UCLouvain

lpatr2102

2026

Data collection and analysis

24.00 credits	192.0 h	Q1

Language :	French
Place of the course	Autre site
Main themes	· Documentary sources: typology and analysis ; · Manual surveying ; · Digital surveying ; · Archaeological study of buildings and subsoil archaeology ; · Historical and stylistic approach to architecture ; · Structural behavior and analysis ; · Historic parks and gardens: history, evolution and case studies.
Learning outcomes	**At the end of this learning unit, the student is able to :** 1 Acquire an overview of the main institutions holding archival collections in Belgium; identify, mobilize, and use the principal types of archives essential for conducting historical research; and critically assess the documentary sources employed. 2 Recognize and evaluate various methods of graphic, photographic, and digital documentation; identify their respective strengths and limitations and understand their theoretical foundations and modes of operation; make informed decisions regarding their use; and apply selected tools in practice. 3 Comprehend the theoretical foundations of archaeology; understand the organization and functioning of Belgian institutions responsible for archaeology, as well as those in neighboring countries; distinguish between different types of archaeological interventions, their objectives, and their contributions; and experiment with selected methods in the field. 4 Grasp the theoretical foundations of architectural history as a discipline and appreciate the contribution of this approach to heritage studies. 5 Understand the theoretical principles underlying structural behavior; master the conceptual basis of structural analyses used in heritage research; and make informed choices regarding the analyses to be implemented. 6 Understand the monumental, vegetal, and landscape components that constitute the heritage identity of historic parks and gardens throughout history; analyze the characterization of styles and models (Italian, French, English, and modern approaches) and their diffusion according to spatial, temporal, and cultural contexts; recognize the role of major designers, the significance of theoretical works and/or gardening treatises; and master the disciplinary vocabulary.
Evaluation methods	Oral and/or written examination, assessed collectively by the course co-holders.
Teaching methods	The course combines ex-cathedra lectures, flipped classroom activities, field visits, and hands-on exercises conducted at the Walloon Center for Building Archaeology (CWAB–AWaP).
Content	This teaching unit constitutes the core of the program during the first semester. Archaeology, archaeometry, history, architectural history, and the applied sciences are the main disciplines involved in this course. It thus reveals a profoundly interdisciplinary character and aims to establish the disciplinary theoretical foundations necessary for the preliminary studies carried out prior to any heritage-related project. The teaching provided will therefore form the pedagogical foundation for the transversal exercise. The course devoted to documentary sources aims to present the contribution of history to architectural and archaeological studies. After an introduction to the disciplinary issues and specific investigative methods, students will acquire the tools and interpretive frameworks necessary for the most comprehensive possible collection and analysis of archival documentation relating to the study of built heritage in Belgium (written sources, iconography, and major archival collections at both the federal level and in Wallonia and Brussels). The course will also include an introduction to digital source management tools. The production of graphic documentation represents a fundamental step toward an in-depth understanding of studied structures and their environment. This stage also enables the recording of a building's

	condition at a given moment, possibly prior to its transformation. The courses on manual and digital surveying will provide both a theoretical and practical foundation for the informed use of these acquisition methods. Traditional surveying techniques using measuring tapes, prism squares, telescopes, theodolites, and levels will be addressed, together with their calibration and precision. The theory of surveying —from sketching to detailed stone-by-stone recording—will also be covered, along with the study and interpretation of information derived from individual photographs. Furthermore, an overview of the evolution of electronic techniques, including electronic theodolites and total stations, will be presented, together with the most recent technologies employed for structural recording, such as 3D scanning, photogrammetric point clouds, and intelligent points. Finally, the use of BIM (Building Information Modeling) in the context of heritage projects will be discussed. The course on archaeology and building archaeology will invite students to explore the richness of material heritage within Belgium and neighboring countries, from Antiquity to the mid-twentieth century. The teaching will combine theoretical and practical components. The theoretical part will focus on presenting the “genealogy” of archaeology, the archaeology of construction, and building archaeology, including their respective historiographies and methodologies. The course seeks to demonstrate that these approaches together form a single, comprehensive (“total”) archaeology. In addressing buildings, the course will consider all types of architectural production—from prestigious monuments (castles, churches, etc.) to more ordinary constructions (rural or urban dwellings, agricultural buildings, warehouses, etc.) and works of civil engineering (bridges, tunnels, etc.). Understanding architectural design and programs through their material expression will be one of the key objectives of the course. Ultimately, this fascinating investigation seeks to study human societies through their built environment at a given historical moment. The study of a building also requires theoretical knowledge of architectural history, as construction is regarded as a product embedded within its historical and cultural context. This dimension will be addressed in the course on the historical and stylistic approach to architecture. It requires mastery of stylistic analysis methodology and a historically grounded understanding of architecture. Based on architectural terminology, the course will enable students to develop a coherent and structured reading of built heritage. Specific terminology and typologies will be examined for military, religious, rural, urban, and industrial architecture. The study of architectural vocabulary will allow for the characterization of functions and forms (volumes, elevations, materials, styles, etc.). The course on the functioning of structures will successively address: the general principles of structural behavior, recalling fundamental notions such as stability, strength, and stiffness, leading to an integrated understanding of structural systems; the historical evolution of structures; the main structural typologies (arches, timber frames, concrete structures, etc.); the relationship between structures and the ground; and a range of specific case studies. Finally, this teaching unit will include a specific focus on historic parks and gardens, examined through the history and evolution of their models, forms, and styles in relation to the contexts of their emergence, the modes of their dissemination, and their adoption by designers and patrons. The interrelations between architecture and garden design, decorative and symbolic programs, as well as the scientific and technical developments that have characterized this evolution, will be particularly highlighted.
Other infos	Course materials for teaching activities (including relevant visual resources) and recommended or required reading (reading lists, texts, and core texts specific to each teaching activity, as well as subject-specific or thematic bibliographies) are made available electronically by each instructor, in accordance with the procedures of their home institution, and communicated to the class. They are also available at the Documentation Center of the La Paix-Dieu Center for Heritage Professions and in the libraries of partner universities and educational institutions.
Faculty or entity in charge	FIAL

Programmes containing this learning unit (UE)

Program title	Acronym	Credits	Prerequisite	Learning outcomes
Advanced Master in Heritage Conservation and Restoration	PATR2MC	24		🔍