

**56. BIM FOR COLLABORATIVE DESIGN PROCESS MANAGEMENT IN NEW AND EXISTING BUILDINGS<sup>i</sup>**

Level II

**Department of Architecture (DIDA)**

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<b>Executive Committee</b>	Carlo Biagini Giorgio Verdiani Pietro Capone Giuseppe Ridolfi Maria Antonietta Esposito
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<b>Practical-professional profile of the course and industry sector of reference</b>	<p>The Master course aims to train professionals in the digitization processes of the construction industry (AECO - Architecture, Engineering, Construction, and Operation), capable of managing information in buildings' life cycle, providing the necessary skills for participation in today's integrated processes of design, construction, and management, based on the BIM (Building Information Modeling) modeling methods and tools in "collaborative work" environments. Therefore, the study plan is divided into modules addressing the different aspects of BIM processes, following the Information Delivery Cycle (IDC), which runs parallel to the life cycle of the building, specifically:</p> <ul style="list-style-type: none"><li>- identification of information exchange requirements about specific BIM uses;</li><li>- preparation of information flows for planning, management, and control of the various phases of BIM-based project delivery;</li><li>- development of BIM models as part of integrated design processes in collaborative working environments (ACDat) with the implementation of federated models both horizontally by subject area (architecture, structure, and facilities) and vertically by levels of depth in the design and executive phases (techno-economic feasibility, final, executive, construction, as-built, etc.);</li><li>- data acquisition techniques and development of BIM models of existing buildings;</li><li>- BIM-based information management at various stages of building operation and maintenance (O&amp;M).</li></ul> <p>The master course will therefore develop professional skills, both at the operational and management level, in information modeling, process management, and coordination of information flows through BIM tools and methodologies.</p> <p>The educational activities will account for 60 CFUs, of which 39 CFUs will be for face-to-face classes, of which: 312 hours of face-to-face teaching, 15 CFUs for practical activities and/or internship, 6 CFUs for exams and thesis.</p>
<b>Access prerequisites</b>	<p>Master's degree obtained following the system under Ministerial Decree No. 270/2004 (or specialist degree under Ministerial Decree No. 509/1999 equated under I.D. July 9, 2009) in one of the following classes</p> <ul style="list-style-type: none"><li>• LM-3 Landscape Architecture</li><li>• LM-4 Architecture and Construction Engineering - Architecture;</li><li>• LM-10 Conservation of Architectural and Environmental Heritage</li><li>• LM-11 Science for the Conservation and Restoration of Cultural Heritage</li><li>• LM-12 Design</li><li>• LM-18 Computer Science;</li><li>• LM-22 Chemical Engineering</li><li>• LM-23 Civil Engineering</li></ul>

	<ul style="list-style-type: none"> <li>• LM-24 Building Systems Engineering</li> <li>• LM-25 Automation Engineering;</li> <li>• LM-26 Safety Engineering</li> <li>• LM-27 Telecommunications Engineering;</li> <li>• LM-28 Electrical Engineering;</li> <li>• LM-29 Electronic Engineering;</li> <li>• LM-30 Energy and Nuclear Engineering</li> <li>• LM-31 Management Engineering</li> <li>• LM-32 Computer Engineering;</li> <li>• LM-33 Mechanical Engineering;</li> <li>• LM-34 Naval Engineering</li> <li>• LM-35 Environmental and Land Use Engineering</li> <li>• LM-48 Urban and Environmental Spatial Planning</li> </ul> <p>Degree awarded according to a system prior to Ministerial Decree No. 509/1999 in</p> <ul style="list-style-type: none"> <li>• Architecture</li> <li>• Conservation of cultural heritage</li> <li>• Industrial Design</li> <li>• Computer Science</li> <li>• Civil Engineering</li> <li>• Construction Engineering</li> <li>• Construction Engineering - Architecture</li> <li>• Industrial Engineering</li> <li>• Computer Engineering</li> <li>• Mechanical Engineering</li> <li>• Environmental and land use engineering</li> <li>• Territorial urban and environmental planning</li> <li>• Urban planning</li> </ul> <p>Degree awarded according to a system prior to Ministerial Decree No. 509/1999 of closely related content, deemed suitable by the Executive Committee or a Commission specifically appointed by it.</p>
<b>Admission procedure</b>	Selection by academic qualifications
<b>Duration</b>	12 months
<b>Teaching methods</b>	Blended in-person and distance learning (synchronous, Webex platform)
<b>Language of instruction</b>	Italian
<b>Attendance requirements</b>	75%
<b>Location of the course</b>	Santa Verdiana Campus Piazza Ghiberti 27, Florence
<b>Foreseen lecture schedule</b>	- on Fridays, mixed (in-person and remote) - on Saturdays, remotely
<b>Examinations procedures and schedule</b>	Practical test and/or paper delivery at the end of the module.
<b>Final examination</b>	At the end of the course, there is a final test consisting of a report presentation.

<b>Available places and enrolment fees</b>	
<b>Full-fee students</b>	
<b>Minimum number</b>	10
<b>Maximum number</b>	30
<b>Enrolment fee</b>	€3,900
<b>Free-of-charge supernumerary places</b>	
<b>UNIFI employees</b>	1

<b>Single Modules</b>
None planned

<b>Description of the activities and training objectives of the internship</b>	<p>Students undertake a period of internship to work with teams developing BIM processes for information management of the project/construction delivery and building lifecycle phases (asset management), gaining the necessary autonomy and initiative in assigned tasks. This activity is carried out at one of the host entities affiliated with the University of Florence and selected from professional firms, engineering companies, construction companies, and public or private contracting stations.</p> <p>Alternatively, the internship may be partially replaced by practical training activities proposed by the coordinators of the Master course or if the student demonstrates that he or she is carrying out work consistent with the training objectives of the Master's program.</p> <p>375 total hours of internship.</p>
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<sup>i</sup> This document is a translation of the form A.1 relating to the characteristics of the course attached to the Decree of the Deputy number 873 (record 158006) of 25th of July 2022, drafted in Italian and issued on the Master | Didattica | Università degli Studi di Firenze | UniFI and which therefore constitutes the only official document. This English translation cannot be used for legal purposes and has the sole purpose of supplying information in English on the content of the public notice.