

Course title: Flood protection

Course Basic Information	
Academic Unit:	Faculty of Civil Engineering
Course title:	Flood Protection
Level:	Bachelor
Course Status:	E
Year of Study:	III year, V semester
Number of Classes per Week:	2+0
ECTS Credits:	3
Time /Location:	
Teacher:	Prof. asoc. Laura Kusari
Contact Details:	Email: laura.kusari@uni-pr.edu
Course Description:	Flood Protection contents: Introduction in the theory of flood risk management. Resilience measures for flood mitigation in inland waters. Construction principles and hydraulic design of retention measures in nature and urban environment (rain water retention on the surface, Sustainable Drainage Systems in cities, flood polders). Design principles of technical flood defense systems (dikes and walls, mobile abatement systems, inland drainage). Consideration of nature landscape and cultural heritage aspects in flood defense measures. Assessment methods of flood damages as well as the effectiveness and economic efficiency of flood mitigation measures.
Course Goals:	Understanding and applying the methods and concepts of the integrated management of flood protection. The evaluation of the areas prone to flooding, methods and protection structures that can be taken for the prevention and mitigation of the flood occurring in the different locations. The determination of the design discharge for flood protection.
Expected Learning Outcomes:	Upon successful completion of this course, student should be able to: <ol style="list-style-type: none">1. Understand the methods and concepts of flood risk management at rivers,2. Identify flood risk factors and mitigation measures associated,

	<ol style="list-style-type: none"> 3. Calculate design discharge for flood protection works, 4. Design planning and design techniques of flood defense structures, 5. Apply methods of non-structural flood mitigation measures.
--	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Student Workload (should be in compliance with student's Learnign Outcomes)

Activity	Hours	Day/ Week	Total
Lectures	2	15	30
Theory/ Lab Work/Exercises	1	15	15
Practical Work	0	0	0
Consultations with the teaher	1	5	5
Field Work	2	2	4
Test, seminar paper	0	0	0
Homework	1	5	5
Self-study (library or home)	1	3	3
Preparation for final exam	5	1	5
Assessment time (test, quiz, final exam)	2	2	4
Projects, presentations, etc.	2	2	4
Total			76

Teaching Methods:

Frontal lecture, ex cathedra, discussion and study case analyses, individual seminar work,

Assessment Methods:

First midterm evaluation 40%,
Second evaluation 40%
Seminars, assignments 20%

Primary Literature:

1. Kusari, L., (2021), Lecture notes

Additional Literature:

2. Environment Agency (2020), National Flood and Coastal Erosion Risk Management Strategy for England, APS Group.

	<ol style="list-style-type: none"> 3. Watson, D., Adams, M., (2011), Design for Flooding, Architecture, Landscape and Urban Design for Resilience to Climate Change, John Wiley and Sons. 4. Schanze, J., Zeman, E., Marsalek, J., (2004), Flood Risk Management: Hazards, Vulnerability and Mitigation Measures, Springer
--	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Designed teaching plan	
Week	Title of the Lecture
Week 1:	Introduction to the Integrated flood protection, problems to be treated and the possible solutions.
Week 2:	Hydrology and rivers catchment morphology. River's creation and the processes taking place in it. Fluvial processes.
Week 3:	Floods in the region. Case studies. Floods hazards in Kosovo.
Week 4:	Flood risk concepts. Management principles and objectives of integrated flood protection.
Week 5:	Flood damages evaluation.
Week 6:	Design discharge for flood protection.
Week 7:	Flood risk mapping
Week 8:	Vulnerability
Week 9:	Flood Protection measures
Week 10:	Flood Protection measures
Week 11:	Flood Protection measures
Week 12:	Flood protection in urban areas. Sustainable drainage systems.
Week 13:	Flood plains role in flood protection
Week 14:	Flood warning systems
Week 15:	Emergency measures

Academic Policies and Code of Conduct
<p>We start and finish class on time.</p> <p>Tools used during class must be cleaned and stored away at the end of class.</p> <p>Mobile/smart phones, and other electronic devices (e.g. iPods) must be turned off (or on vibrate) and hidden from view during class time.</p> <p>Laptop and tablet computers are allowed for quiet use only; other activities such as checking personal e-mail or browsing the Internet are prohibited.</p>