

Title of Course	Concrete Technology - laboratory		
Semester	Autumn/Spring		
Teaching Hours per Course:	Total	Lectures	Tutorials
	30	0	30
ECTS Credits	2.0		
The content of education			
Aims of Course	The result of education should be the acquisition by students of skills and competencies understanding concepts and processes used in concrete technology, selecting and controlling the quality of concrete mix components, as well as ordinary concrete, at an engineering level.		
Program	<p>L1 - Presentation of the laboratory. Order regulations. Technical standards.</p> <p>L2 - Analysis of the grain composition of concrete aggregates according to PN-EN 933-1.</p> <p>L3 - Aggregate grading curve. Design of aggregate mix composition for concrete.</p> <p>L4 - Testing the consistency of concrete mix according to PN-EN 12350-2 to 5.</p> <p>L5 - Dosing of components and preparation of the concrete mix. Consistency testing. Molding of test specimens according to PN-EN 12390-1, -2.</p> <p>L6 - Demolding of test specimens and commencement of concrete curing according to PN-EN 12390-2.</p> <p>L7 - Summary of PN-EN 206-1 conducted tests.</p> <p>L8 - Preparation of next concrete mix, testing rheological properties of the mix, and molding of test specimens according to PN-EN 12390-1 to 2.</p> <p>L9 - Testing the density and compressive strength of first concrete at 28 days according to PN-EN 12390-3. Determination of characteristic strength and concrete class according to PN-EN 206-1.</p> <p>L10 - Testing concrete in structures according to PN-EN 12504-1.</p> <p>L11 - Testing concrete in structures according to PN-EN 12504-2.</p> <p>L12 - Testing the impact of curing on the 28-day strength of concrete or alternative testing of concrete. Results analysis.</p> <p>L13 - Analysis of the composition of concrete mix. Remarks for the final report.</p> <p>L14 - Summary of PN-EN 13670 conducted tests.</p> <p>L15 - Presentation and evaluation of reports on the execution and testing of concrete.</p>		
Conditions of completion	<p>Grading Standard: The conditions for passing the course are: attendance at all laboratory sessions, preparation of documentation for each project task, and presentation of research results. The final course grade is based on the evaluation of the report and knowledge tests.</p> <p>Grade 2.0; 3.0; 3.5; 4.0; 4.5; 5.0</p>		
Teacher	M.Sc. Natalia Gasik-Kowalska		