

Course title: Flood and Drought Management

Course Basic Information	
Academic Unit:	Faculty of Civil Engineering
Course title:	Flood and Drought Management
Level:	Master
Course Status:	Mandatory
Year of Study:	I year, II semester
Number of Classes per Week:	2+0
ECTS Credits:	3
Time /Location:	
Teacher:	Prof Dr. Laura Kusari
Contact Details:	Email: laura.kusari@uni-pr.edu
Course Description:	<p>Introduction to the theory of flood and drought risk management. Basic hydrology and river's catchment morphology. Flood types. Flood detection systems, warning and forecasting. Flood mitigation measures, non-structural, structural measures. Flood protection in urban areas. Flood plain areas in flood protection. Introduction to drought risk concept, drought types classification and their impacts. Assessing and monitoring drought variability. Analyses, drought forecasting. Drought monitoring and early warning. Drought risk management strategies. Non-structural and structural measures. Drought adaption measures.</p>
Course Goals:	<p>Understanding and applying the methods and concepts of the integrated flood and drought management. Understanding and applying main scientific concepts, needed data and tools for the assessment and integrated management of flood and drought.</p>
Expected Learning Outcomes:	<p>Upon completion, the participant should be able to:</p> <ol style="list-style-type: none">1. Understand flood and drought concepts,2. Identify flood and drought risk factors and mitigation measures associated,

	<ol style="list-style-type: none"> 3. Understand and explain the main principles of flood and drought forecasting and warning and uncertainty issues associated with flood and drought forecasts, 4. Be able to select site specific adequate adaptation measures to cope with floods and drought, 5. Conceptualize and apply the main principles of flood and drought risk assessment and management,
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Student Workload (should be in compliance with student's Learnign Outcomes)

Activity	Hours	Day/ Week	Total
Lectures	2	15	30
Theory/ Lab Work/Exercises	0	0	0
Practical Work	0	0	0
Consultations with the teacher	1	5	5
Field Work	0	0	0
Test, seminar paper	2	5	10
Homework	1	5	5
Self-study (library or home)	2	4	8
Preparation for final exam	2	4	8
Assessment time (test, quiz, final exam)	2	2	4
Projects, presentations, etc.	2	3	6
Total			76

Teaching Methods:

Teaching Methods:	Frontal lecture, individual assignments, group discussions, individual seminar work, presentations to class.
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Assessment Methods:	First midterm evaluation 35%, Second evaluation 35% Seminars, assignments, presentations 30%
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Primary Literature:

Primary Literature:	1. Kusari, L., (2026), Lecture notes
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Additional Literature:	<ol style="list-style-type: none"> 2. Environment Agency (2020), National Flood and Coastal Erosion Risk Management Strategy for England, APS Group. 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 5. EU Commission. JRC Technical Reports (2018). Drought Risk Assessment and Management- A conceptual Framework, Vogt et.al.
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Designed teaching plan	
Week	Title of the Lecture
<i>Week 1:</i>	Introduction to the Flood and Drought Risk Management theory, problems to be treated and the possible solutions.
<i>Week 2:</i>	Hydrology and rivers catchment morphology. River's creation and the processes taking place in it. Fluvial processes.
<i>Week 3:</i>	Flood types, causes and their impacts. Floods in the region. Flood prone risk areas in Kosovo.
<i>Week 4:</i>	Flood detection systems. Flood forecasting and flood warning methods.
<i>Week 5:</i>	Flood risk analyses. Flood mitigation measures. Nonstructural measures.
<i>Week 6:</i>	Design discharge for flood protection. Flood mitigation structural measures.
<i>Week 7:</i>	Flood protection in urban areas. Sustainable drainage systems.
<i>Week 8:</i>	Natural measures. Flood plains role in flood protection.
<i>Week 9:</i>	Introduction to drought risk, drought type classification and drought impacts. Environmental, social and economic aspects.
<i>Week 10:</i>	Drought severity assessment. Main principles in assessing and monitoring drought variability.
<i>Week 11:</i>	Analyses and drought forecasting by the use of modelling tools. Drought early warning.

Week 12:	Drought management cycle.
Week 13:	Drought monitoring and water scarcity management in urban, industrial and agricultural sectors.
Week 14:	Drought management. Drought mitigation. Non structural measures. Structural measures.
Week 15:	Adaption measures in line with drought risk management. Long term and short-term measures.

Academic Policies and Code of Conduct

We start and finish class on time.

Tools used during class must be cleaned and stored away at the end of class.

Mobile/smart phones, and other electronic devices (e.g. iPods) must be turned off (or on vibrate) and hidden from view during class time.

Laptop and tablet computers are allowed for quiet use only; other activities such as checking personal e-mail or browsing the Internet are prohibited.

Note | If a student has more than 3 class assignments evaluated below 50% he/she loses the right on taking the final exam. Evaluation is done from 0-100 %.