Course title: Water conservation and water efficiency

Course Basic Information	
Academic Unit:	Faculty of Civil Engineering
Course title:	Water conservation and water efficiency
Level:	Master
Course Status:	Mandatory
Year of Study:	I year/ 2nd Semester
Number of Classes per Week:	2 + 2
ECTS Credits:	6
Time /Location:	According to the timetable
Teacher:	Figene Ahmedi
Contact Details:	Email: figene.ahmedi@uni-pr.edu
Course Description:	In general, the course addresses the need for sustainable management of water resources. The course provides an overview of the basic concepts of water conservation and water efficiency. Topics covered: Introduction to water conservation, problem analysis caused by poor water management, nature-based solutions for water availability and quality, water treatment, reuse, and recycling, domestic and small commercial wastewater reuse, instrumentation, measuring flow and consumption.
Course Goals:	Increase in demand for sustainable water management in general in our country imposes the need to ensure water availability for future generations. The learning objectives of this course are: • Importance of the conservation of water and water efficiency. • Create a process to inform, involve, and educate the public (stakeholder/s) on issues related to water conservation. • Transfer knowledge of water conservation to water users and water operators.
Expected Learning Outcomes:	By the end of the course, students will be able to: • Evaluate and use information gathered from scientific literature studies and applications related to water conservation and efficiency. • Analyze conservation technologies and set steps for saving water. • Identify problems and think innovatively about ways to conserve or reuse water. • Prepare a presentation and report in English on water conservation – case studies on poor water management; sustainable water management, and natural-based solutions (Communication and Social Competency).

Student Workload (should be in compliance with student's Learnign Outcomes)			
Activity	**Hours**	**Day/ Week**	**Total**
Lectures	2	15	30
Theory/ Lab Work/Exercises	2	15	30
Practical Work			
Midterm test preparation	2	15	30
Consultations with the teacher	1	6	6
Field Work			
Test, seminar paper	2	2	4
Homework	2	12	24
Self-study (library or home)			8
Preparation for final exam			10
Assessment time (test, quiz, final exam)			8
Projects, presentations, etc.			
Total			**150**

Teaching Methods:	Through lectures, class-works (exercises) and home-works.
Assessment Methods:	Evaluation is done from 0-100 % First midterm: 20 % Second midterm: 70 % Regular attendance: 10% Final exam: 70%
Primary Literature:	Ahmedi, F. Lecture notes offered
Additional Literature:	1. Sturman, J et al., Water Auditing and Water Conservation, 2004, IWA, UK. 2. Seneviratne, M. A Practical Approach to Water Conservation for Commercial and Industrial Facilities, 2007, Elsevier Ltd.

Designed teaching plan	
Week	**Title of the Lecture**
Week 1:	Introduction to water conservation and water efficiency
Week 2:	Problem analyses caused by poor water management
***Week 3*:**	Saving water: Step by Step
Week 4:	Water quantity and quality
Week 5:	Water use in different sectors
***Week 6*:**	Water conservation in different sectors
Week 7:	PRESENTATIONS: Water conservation practices (Part of final Pres.)
Week 8:	Natural based solutions
Week 9:	Water treatment, reuse, and recycling
Week 10:	Water treatment, reuse, and recycling (cont.)
***Week 11*:**	Domestic and small commercial wastewater reuse
***Week 12*:**	Instrumentation, measuring flow and consumption
***Week 13*:**	Instrumentation, measuring flow and consumption (cont.)
***Week 14*:**	PRESENTATIONS: Water conservation practices

***Week 15*:**	PRESENTATIONS: Water conservation practices

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.*