

**„DZEMAL BIJEDIC“ UNIVERSITY OF MOSTAR
FACULTY OF CIVIL ENGINEERING**

Unit:	Construction durability, resilience and maintenance		Subject code:
Level:	Graduate		
Professor:	Assoc. Professor Dr Merima Šahinagić-Isović, PhD		
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Contact hours:	Lectures per week: 2	Practicals/tutorials per week: 2	
ECTS:	5 ECTS		
Unit status:	Core		
Prerequisites:	-		
Synopsis:	<p>Analysis of the main factors affecting the durability of structures (environmental conditions, conditions of use, quality of the project, quality of performance, properties of materials, characteristics of load bearing systems, details of the solution, maintenance). External effects on basic materials (stone, wood, baked clay, mortar, concrete, classically reinforced and prestressed concrete, steel). Steel corrosion processes. Concrete corrosion processes. Processes of wood decaying. The impact of the durability of structures on their useful value, safety and maintenance costs. Modern requirements on durability of structures. Constructions in an aggressive environment. Inspections, maintenance and observation of structures. Experiences of sustainability in built structures. Special features of durability of reinforced concrete and masonry structures. Special features of the durability of steel structures and composite structures of steel-concrete type. Special features of the durability of wooden structures and composite timber-concrete.</p>		
Aims:	Introducing students to the basic concepts of construction durability, resilience and maintenance during the life span of structures.		
Outcomes	Acquiring the knowledge of ensuring sufficient durability and resistance of structures, while keeping their maintenance cost minimal.		
Teaching methods:	Lectures, practicals/tutorials/self-directed learning exercises, Consultative teaching		
Assessment:	Preparation and presentation of homeworks, written practical reports		
Prescribed literature:	<ol style="list-style-type: none"> 1. Alexander M., Bentur A., Mindess S.: Durability of Concrete: Design and Construction, 2017. 2. Soutsos M. and Domone P.: Construction Materials: Their Nature and Behaviour, 2015 3. ASTM International: Durability of Building and Construction Sealants and Adhesives, 2014 4. EUROCODES 2, 3, 4, 7, 8 		