

RES558 NATURAL STONES AS BUILDING MATERIALS

Department	Architectural Restoration
Instructor	Asst. Prof. Dr. Felat DURSUN
Course Duration	Fall Semester (30 Sep. 2024- 17 Jan. 2025)
Class Time and Location	Tuesdays, 09:45-12:45, Z03
Language of Instruction	English
Type of Course Unit	Elective

Weekly Schedule		
Week	Topics	Materials
Week 1 (01 Oct.)	Introduction to Building Stones: Key Terminology and Concepts	Selected readings
Week 2 (08 Oct.)	Geological Background of Natural Stone	Selected readings
Week 3 (15 Oct.)	Types of Rocks: Igneous, Sedimentary, and Metamorphic	Selected readings
Week 4 (22 Oct.)	Ancient Stone Quarrying Techniques and Application	Selected readings
Week 5 (29 Oct.)	No Class- Republic Day, National Holiday	
Week 6 (05 Nov.)	Decay Forms in Traditional Building Stones-I	Selected readings
Week 7 (12 Nov.)	Decay Forms in Traditional Building Stones-II	Selected readings
Week 8 (19 Nov.)	Causes, Sources, and Mechanisms of Stone Decay	Selected readings
Week 9 (26 Nov.)	Midterm Exam	
Week 10 (03 Dec.)	In-Situ Techniques for Assessing Stone Characteristics in Monuments and Structures	Selected readings
Week 11 (10 Dec.)	Analytical Techniques in Stone Characterization-I: Geochemical, Mineralogical and Petrographic Characterization	Selected readings
Week 12 (17 Dec.)	Analytical Techniques in Stone Characterization-II: Physicomechanical, Hygric and Thermal Properties Characterization	Selected readings
Week 13 (24 Dec.)	Case Studies-I	Selected readings
Week 14 (31 Dec.)	Case Studies-II	Selected readings
Final Exam (to be announced at the end of the semester)		

Suggested Resources
Siegesmund, S., & Sneathlge, R. (Eds.). (2011). <i>Stone in architecture: properties, durability</i> . Springer Science & Business Media.
Smith, B. Torok, A. Prikryl, R. Prikrylova, J. (2010). <i>Natural Stone in the Built Environment: Resources, Use and Conservation</i> , CRC Press