

<b>Underground Structures (Prof. Katarzyna Zabielska-Adamska)</b>	<b>6</b>		<b>S</b>
Required knowledge: The students should have passed the subjects: General building, Soil mechanics, Foundation, Concrete structures, Metal structures			
<b>Description:</b> Classification of underground structures and their usable functions. Types of excavations. Characteristic of selected structures among them city subway systems and railroad and highway tunnels. General building requirements for tunnels. Loadings on floor, walls and underlay of casing. Deep excavations and casing. The basic technologies of constructing of the tunnels. Microtunnelling.			
<b>Skills:</b> Knowledge in the scope of design, dimensioning and detailing of underground structures			
Minimum number of students needed for a group class to convene: 1			