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| Study Programme: Civil Engineering | | | |
| Course Unit Title: Municipal Hydrotechnics | | | |
| Course Unit Code: GG408 | | | |
| Name of Lecturer(s): Stipić Matija, Budinski Ljubomir | | | |
| Type and Level of Studies: bachelor | | | |
| Course Status (compulsory/elective): elective | | | |
| Semester (winter/ summer): summer | | | |
| Language of instruction: english | | | |
| Mode of course unit delivery (face-to-face/distance learning): face-to-face | | | |
| Number of ECTS Allocated: 5 | | | |
| Prerequisites: none | | | |
| Course Aims: The educational objective of the course is to introduce students to the basics of modern techniques of municipal hydrotechnics which is one of the most important branches of watereconomy. In addition to that, students are expected to acquire expertise which they will then be able to apply in practice in the field of water supply and sewerage construction in settlements. | | | |
| Learning Outcomes: After passing the exam, students will be ready to apply their knowledge in engineering practice by using the acquired knowledge in the field of planning and designing of the municipal hydrotechnics facilities, execution of works and the maintenance of water supply and sewerage systems. | | | |
| Syllabus. WATER SUPPLY: 1. Introduction to the issues of the construction of water supply and sewerage systems in settlements. 2. Interior water supply installations in buildings. 3. Hydraulic analysis of a water supply network. 4. Water resources. 5. Tanks and pumping stations. 6. Pipes, reinforcement and pipe fittings. 7. The application of EN 805- water supply outside of buildings. 8. Water supply nodes. 9. Drinking water treatment (primary physico-chemical processes and processing techniques). 10. Water supply losses; CONSTRUCTION OF SEWERAGE IN SETTLEMENTS: 1. Sewerage network systems. 2. Domestic interior sewage installation. 3. Hydraulic analysis of the sewerage network. 4. Facilities on the sewerage network. 5. Sewage pipes. 6. Special sewerage systems. 7. Municipal wastewater treatment techniques (mechanical purification, biological processes with activated sludge, sludge treatment). 8. Construction of sewerage in the open trench. 9. Presentation of sewerage and water supply system in projects 10. Measurement of sewage flow. | | | |
| Required Reading: Relevant literature in English, tbd | | | |
| Weekly Contact Hours:2 | Lectures: 4 | Practical work: 2 | |
| Teaching Methods: Teaching is carried out in the form of audit lectures, auditory and computer exercises. Audit lectures consist of slides which provide students with the theoretical part of the course that is accompanied by distinctive examples from practice for easier understanding of the material. Exercises and examples from the material presented are then applied to specific examples in practice at auditory exercises. For completing computer exercises students use modern and authorized software packages to solve practical problems. In addition to the lectures and exercises, a field trip is also organized and students have a chance to visit water supply and sewerage facilities as well as a drinking water treatment plant and wastewater treatment plant. | | | |
| Knowledge Assessment (maximum of 100 points): | | | |
| Pre-exam obligations | points | Final exam | points |
| Attendance | | | |
| Computer exercises | | | |
| Tests (4x) | | | |

