



Architectural Engineering

Research methods and tools

The scope of this Ph.D. course is to give information about methods and tools to perform research activities in the Architectural Engineering field. Architectural Engineering is the field of knowledge aimed at achieving high-performance built environments whose technological sub-systems are designed to be sustainable, resilient, economically viable, and to ensure the safety, health, comfort, and productivity of occupants. Architectural Engineering involves the study of issues concerning the performances and impacts of new and existing buildings (including the heritage), the definition of technological solutions, processes and development models for the safety and environmental sustainability of buildings.

The course comprises **three** modules: Research tools; Research methods; Collaborative Workshop

The first module will comprise lectures addressed to giving the ability to use open-source software to perform basic research activities. This module comprises the following lessons: 1) bibliographic management tools (Zotero, Docear, Mendeley); 2) Scientific writing tools (Markdown and Latex editor); 3) Data analysis tools (R); 4) Tools for the management of historical research documentary sources (OPAC SBN, SIAS)

The second module will propose a set of lectures with the discussion of the main phases of performed research projects financed by different organizations, (fund searching activity phase, writing phase, execution phase, reporting phase). Different types of projects financed by different organizations will be discussed. Lectures will involve researchers coming from different Universities and Research centres.

The third module will propose a collaborative workshop addressed to simulate one or more phases discussed.

24 hours

Teacher: Prof. Marco D'Orazio, Ph.D.

Architectural Engineering Research Methods and tools website: LEARN.UNIVPM.IT