

Module code (1.)	Module description (2.)	Category (3.)
MBI 1510 Stand: 06.10.2021	BIM and Digital Project Management	Int. Master
	Degree program (4.)	Sustainable Engineering of Infrastructure
	Faculty (5.)	Civil Engineering and Conservation / Restoration

Module supervisor (6.)	Prof. Dr.-Ing. Habeb Astour
Type of module (7.)	P (obligatory)
Frequency (8.)	Annually
Standard semester of study (9.)	1st semester
Credits (ECTS) (10.)	5 ETCS
Assessment (11.)	Graded assessment, written reports (throughout the course) and colloquium
Language of instruction (12.)	English
Admission requirements (13.)	-
Module is a requirement for (14.)	-
Module duration (15.)	1 semester
Mandatory registration (16.)	No
Applicability of module (17.)	Civil Engineering

Course (18.)	Lecturer (19.)	Type (20.)	No. of students (max.) (21.)	No. of courses per week (22.)	Contact hours per week (23.)	Workload		
						Face-to-face (24.)	Self-study (25.)	
1	BIM and Digital Project Management	Prof. Dr. Astour	Lecture	Unlimited	1	2	30	45
2	BIM and Digital Project Management	Prof. Dr. Astour	Tutorial	Unlimited	1	2	30	45
Total						<b>4</b>	<b>60</b>	<b>90</b>
<b>Workload for the module (26.)</b>							<b>150</b>	

Learning objectives (27.)	<p>The students will acquire the following competences through the course content:</p> <ul style="list-style-type: none"> <li>work processes throughout the life-cycle</li> <li>design and coordination of digital value creation processes</li> <li>analysis and evaluation of BIM software products (BIM: Building Information Modeling), BIM Deployment Plan</li> <li>making strategic corporate decisions with regard to BIM-based planning, construction and operating</li> </ul>
Course contents (28.)	<p>The following topics are covered in this module:</p> <ul style="list-style-type: none"> <li>BIM basics</li> <li>digital building and process modeling</li> </ul>

	<ul style="list-style-type: none"> <li>• BIM tools</li> <li>• creation of building information models</li> <li>• model-based quantity take-off, specifications, bill of quantities and schedule</li> <li>• linking information with the building model</li> <li>• creation of 4D and 5D models and work processes throughout the life-cycle</li> <li>• BIM data storage and management</li> </ul>
<p><b>Preliminary exam requirements and assessment</b></p> <p style="text-align: right;">(29.)</p>	<ul style="list-style-type: none"> <li>• Assessment: written reports (throughout the course) and colloquium</li> <li>• Assessment using grades 1-5</li> <li>• Module grade is included in the overall grade in proportion to the number of credits earned</li> </ul>
<p><b>Literature</b></p> <p style="text-align: right;">(30.)</p>	<ul style="list-style-type: none"> <li>• David Shepherd: BIM Management Handbook. Reprinted 2017</li> <li>• Brad Hardin, Dave Mccool: BIM and Construction Management. Second Edition</li> <li>• André Borrmann, Markus König, Christian Koch, Jakob Beetz: Building Information Modeling-Technologische Grundlagen und industrielle Praxis, Springer Verlag</li> <li>• Marcus Schreyer: BIM-Einstieg kompakt für Bauunternehmer, Beuth Verlag</li> <li>• Oliver Glockner, Nils Krönert: BIM-Einstieg kompakt für Produkthersteller, Beuth Verlag</li> <li>• Jens Bredehorn, Marc Heinz: BIM-Einstieg kompakt für Bauherrn, Beuth Verlag</li> <li>• Die BIM-Anwendung der DIN SPEC 91400, Beuth Verlag</li> </ul>