

9.00 credits

72.0 h

Q2

Language :	French
Place of the course	Autre site
Main themes	Structural work: materials and applications; Finishing work and decorative elements: materials and applications.
Learning outcomes	<p><b>At the end of this learning unit, the student is able to :</b></p> <ol style="list-style-type: none"> <li>1 Understand the main materials used in so-called traditional construction from Antiquity to the Industrial Revolution, as well as the building materials — particularly composite materials — introduced from the second half of the nineteenth century through the modernist period ;</li> <li>2 Situate the evolution of their uses over the long term ;</li> <li>3 Identify and analyze their qualities and technical specificities ;</li> <li>4 Understand the operational production chain, from the selection of raw resources to fabrication and transportation to the construction site ;</li> <li>5 Appreciate the diversity of applications of the studied materials and the variety of their assemblages ;</li> <li>6 Identify the actors involved in the construction process from the medieval period to the twentieth century.</li> <li>7 Contextualize the studied materials within their architectural “terroir.”</li> <li>8 Assess the physical condition of a building through the study of pathologies and the establishment of a diagnostic analysis.</li> <li>9 Propose appropriate conservation or restoration techniques that take into account the characteristics of the materials and their implementation, as well as economic and environmental considerations.</li> </ol>
Teaching methods	<p>Lectures, laboratory visits, meetings with artisan restorers, seminars and conferences, as well as fieldwork conducted on the case study site.</p> <p>This activity requires student mobility.</p>
Content	<p>This teaching unit will address the principal materials used in structural and finishing construction from Antiquity to the modernist period. This approach will necessarily include an introduction to the different types of structures, which may involve a wide range of materials. The perspective adopted is comprehensive — from the construction of foundations to the installation of roofing, including decorative phases.</p> <p>Wood, lithic materials (building stones, including concrete, cement, gypsum, and marble, as well as roofing stone), metals, raw earth, architectural ceramics, and plant-based materials constitute the main categories studied for both structural and finishing works. For the latter, materials and substances such as gilding, paper, and glass will also be examined.</p> <p>A diachronic approach, central to the history of architecture, construction history, and archaeology, will be fully deployed to provide students with an overview of the evolution of manufacturing techniques and material usage. The course will also explore the underlying factors that led the construction sector and its actors to modify their building practices, innovate by improving materials or structural systems, and develop supply networks according to the specific cultural, economic, political, social, and technical contexts of each period.</p>

	<p>Understanding the phases of design, construction, acceptance, and maintenance will constitute a key focus of this teaching unit.</p> <p>In parallel, students will learn to assess the physical condition of a building through the study of pathologies and the establishment of a diagnostic analysis, which forms the essential preliminary step to any conservation or restoration intervention.</p> <p>Finally, the main methods and techniques of conservation will be presented and discussed by experienced craftsmen and specialists in the field.</p> <p>This unit builds on a number of concepts introduced in the course LPATRIM2102 and will provide the theoretical foundation necessary for the transversal exercises (LPATRIM2107 and LPATRIM2204) to be conducted during the second and third semesters.</p>
Faculty or entity in charge	FIAL

<b>Programmes containing this learning unit (UE)</b>				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Advanced Master in Heritage Conservation and Restoration	PATR2MC	9		