# COURSE DESCRIPTION CARD

**Faculty of Civil Engineering and Environmental Sciences**

<table>
<thead>
<tr>
<th>Field of study</th>
<th>Degree level and programme type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialization/ diploma path</td>
<td>Study profile academic profile</td>
</tr>
<tr>
<td>Course name</td>
<td>Basics of Sewerage Systems</td>
</tr>
<tr>
<td>Course code</td>
<td>IS-FCEE-00261S</td>
</tr>
<tr>
<td>Course type</td>
<td>Erasmus</td>
</tr>
<tr>
<td>Forms and number of hours of tuition</td>
<td>Semester</td>
</tr>
<tr>
<td>L</td>
<td>C</td>
</tr>
<tr>
<td>15</td>
<td>30</td>
</tr>
<tr>
<td>Entry requirements</td>
<td>Basic knowledge of fluid mechanics</td>
</tr>
<tr>
<td>Course objectives</td>
<td>By the end of this module students should be able to: characterize different types of wastewater collection systems and their components, calculate sewage budget for a community, apply appropriate methods for a design of sewers, design simple wastewater collection system.</td>
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<tr>
<td>Course content</td>
<td>Lectures: General information on sewage disposal systems. Computation of sewage flows. Design principles of separated and combined sewage systems. Operation and design principles of pressure and vacuum sewage systems. Hydraulic calculations of sewers. Pipe materials and sewerage appurtenances. Project: Engineering design of gravity sewer system for a small community (foul water only) Specialized workshop – application of professional computer software for hydraulic analysis of sewer system</td>
</tr>
<tr>
<td>Teaching methods</td>
<td>Informational lectures (with multimedia presentations), design project (with example calculations)</td>
</tr>
<tr>
<td>Assessment method</td>
<td>lecture – written test; project / specialized workshop – project / exercises completion, presentation and discussion</td>
</tr>
<tr>
<td>Symbol of learning outcome</td>
<td>Learning outcomes</td>
</tr>
<tr>
<td>LO1</td>
<td>Student is able to: explain how sewage disposal systems work and describe main elements of the system</td>
</tr>
<tr>
<td>LO2</td>
<td>Student is able to design a gravity sewer system</td>
</tr>
<tr>
<td>LO3</td>
<td>Student is able to access and apply data necessary for a design and analysis of sewer systems</td>
</tr>
<tr>
<td>LO4</td>
<td>Student is ready to analyse problems related to sewage disposal</td>
</tr>
<tr>
<td>LO5</td>
<td>Symbol of learning outcome</td>
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<tr>
<td>-----</td>
<td>---------------------------</td>
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<tr>
<td>LO1</td>
<td></td>
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<tr>
<td>LO2</td>
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<tr>
<td>LO3</td>
<td></td>
</tr>
<tr>
<td>LO4</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Student workload (in hours)</th>
<th>No. of hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calculation</td>
<td></td>
</tr>
<tr>
<td>lecture attendance</td>
<td>15</td>
</tr>
<tr>
<td>participation in classes, laboratory classes, etc.</td>
<td>45</td>
</tr>
<tr>
<td>working on projects, reports, etc.</td>
<td>15</td>
</tr>
<tr>
<td>participation in student-teacher sessions related to the classes/seminar/project</td>
<td>3</td>
</tr>
<tr>
<td>preparation for and participation in exam</td>
<td>10</td>
</tr>
<tr>
<td>TOTAL:</td>
<td>98</td>
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<table>
<thead>
<tr>
<th>Quantitative indicators</th>
<th>HOURS</th>
<th>No. of ECTS credits</th>
</tr>
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<tbody>
<tr>
<td>Student workload – activities that require direct teacher participation</td>
<td>63</td>
<td>2,5</td>
</tr>
<tr>
<td>Student workload – practical activities</td>
<td>60</td>
<td>2,4</td>
</tr>
</tbody>
</table>

**Basic references**

**Supplementary references**

**Organisational unit conducting the course**
Department of Water Supply and Sewage Systems

**Author of the programme**
Dariusz Andraka, PhD

L – lecture, C – classes, LC – laboratory classes, P – project, SW – specialization workshop, FW - field work, S – seminar