total Work Load / 25 (h)			**7.5**
ECTS Credit of the Course			**7.5**

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

COURSE INFORMATON **Course Title:** Durability of Concrete							
Code	**Course Type**	**Regular Semester**	**Lecture**	**Recit.**	**Lab.**	**Credits**	**ECTS**
CE 463	C	-	2	0	2	3	7.5

Lecturer and Office Hours	Assist Prof. Dr. Erion Luga
Teaching and Assistants Office Hours	
Language	English
Compulsory/Elective	Elective
Classroom and Meeting Time	
Description	Aspects of Environment; atmospheric environment, sea environment, soil environment, industry environment. Aspects of Material; corrosion of reinforcing bar, alkali-aggregate reaction, carbonation, fire damage, soundness, hydrate－chemical corrosion、fire、dimensional stability, pore structure－permeability、chlorine ion permeation、frost resistance. Frost Resistance, Shrinkage, Creep, Corrosion of Embedded Rebar, Sulphate Attack, Alkali Aggregate Reaction, Resistance to Heat and Fire, Acid Attack
Objectives	The objective of this course is to provide advanced information about develop a basic understanding of key durability of concrete, requirements and related behavior characteristics of concrete durability.

COURSE OUTLINE

Week	**Topics**
1	Aspects of Environment
2	Aspects of Material
3	Frost Resistance
4	Shrinkage
5	Creep
6	Corrosion of Embedded Rebar
7	Sulphate Attack
8	Midterm Exam I
9	Alkali Aggregate Reaction
10	Resistance to Heat and Fire
11	Acid Attack
12	Carbonations
13	pore structure permeability, chlorine ion permeation
14	Project

Prerequisite(s)	No
Textbook	Neville AM. Properties of concrete. Harlow (Essex, England): Pearson; 2008
Other References	P.K. Mehta, P. J. M. Monteiro, Concrete: Microstructure, Properties, and Materials, Mc Graw-Hill Professional, 2005.
Laboratory Work	No
Computer Usage	Microsoft Word, Excel
Others	

LEARNING OUTCOMES AND COMPETENCIES

1	To learn internal structure of cementing materials for modern cement making

2	To learn the techniques and methods used during analysis
3	To understand the principles Chemistry of clinker formation, hydration and hydration products
4	To develop studies, projects related to the improvement of concrete microstructure

COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES
(Blank : no contribution, 1: least contribution … 5: highest contribution)

No	Program Learning Outcomes	Cont.
1	An ability to apply knowledge of mathematics, science, and engineering	**5**
2	An ability to design and conduct experiments, as well as to analyze and interpret data	
3	An ability to design a system, component, or process to meet desired needs	**4**
4	An ability to function on multidisciplinary teams	
5	An ability to identify, formulate, and solve engineering problems	**3**
6	An understanding of professional and ethical responsibility	
7	An ability to communicate effectively	
8	The broad education necessary to understand the impact of engineering solutions in a global and societal context	**2**
9	A recognition of the need for, and an ability to engage in life-long learning	
10	A knowledge of contemporary issues	
11	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice	
12	Skills in project management and recognition of international standards and methodologies	

COURSE EVALUATION METHOD

In-term studies	**Quantity**	**Percentage**
Mid-terms	1	40
Quizzes		
Projects		
Final Exam	1	60
Laboratory		
Others- Attendance		
Total		**100**
Contribution of in-term studies to overall grade		
Contribution of final examination to overall grade		
Total		100

ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD

Activities	**Quantity**	**Duration (Hour)**	**Total Workload (Hour)**
Course Duration (Including the exam week: 14x Total course hours)	16	4	64
Hours for off-the-classroom study (Pre-study, practice)	14	4	56
Assignments			
Mid-terms	1	30	30
Final examination	1	38	38
Other			
Total Work Load			**188**
Total Work Load / 25 (h)			**7.5**
ECTS Credit of the Course			**7.5**

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

COURSE INFORMATON **Course Title:** STRUCTURAL FIRE SAFETY							
Code	**Course Type**	**Regular Semester**	**Lecture**	**Recit.**	**Lab.**	**Credits**	**ECTS**
DRM-FS 403	B	1	3	0	0	3	7.5
Lecturer and Office Hours			Assist. Prof. Dr. Erion Luga				
Teaching and Assistants Office Hours							
Language			English				
Compulsory/Elective			Compulsory				
Classroom and Meeting Time							
Description	Structural integrity and compartmentation are principal aspects of fire safety in buildings. This course addresses the effects of fire on materials used in construction assemblies. Characteristics and limitations of standard fire resistance tests are reviewed along with empirical guidelines and correlations from the standard tests. Heat transfer and mechanics based analyses are applied to evaluate the fire resistance of construction assemblies.						
Objectives	Upon completion of the course the student will: Demonstrate an understanding of building construction as it relates to fire safety, building codes, fire prevention, code inspection etc. Classify major types of building construction. Analyze the hazards associated with the various types of building construction. Explain the different loads and stresses that are placed on a building and their interrelationships. Identify the principle structural components of buildings and demonstrate an understanding of the functions of each. Differentiate between fire resistance and flame spread and describe the testing procedures used to establish ratings for each. Classify occupancy designations of the building code. Identify the indicators of potential structural failure.						

COURSE OUTLINE

Week	**Topics**
1	Introduction
2	Principles of Construction
3	Building Construction
4	Principles of Fire Resistance
5	Fire Behavior vs. Building Construction
6	Wood Construction
7	Ordinary Construction
8	Midterm
9	Concrete Construction
10	High Rise Construction
11	Collapse
12	Non-Combustible materials
13	Review
14	Final Project

Prerequisite(s)	No
Textbook	Buchanan, A., Structural Design for Fire Safety, New York, John Wiley, 2001.
Other References	
Laboratory Work	No
Computer Usage	Microsoft Office
Others	

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

LEARNING OUTCOMES AND COMPETENCIES	
1	To adopt the Principles of Construction
2	To learn the Principles of fire safety
3	To understand the Behavior of materials under the effect of fire
4	To develop studies, projects related to the improvement of fire safe structures

COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES
(Blank : no contribution, 1: least contribution … 5: highest contribution)

No	**Program Learning Outcomes**	**Cont.**
1	An ability to apply knowledge of mathematics, science, and engineering	**5**
2	An ability to design and conduct experiments, as well as to analyze and interpret data	
3	An ability to design a system, component, or process to meet desired needs	**4**
4	An ability to function on multidisciplinary teams	
5	An ability to identify, formulate, and solve engineering problems	**3**
6	An understanding of professional and ethical responsibility	
7	An ability to communicate effectively	
8	The broad education necessary to understand the impact of engineering solutions in a global and societal context	**2**
9	A recognition of the need for, and an ability to engage in life-long learning	
10	A knowledge of contemporary issues	
11	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice	
12	Skills in project management and recognition of international standards and methodologies	
13		

COURSE EVALUATION METHOD

In-term studies	**Quantity**	**Percentage**
Mid-terms	1	45
Quizzes		
Projects		
Term Projects	1	55
Laboratory		
Others- Attendance		
Total		**100**
Contribution of in-term studies to overall grade		
Contribution of final examination to overall grade		
Total		100

ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD

Activities	**Quantity**	**Duration (Hour)**	**Total Workload (Hour)**
Course Duration (Including the exam week: 16x Total course hours)	16	3	48
Hours for off-the-classroom study (Pre-study, practice)	16	2	32
Assignments			
Mid-terms	1	40	40
Final Project	1	68	68

Other			
Total Work Load			**188**
Total Work Load / 25 (h)			**7.5**
ECTS Credit of the Course			**7.5**

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

COURSE INFORMATON **Course Title:** Advanced Construction Materials							
Code	**Course Type**	**Regular Semester**	**Lecture**	**Recit.**	**Lab.**	**Credits**	**ECTS**
DRM-FS 406	C	2	2	0	2	3	7.5

Lecturer and Office Hours	Assist. Prof. Dr. Erion Luga
Teaching and Assistants Office Hours	
Language	English
Compulsory/Elective	Elective
Classroom and Meeting Time	
Description	Refractories. Glass: manufacturing, various types and uses in construction. Lightweight aggregates. Fiber reinforced concrete. Ferrocement. Insulation methods of buildings for heat, sound and moisture. Asbestos. Paints. Fire regulations and risks. Concrete burning issue. Assessment of fire damaged buildings.
Objectives	Learn the properties and use of refractories, glass, asbestos, and paints. Learn the Importance of lightweight aggregates in concrete. Learn the properties of fiber reinforced concrete, ferrocement. Learn the importance and methods of heat, sound and water insulation of buildings. Learn the assessment of fire damaged buildings.

COURSE OUTLINE

Week	**Topics**
1	Introduction
2	Refractories
3	Raw materials, manufacture of glass, types and properties
4	Lightweight Aggregates, Natural lightweight aggregates, manufactured lightweight aggregates,
5	Stress-strain behaviour of fiber reinforced concrete, amount of fibers in concrete, mechanical properties of fiber reinforced concrete,
6	Ferrocment, Insulation of buildings, Asbestos, Definition of ferrocement, mixture of ferrocement, reinforcement for ferrocement, placing of ferrocement, corrosion protection,
7	Thermal insulation, thermal properties, kinds of thermal insulation, vapour insulation, acoustical materials, sound control materials. Asbestos fibers, properties of fibers, health hazard, and assessment of health risk, asbestos cement, low density insulating boards and wall boards, other products of asbestos.
8	Midterm Exam
9	Fire Regulations and risks, concrete burning, Fire regulation considered for buildings during design. Risks of fire for buildings.
10	Combustion process. Stages of fire. Initiation of fire.
11	Assessment of fire damaged buildings, Damage assessment after fire.
12	Important factors to be considered. Classification of fire damage.
13	Review
14	Final Project

Prerequisite(s)	No
Textbook	G.D. Taylor, Materials in Construction, Pearson Education, 2000.

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

Other References	
Laboratory Work	Yes
Computer Usage	Microsoft Word, Excel
Others	

LEARNING OUTCOMES AND COMPETENCIES

1	To learn internal structure of Concrete
2	To learn the techniques and methods used during analysis
3	To understand the Microstructure of mortar and concrete Mortar
4	To develop studies, projects related to the improvement of concrete microstructure

COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES
(Blank : no contribution, 1: least contribution … 5: highest contribution)

No	Program Learning Outcomes	Cont.
1	An ability to apply knowledge of mathematics, science, and engineering	**5**
2	An ability to design and conduct experiments, as well as to analyze and interpret data	
3	An ability to design a system, component, or process to meet desired needs	
4	An ability to function on multidisciplinary teams	
5	An ability to identify, formulate, and solve engineering problems	**4**
6	An understanding of professional and ethical responsibility	
7	An ability to communicate effectively	
8	The broad education necessary to understand the impact of engineering solutions in a global and societal context	
9	A recognition of the need for, and an ability to engage in life-long learning	
10	A knowledge of contemporary issues	
11	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice	**5**
12	Skills in project management and recognition of international standards and methodologies	**3**
13		

COURSE EVALUATION METHOD

In-term studies	**Quantity**	**Percentage**
Mid-terms	1	40
Quizzes		
Projects		
Term Projects	1	60
Laboratory		
Others- Attendance		
Total		**100**
Contribution of in-term studies to overall grade		40
Contribution of final examination to overall grade		60
Total		100

ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD

Activities	**Quantity**	**Duration (Hour)**	**Total Workload (Hour)**
Course Duration (Including the exam week: 16x Total course hours)	16	4	64

Hours for off-the-classroom study (Pre-study, practice)	14	4	56
Assignments			
Mid-terms	1	30	30
Final examination	1	38	38
Other			
Total Work Load			**188**
Total Work Load / 25 (h)			**7.5**
ECTS Credit of the Course			**7.5**

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

COURSE INFORMATON **Course Title:** Durability of Concrete							
Code	**Course Type**	**Regular Semester**	**Lecture**	**Recit.**	**Lab.**	**Credits**	**ECTS**
DRM-FS 411	C	1	2	0	2	3	7.5
Lecturer and Office Hours			Assist Prof. Dr. Erion Luga				
Teaching and Assistants Office Hours							
Language			English				
Compulsory/Elective			Elective				
Classroom and Meeting Time							
Description	Aspects of Environment; atmospheric environment, sea environment, soil environment, industry environment. Aspects of Material; corrosion of reinforcing bar, alkali-aggregate reaction, carbonation, fire damage, soundness, hydrate－chemical corrosion、fire、dimensional stability, pore structure－permeability、chlorine ion permeation、frost resistance. Frost Resistance, Shrinkage, Creep, Corrosion of Embedded Rebar, Sulphate Attack, Alkali Aggregate Reaction, Resistance to Heat and Fire, Acid Attack						
Objectives	The objective of this course is to provide advanced information about develop a basic understanding of key durability of concrete, requirements and related behavior characteristics of concrete durability.						

COURSE OUTLINE	
Week	**Topics**
1	Aspects of Environment
2	Aspects of Material
3	Frost Resistance
4	Shrinkage
5	Creep
6	Corrosion of Embedded Rebar
7	Sulphate Attack
8	Midterm Exam I
9	Alkali Aggregate Reaction
10	Resistance to Heat and Fire
11	Acid Attack
12	Carbonations
13	pore structure permeability, chlorine ion permeation
14	Project

Prerequisite(s)	No
Textbook	Neville AM. Properties of concrete. Harlow (Essex, England): Pearson; 2008
Other References	P.K. Mehta, P. J. M. Monteiro, Concrete: Microstructure, Properties, and Materials, Mc Graw-Hill Professional, 2005.
Laboratory Work	No
Computer Usage	Microsoft Word, Excel
Others	

LEARNING OUTCOMES AND COMPETENCIES	
1	To learn internal structure of cementing materials for modern cement making

2	To learn the techniques and methods used during analysis
3	To understand the principles Chemistry of clinker formation, hydration and hydration products
4	To develop studies, projects related to the improvement of concrete microstructure

COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES
(Blank : no contribution, 1: least contribution … 5: highest contribution)

No	Program Learning Outcomes	Cont.
1	An ability to apply knowledge of mathematics, science, and engineering	**5**
2	An ability to design and conduct experiments, as well as to analyze and interpret data	
3	An ability to design a system, component, or process to meet desired needs	**4**
4	An ability to function on multidisciplinary teams	
5	An ability to identify, formulate, and solve engineering problems	**3**
6	An understanding of professional and ethical responsibility	
7	An ability to communicate effectively	
8	The broad education necessary to understand the impact of engineering solutions in a global and societal context	**2**
9	A recognition of the need for, and an ability to engage in life-long learning	
10	A knowledge of contemporary issues	
11	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice	
12	Skills in project management and recognition of international standards and methodologies	

COURSE EVALUATION METHOD

In-term studies	**Quantity**	**Percentage**
Mid-terms	1	40
Quizzes		
Projects		
Final Exam	1	60
Laboratory		
Others- Attendance		
Total		**100**
Contribution of in-term studies to overall grade		
Contribution of final examination to overall grade		
Total		100

ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD

Activities	**Quantity**	**Duration (Hour)**	**Total Workload (Hour)**
Course Duration (Including the exam week: 14x Total course hours)	16	4	64
Hours for off-the-classroom study (Pre-study, practice)	14	4	56
Assignments			
Mid-terms	1	30	30
Final examination	1	38	38
Other			
Total Work Load			**188**
Total Work Load / 25 (h)			**7.5**
ECTS Credit of the Course			**7.5**

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

Course Name:	REINFORCED CONCRETE STRUCTURES

Code	Course type	Regular Semester	Lecture	Recit.	Lab	Credits	ECTS
DRM-FS 407	B	1	2	2		3	7.5

Name of Lecturer(s):	Enea Mustafaraj
Teaching Assistant(s):	-
Course Language:	English
Course Type:	B
Timetable	
Course Coordinator:	-
Course Objectives:	Properties of plain concrete and reinforcement, service load behavior, ultimate flexural strength design of rectangular beams, shear design, bond and development length, continuous beams, design for serviceability, design for durability and fire resistance, reinforced concrete slab systems, design of columns, design of tied and spiral columns, slenderness effects, and foundations.
Course Description:	In this course, the student will be able to learn the design considerations, and design the structural elements of a reinforced concrete structure; slab design, foundation design, as well as various types of retaining structures.

COURSE CONTENT

Week	Topic
1	Introduction, Serviceability, Design consideration, Analysis of section, Creep, Shrinkage and thermal strains, Deflection Serviceability, Calculation of curvature, Calculation of deflection, controlling deflection, Cracking Calculation of crack widths, Controlling cracking and crack widths
2	Design Details, Bond, Anchorage, Laps/splices, placing of bars, Bending of reinforcement, Bar curtailment, Restraint of compression reinforcement, Design of ties
3	Buckling, Slenderness effects in structures Classification of structures, Design methods Simplified design method Design example with questions Bending about both axes Slender beams. Behavior of RC columns Calculation of ultimate strength Design of tied columns Slenderness effect, Short and long columns
4	Slab Design, Solid, Ribbed Sab
5	Slab Design, Solid, Ribbed Sab
6	Slab Design, Solid, Ribbed Sab
7	Foundation Design
8	Foundation Design
9	Foundation Design
10	Shear Wall - Structural Forms, Positioning, Analysis, Design
11	Shear Wall Design
12	Design of Retaining Structures
13	Design of Retaining Structures
14	Review

COURSE LEARNING OUTCOMES

1	To have developed a full understanding of the behavior of reinforced concrete members and structures theoretical, experimental and by using computer software.
2	To be able of analysis and design of all normal types of reinforced concrete Structures used in industry.
3	To have acquired professional skills in the design and detailing of reinforced concrete structural elements for strength and serviceability
4	To be able to use the Reinforced Concrete Design Standards in reinforced concrete design.
5	To be able to use advanced methods of analysis for reinforced concrete structures

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES
(Blank: no contribution, 1: least contribution ... 5: highest contribution)

	Program Learning Outcomes	Cont.
1	an ability to apply knowledge of mathematics, science, and engineering	5
2	an ability to design and conduct experiments, as well as to analyze and interpret data	3
3	an ability to design a system, component, or process to meet desired needs	3
4	an ability to function on multidisciplinary teams	3
5	an ability to identify, formulate, and solve engineering problems	4
6	an understanding of professional and ethical responsibility	4
7	an ability to communicate effectively	1
8	the broad education necessary to understand the impact of engineering solutions in a global and societal context	3
9	a recognition of the need for, and an ability to engage in lifelong learning	2
10	a knowledge of contemporary issues	5
11	an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice	3
12	skills in project management and recognition of international standards and methodologies	2

Prerequisites:	-
Special Requirements:	NA
Weekly Laboratory/Practice Plan:	-
Textbook:	Reinforced concrete design to Eurocode 2, by Bill Mosely, John Bungey, Ray Hulse. Sixth Edition, Palgrave Macmillan, 2011
Other Course Materials/References:	Reinforced Concrete Design Theory and Examples, Prab Bhatt, Thomas J. MCGinley.
Teaching Methods:	Lectures, Project, Assignments, Case Studies

COURSE EVALUATION CRITERIA

Method	Quantity	Percentage (%)
Project	2	15
Midterm Exam(s)	1	30
Final Exam	1	40
Total		**100**

ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD

Activities	Quantity	Duration (Hour)	Total Work Load
Course Duration (Including the exam week: 16x Total course hours)	16	4	64
Hours for off-the-classroom study (Pre-study, practice)	16	3	48
Assignments Mid-terms	1	20	20
Final examination	1	35	35
Other			20.5
Total Workload			**187.5**
ECTS Credit (Total workload/25)			**7.5**

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

Course Name:	REINFORCED CONCRETE STRUCTURES

Code	Course type	Regular Semester	Lecture	Recit.	Lab	Credits	ECTS
CE 435	C	1	2	2		3	7.5

Name of Lecturer(s):	Dr.Enea Mustafaraj
Teaching Assistant(s):	-
Course Language:	English
Course Type:	B
Timetable	
Course Coordinator:	-
Course Objectives:	Properties of plain concrete and reinforcement, service load behavior, ultimate flexural strength design of rectangular beams, shear design, bond and development length, continuous beams, design for serviceability, design for durability and fire resistance, reinforced concrete slab systems, design of columns, design of tied and spiral columns, slenderness effects, and foundations.
Course Description:	In this course, the student will be able to learn the design considerations, and design the structural elements of a reinforced concrete structure; slab design, foundation design, as well as various types of retaining structures.

COURSE CONTENT

Week	Topic
1	Introduction, Serviceability, Design consideration, Analysis of section, Creep, Shrinkage and thermal strains, Deflection Serviceability, Calculation of curvature, Calculation of deflection, controlling deflection, Cracking Calculation of crack widths, Controlling cracking and crack widths
2	Design Details, Bond, Anchorage, Laps/splices, placing of bars, Bending of reinforcement, Bar curtailment, Restraint of compression reinforcement, Design of ties
3	Buckling, Slenderness effects in structures Classification of structures, Design methods Simplified design method Design example with questions Bending about both axes Slender beams. Behavior of RC columns Calculation of ultimate strength Design of tied columns Slenderness effect, Short and long columns
4	Slab Design, Solid, Ribbed Sab
5	Slab Design, Solid, Ribbed Sab
6	Slab Design, Solid, Ribbed Sab
7	Foundation Design
8	Foundation Design
9	Foundation Design
10	Shear Wall - Structural Forms, Positioning, Analysis, Design
11	Shear Wall Design
12	Design of Retaining Structures
13	Design of Retaining Structures
14	Review

COURSE LEARNING OUTCOMES

1	To have developed a full understanding of the behavior of reinforced concrete members and structures theoretical, experimental and by using computer software.
2	To be able of analysis and design of all normal types of reinforced concrete Structures used in industry.
3	To have acquired professional skills in the design and detailing of reinforced concrete structural elements for strength and serviceability
4	To be able to use the Reinforced Concrete Design Standards in reinforced concrete design.
5	To be able to use advanced methods of analysis for reinforced concrete structures

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES
(Blank: no contribution, 1: least contribution ... 5: highest contribution)

	Program Learning Outcomes	Cont.
1	an ability to apply knowledge of mathematics, science, and engineering	5
2	an ability to design and conduct experiments, as well as to analyze and interpret data	3
3	an ability to design a system, component, or process to meet desired needs	3
4	an ability to function on multidisciplinary teams	3
5	an ability to identify, formulate, and solve engineering problems	4
6	an understanding of professional and ethical responsibility	4
7	an ability to communicate effectively	1
8	the broad education necessary to understand the impact of engineering solutions in a global and societal context	3
9	a recognition of the need for, and an ability to engage in lifelong learning	2
10	a knowledge of contemporary issues	5
11	an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice	3
12	skills in project management and recognition of international standards and methodologies	2

Prerequisites:	-
Special Requirements:	NA
Weekly Laboratory/Practice Plan:	-
Textbook:	Reinforced concrete design to Eurocode 2, by Bill Mosely, John Bungey, Ray Hulse. Sixth Edition, Palgrave Macmillan, 2011
Other Course Materials/References:	Reinforced Concrete Design Theory and Examples, Prab Bhatt, Thomas J. MCGinley.
Teaching Methods:	Lectures, Project, Assignments, Case Studies

COURSE EVALUATION CRITERIA

Method	Quantity	Percentage (%)
Project	2	15
Midterm Exam(s)	1	30
Final Exam	1	40
Total		**100**

ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD

Activities	Quantity	Duration (Hour)	Total Work Load
Course Duration (Including the exam week: 16x Total course hours)	16	4	64
Hours for off-the-classroom study (Pre-study, practice)	16	3	48
Assignments Mid-terms	1	20	20
Final examination	1	35	35
Other			20.5
Total Workload			**187.5**
ECTS Credit (Total workload/25)			**7.5**

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

COURSE INFORMATON **Course Title:** Introduction to Remote Sensing for Earth Observation							
Code	**Course Type**	**Regular Semester**	**Lecture**	**Recit.**	**Lab.**	**Credits**	**ECTS**
CEN 436	D	2	3	-	-	3	7.5

Lecturer and Office Hours	Endri Stoja
Teaching and Assistants Office Hours	-
Language	English
Compulsory/Elective	Elective
Classroom and Meeting Time	
Description	This course will introduce the students to the principles of remote sensing for earth observation applications.
Objectives	The approach taken considers the fact that the students do not come from a strict electrical engineering background and offers to expose them to the technique of remote sensing as utilizers of such and not designers of the system. The main objective is to make them aware of the possibilities and instruments available.

COURSE OUTLINE

Week	**Topics**
1	Introduction to the course: definitions and main applications
2	The basics of remote sensing
3	Electromagnetic radiation and its interaction with the atmosphere and surfaces
4	Image acquisition, aerial photography
5	Elements of image interpretation
6	Satellite remote sensing
7	Midterm exam
8	Satellite imaging radars, radar interferometry
9	Passive microwave sensing and LIDAR
10	Thermal radiation and imaging
11	Remote sensing of vegetation
12	Remote sensing of water
13	Remote Sensing the Urban Landscape
14	Case study, discussion: the AdriaRADNet project and its outcomes

Prerequisite(s)	
Textbook	Jensen J. R. (2013), *Remote Sensing of the Environment: An Earth Resource Perspective*, 2nd Edition. Pearson Prentice Hall, ISBN 0-13-489733-1
Other References	
Laboratory Work	n/a
Computer Usage	yes

LEARNING OUTCOMES AND COMPETENCIES

1	The students will learn the basics of remote sensing
2	They will be able to interpret data acquired by such systems
3	Awareness of the remote sensing tools/techniques and their use in monitoring applications

COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES
(Blank : no contribution, 1: least contribution … 5: highest contribution)

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

No	Program Learning Outcomes	Cont.
1	Engineering graduates with sufficient theoretical and practical background for a successful profession and with application skills of fundamental scientific knowledge in the engineering practice.	5
2	Engineering graduates with skills and professional background in describing, formulating, modeling and analyzing the engineering problem, with a consideration for appropriate analytical solutions in all necessary situations	4
3	Engineering graduates with the necessary technical, academic and practical knowledge and application confidence in the design and assessment of machines or mechanical systems or industrial processes with considerations of productivity, feasibility and environmental and social aspects.	2
4	Engineering graduates with the practice of selecting and using appropriate technical and engineering tools in engineering problems, and ability of effective usage of engineering technologies	1
5	Ability of designing and conducting experiments, conduction data acquisition and analysis and making conclusions	1
6	Ability of identifying the potential resources for information or knowledge regarding a given engineering issue	1
7	The abilities and performance to participate multi-disciplinary groups together with the effective oral and official communication skills and personal confidence	
8	Ability for effective oral and official communication skills in foreign language	
9	Engineering graduates with motivation to life-long learning and having known significance of continuous education beyond undergraduate studies for science and technology	
10	Engineering graduates with well-structured responsibilities in profession and ethics	
11	Engineering graduates who are aware of the importance of safety and healthiness in the project management, workshop environment as well as related legal issues	
12	Consciousness for the results and effects of engineering solutions on the society and universe, awareness for the developmental considerations with contemporary problems of humanity	

COURSE EVALUATION METHOD

In-term studies	Quantity	Percentage
Mid-terms	1	40
Quizzes		
Projects		
Term Projects		
Laboratory		
Others-Attendance		
Total		40
Contribution of in-term studies to overall grade		**40**
Contribution of final examination to overall grade		**60**
Total		**100**

ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD

Activities	Quantity	Duration (Hour)	Total Workload (Hour)
Course Duration (Including the exam week: 16x Total course hours)	16	3	48
Hours for off-the-classroom study (Pre-study, practice)	16	5	80
Assignments	7	4	28
Mid-terms	1	14	14
Final examination	1	17.5	17.5
Other			
Total Work Load			**175**
Total Work Load / 25 (h)			**7.5**
ECTS Credit of the Course			**7.5**

EPOKA UNIVERSITY
FACULTY OF ARCHITECTURE AND ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
COURSE SYLLABUS

COURSE INFORMATON							
Course Title: Landscape Perspectives in DRM & FS							
Code	**Course Type**	**Regular Semester**	**Lecture**	**Recit.**	**Lab.**	**Credits**	**ECTS**
ARCH 451	D	1	2	0	2	3	7.5
Lecturer and Office Hours			Assoc. Prof. Dr. Sokol Dervishi M. Sc. Artan Hysa				
Teaching and Assistants Office Hours							
Language			English				
Compulsory/Elective			Elective				
Classroom and Meeting Time							
Description	The course is focusing in understanding the disaster phenomenon as a process rather than an event. The development processes of the landscape aims to give a strong background for this understanding.						
Objectives	a) Define Disaster phenomenon as a process rather than an unexpected occurrence b) Becoming familiar with the methods of assessing the processes of landscapes in order to predict and manage landscape scale disasters. c) Discussion of Social-Ecological dimensions of DRM in Landscape scale d) Introducing various software applications used for Disaster Risk Assessment in Landscape scale; ex. ArcGIS, QGis, etc. e) Applying the knowledge into sample exercises on real life cases of Disasters in Landscape scale.						

COURSE OUTLINE	
Week	**Topics**
1	Introducition to Landscape Implications of FS-DRM Practice_ QGis Introduction
2	Theory_ System Thinking in FS-DRM at Landscape scale Practice_ QGis / basic tools
3	Theory_ Management principles in Natural systems; Mitigation, Adaptation, Resilinency, Feedback loop, etc Practice_ QGis / editing tools
4	Theory_ Resilient Human systems as DRM framework Practice_ QGis / analysis tools
5	Theory_ Wildfires Practice_ QGis / analysis tools II
6	Theory_ Floods and Coastal Disaster Risk Management Practice_ QGis / applied statistics
7	Theory_ Earthquakes and Landslides Practice_ QGis / Publishing
8	Mid-Term week **Term Project Proposal** [problem definition, study case, QGis usage, referable studies/cases]
9	Practice _ Data Collection and Study area Analysis
10	Theory_ Literature Review Practice_ [Case study Analysis presentations] / Research supervision
11	Theory_ Literature Review Practice_ [Case study Analysis presentations] / Research supervision

12	Theory_ Literature Review Practice_ [Case study Analysis presentations] / Research supervision
13	Theory_ Literature Review Practice_ [Case study Analysis presentations] / Research supervision
14	Practice_ Literature Review [Case study Analysis presentations] / Final Remarks
15	Paper and Poster submission / Presenations
Prerequisite(s)	NA

Textbook	Serre, D., Barroca, B., & Laganier, R. (2013). Resilience and urban risk management: Proceedings of the conference 'How the concept of resilience is able to improve urban risk management? : A temporal and a spatial analysis', Paris, France, 3-4 November 2011. Boca Raton, FL: CRC Press. Paolo Gasparini, Gaetano Manfredi, Domenico Asprone (2014). *Resilience and Sustainability in Relation to Natural Disasters: A Challenge for Future Cities.*
Other References	Turer Baskaya, F.A. (2015). *Disaster sensitive landscape planning for the coastal megacity of Istanbul.* J Coast Conservation 19: 729. Busby, G. M., Albers, H. J., & Montgomery, C. A. (2012). *Wildfire Risk Management in a Landscape with Fragmented Ownership and Spatial Interactions*. Land Economics, 88(3), 496-517. Fekete, A., Hufschmidt, G. & Kruse, S. *Benefits and Challenges of Resilience and Vulnerability for Disaster Risk Management*. Int J Disaster Risk Sci (2014) 5: 3. doi:10.1007/s13753-014-0008-3
Laboratory Work	Yes
Computer Usage	Adobe Photoshop, Autodesk AutoCAD, ArcGIS 10.2.2 or QGis
Others	Student are strongly advised to own a powerful workstation PC for off-class practices.

LEARNING OUTCOMES AND COMPETENCIES

1	Developing awareness for understanding the problems emerging from the complex relations between social and ecological systems and their implication with FS-DRM
2	Mastering the skills of: developing a critical approach to the investigation of natural disaster phenomena.
3	Developing an assessment strategy for dealing with the disaster phenomenon as a process rather than an event.
4	Usage of Software adequate for landscape scale assessment and analysis of DRM-FS

COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES
(Blank : no contribution, 1: least contribution … 5: highest contribution)

No	Program Learning Outcomes	Cont.
1	**Speaking and Writing Skills** Ability to read, write, listen, and speak effectively	**2**
2	**Critical Thinking Skills** Ability to raise clear and precise questions, use abstract ideas to interpret information, consider diverse points of view, reach well-reasoned conclusions, and test them against relevant criteria and standards	**5**
3	**Graphics Skills** Ability to use appropriate representational media, including freehand drawing and computer technology, to convey essential formal elements at each stage of the programming and design process	**4**

4	**Research Skills** Ability to gather, assess, record, and apply relevant information in architectural course work	**5**
5	**Formal Ordering Systems** Understanding of the fundamentals of visual perception and the principles and systems of order that inform two- and three-dimensional design, architectural composition, and urban design	**2**
6	**Fundamental Design Skills** Ability to use basic architectural principles in the design of buildings, interior spaces, and sites	**1**
7	**Collaborative Skills** Ability to recognize the varied talent found in interdisciplinary design project teams in professional practice and work in collaboration with other students as members of a design team	**4**
8	**International Traditions** Understanding of the International architectural canons and traditions in architecture, landscape and urban design, as well as the climatic, technological, culture-economic, and other cultural factors that have shaped and sustained them	**5**
9	**National and Regional Traditions** Understanding of national traditions and the local regional	**4**
	heritage in architecture, landscape design and urban design, including the vernacular tradition	
10	**Use of Precedents** Ability to incorporate relevant precedents into architecture and urban design projects	**5**
11	**Conservation and Restoration of Historical Districts** Knowledge on historical districts and the gain of conservation consciousness documentation of historical buildings and the understanding the techniques which are needed to prepare restoration projects.	**2**
12	**Human Behavior** Understanding of the theories and methods of inquiry that seek to clarify the relationship between human behavior and the physical environment	**4**
13	**Human Diversity** Understanding of the diverse needs, values, behavioral norms, physical ability, and social and spatial patterns that characterize different cultures and individuals and the implication of this diversity for the societal roles and responsibilities of architects	**3**
14	**Accessibility** Ability to design both site and building to accommodate individuals with Varying physical abilities	**2**
15	**Sustainable Design** Understanding of the principles of sustainability in making architecture and urban design decisions that conserve natural and built resources, including culturally important buildings and sites, and in the creation of healthful buildings and communities	**5**
16	**Program Preparation** Ability to prepare a comprehensive program for an architectural project, including assessment of client and user needs, a critical review of appropriate precedents, an inventory of space and equipment requirements, an analysis of site conditions, a review of the relevant laws and standards and assessment of their implication for the project, and a definition of site selection and design assessment criteria	**1**
17	**Site Conditions** Ability to respond to natural and built site characteristics in the development of a program and the design of a Project	**5**
18	**Structural Systems** Understanding of principles of structural behavior in withstanding gravity and lateral forces and the evolution, range, and appropriate application of contemporary structural systems	**1**
19	**Environmental Systems** Understanding of the basic principles and appropriate application and performance of environmental systems, including acoustical, lighting, and climate modification systems, and energy use, integrated with the building envelope	**5**

COURSE EVALUATION METHOD

In-term studies	**Quantity**	**Percentage**
Mid-term	1	20
Quizzes	1	10
Projects	-	-
Term Projects / Final Project	1	50
Laboratory / Assignments	5	4
Total		**100**

Contribution of in-term studies to overall grade		50
Contribution of final examination to overall grade		50
Total		100

ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD

Activities	**Quantity**	**Duration (Hour)**	**Total Workload (Hour)**
Course Duration (Including the exam week: 16x Total course hours)	16	4	64
Hours for off-the-classroom study (Pre-study, practice)	14	5	70
Assignments	5	3	15
Mid-terms / Research Proposal	1	15	15
Final examination / Final Report of the Research	1	14	14
Other			
Total Work Load			**178**
Total Work Load / 25 (h)			**7.1**
ECTS Credit of the Course			**7.5**