

<i>Course title:</i> Sewerage systems	<i>Code:</i> ErF11
<i>Field of study:</i> Environmental Engineering	<i>Year / semester:</i> III
<i>Speciality:</i>	<i>Course:</i> compulsory
<i>Hours / week:</i> Lectures: 1 Tutorials: 0 Laboratories: 0 Project / Seminars: 0.5	<i>Number of credits:</i> 6

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Status of the course in the study program:
Core course for students of Environmental Engineering

Course description:

Classification of wastewater and sewerage systems. Overview of sewer types, typical materials and cross sections of gravity- flow sewers. Information about sewer slopes, location of sewers, minimal covers of sewers and sewer maintenance. Calculations of sewerage systems (waste flows). Overview of sewer appurtenances and special objects in combined sewer systems and storm water systems. Hydraulic calculations concerning non-pressure sewage pipelines. Overview of vacuum sewer systems and pressure sewer systems. Overview of trenchless technologies.

Teaching outcomes:

The main purpose of the course is to present the basic knowledge of sewerage systems and calculation methods concerning non-pressure sewage pipelines.

Prerequisites:

Basic knowledge of mathematic (trigonometric functions; formulas of: cross sections, perimeters and volumes for geometric figures; mathematical transformations), fluid mechanics (uniform flows in open channels, The Chezy formula).

Teaching method:

Lectures - multimedia projector;
Project – multimedia projector.

Assessment method:

Written examination,
Written exercise (designed a section of sewerage system).

Bibliography:

1. Imhoff K.: „Handbook of urban and drainage and wastewater disposal”, A Wiley-Interscience Publication, John Wiley and Sons, 1989.
2. Metcalf & Eddy, Inc.: „Wastewater engineering: treatment, disposal and reuse”, McGraw-Hill, Inc., third edition 1991.
3. Escritt L.B.: „Sewerage and sewage treatment, International practice”, A Wiley-Interscience Publication, John Wiley and Sons, 1984.
4. Mazurkiewicz K.: “Sewerage systems”, Manuscript 2011.