

Title of Course	Materials Science		
Semester	Autumn/Spring		
Teaching Hours per Course:	Total	Lectures	Tutorials
	15	15	0
ECTS Credits	1.0		
The content of education			
Aims of Course	Acquiring basic knowledge in the field of construction and types of sanitary installation materials, their tooling and welding processes. Understanding of developing trends in this area, acquiring the ability to obtain information from various sources and the ability to cooperate in a team.		
Program	W1 - Structure of metals and alloys. W2 - Physical and mechanical properties of materials. W3 - Iron allotropic transformations and the iron-carbon system. W4 - Structure, properties and application of steel, cast iron and cast steel. W5 - Heat, thermo-chemical and plastic tooling of iron metals. W6 - Non-iron metals and their alloys and their structure, properties and application. W7 - Rolled, forged, drawn and cast products. W8 - Metal corrosion and corrosion protection. W9 - Types, properties and use of plastics. W10 - Installation materials in sanitary engineering for fittings and equipment. W11 - Sealing and insulation materials. W12 - Ceramic and concrete products. W13 - Processing of materials by welding processes and machining. W14 - Basic testing on the structure and properties of materials. W15 - Selection of materials for the construction and repair of sanitary installations and networks.		
Conditions of completion	Grading Standard: The prerequisite for passing is limited by: Passing colloquium. Final grade of the course is the grade with the colloquium. Grade 2.0; 3.0; 3.5; 4.0; 4.5; 5.0		
Teacher	Ph.D. Jacek Szpetulski		