Course Title: PUBLIC HEALTH

Course Basic Information	
Academic Unit:	Faculty of Civil Engineering (IWRM Master Programme)
Course title:	Public Health
Level:	Bachelor
Course Status:	Elective
Year of Study:	The year I/ Semester II
Number of Classes per Week:	2+0
ECTS Credits:	3
Time /Location:	According to the timetable.
Teacher:	Naim Jerliu
Contact Details:	naim.jerliu@uni-pr.edu
Course Description:	This course addresses important topics and methodological approaches in public health related to water resource management. Specifically, the course covers applications and domains of public health: Water related public health (water quantity, water quality, water related diseases; sanitation, hygiene and health; monitoring programmes, case studies); Urban water cycle management (water sensitive design; sponge city; recycling and reuse); Water treatment technologies (wastewater characteristics; biological and membrane technologies); Integrated sanitation concepts in the context of sustainability transitions (case study); Climate change and water supply; climate change and sanitation.
Course Goals:	The course aims at provide basic knowledge of public health, sanitation, and urban water resources management as well as technological and managerial options to address them, in a global, regional, and Kosovo context.
Expected Learning Outcomes:	After completion of this course, student will be able to: Define public health and water related public health issues (water quantity, water quality, water related diseases; sanitation, hygiene and health; monitoring programme, case studies); Understand urban water cycle management (water sensitive design; sponge city; recycling and reuse); Describe water treatment technologies (wastewater characteristics; biological and membrane technologies);

	Discuss integrated sanitation concepts in the context of sustainability transitions (case study); Identify significant gaps in the current knowledge base concerning technological and managerial options to address water related public health issues; Identify possible future approaches to control major public health problems related to integrated water resources management, as well as the climate change challenge, to water supply and sanitation. Identify and discuss water related public health issues in the context of Kosovo.

Student Workload (should comply with student's learning outcomes)

Activity	**Hours**	**Day/ Week**	**Total**
Lectures	2	15	30
Theoretical/Lab work			
Practical work			
Contacts hours with the teacher Consultations during office hours	1	15	15
Fieldwork			
Colloquium, seminars	1	5	5
Homework			
Self-study time (in the library or at home)			
Final exam reparation	2	7	14
Evaluations (tests, quizzes, final exam)	1	5	5
Projects, presentations, etc.	1	6	6
Total			**75**

Teaching Methods:	The course consists of lectures with inputs of basic knowledge, examples/case studies, PBL assignments, classroom interaction-group discussions, project work/seminar/workshops, individual homework, and group presentations. Traditional and self-directed, web-based learning materials are included.
Assessment Methods:	Regular attendance / Class Activity/Interaction: 10% Project/individual written assignments: 30% Seminars, topic/activity response presentations: 10% Final Exam/ Written Examination: 50% Assignments will be graded based on their content, organisation, and quality of writing.
Primary Literature:	Robert H. Friis. Essentials of environmental health. Third edition. Burlington, MA: Jones & Bartlett Learning (2019); Howard Frumkin, Editor. Environmental Health: From

	Global to Local. Third Edition. John Wiley & Sons. (2016); WHO. Water, Sanitation and Hygiene strategy 2018-2025. Geneva: World Health Organization; 2018 Sandy Cairncross, Richard Feachem. Environmental Health Engineering in the Tropics. Water, Sanitation and Disease Control. Third edition. Routledge, 2019 WHO. Guidelines for Drinking-water Quality. Policies and Procedures used in updating the WHO Guidelines for Drinking-water Quality. World Health Organization, 2009 Productivity Commission 2020, Integrated Urban Water Management — Why a good idea seems hard to implement, Commission Research Paper, Canberra. Metcalf & Eddy, George Tchobanoglous, et al. Wastewater Engineering: Treatment and Reuse, 5th ed., McGraw-Hill, 2013; World Bank. 2018. Water Security Outlook for Kosovo. © World Bank; Pollozhani A., Kendrovski V., Kocubovski M., Hoxha-Krasniqi S. Ekologjia humane me higjienë. Shkup, 2012;
Additional Literature:	WHO. Water Sanitation and Health resources: https://www.who.int/teams/environment-climate-change-and-health/water-sanitation-and-health Frank R. Spellman, Melissa L. Stoudt. The handbook of Environmental Health. The Scarecrow Press, Inc. (2013) Nicholas P. Cheremisinoff. Handbook of water and wastewater treatment technologies. Butterworth-Heinemann, 2002. Health Reference Series. Environmental Health Sourcebook Fifth Edition. Detroit, MI: Omnigraphics, (2018); Richard Crume (Ed.) Environmental Health in the 21st Century. From Air Pollution to Zoonotic Diseases. Santa Barbara, California: Greenwood. (2018); Jerome Nriagu. (Ed. In Chief). Encyclopedia of Environmental Health. Second Edition. Elsevier. (2020) Tilley, E.et. al.: Compendium of sanitation systems and technologies. Zürich, 2008; Crites & Tschobanoglous: Small and decentralized wastewater management systems. McGraw-Hill, 1998.
Designed teaching plan	
Topic / Title of the lecture	
Week 1:	Introduction: Public health.

	The definition of public health and concepts, processes, methods, and essential data in understanding a public health problem related to water resources.
Week 2:	Water and health. Water-related public health issues. Sanitation, hygiene, and health. Water as an environmental factor: Significance of water; Water properties.
Week 3:	Water resources and urbanization: Wastewater; Water quantity; Water quality; Ecosystem services.
Week 4:	Drinking-water: Drinking-water quality demands; Microbiological quality; Chemical quality; Obtaining drinking water; Protection of drinking water sources; Guidelines for Drinking-water Quality
Week 5:	Evaluation of water quality. Sampling; Tests; Monitoring programs, Case studies.
Week 6:	Water pollution: Chemicals as pollutants; Microorganisms as pollutants; Thermal pollution; Radioactivity pollution; Water-borne diseases (Water-related diseases).
Week 7:	Urban water cycle management: Water sensitive design; sponge city, recycling and reuse.
Week 8:	Wastewater and sanitation; Water treatment technologies (wastewater characteristics; biological and membrane technologies; Water and wastewater reuse).
Week 9:	Integrated sanitation concepts in the context of sustainability transitions (case study).
Week 10:	The climate change challenges: the climate change and water supply; the climate change and sanitation.
Week 11:	Water, Sanitation, and Hygiene: Policies and Strategy; Priority Intervention Areas
Week 12:	Water, Sanitation and Hygiene: Emerging Issues- Globally and Regionally.
Week 13:	Kosovo Water Security Outlook.
Week 14:	Water resources issues in Kosovo: Diagnostic of the Water Resources Baseline; Water Quality; Transboundary water management; Climate Risk; Water Resources Management Framework.
Week 15:	Kosovo: Drinking Water, Sanitation and Health; Water Management Challenges.

ACADEMIC POLICIES AND CODE OF CONDUCT
Mobile/smartphones 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 assignements evaluated below 50% he/she loses the right on taking the final exam. Evaluation is done from 0-100 %.