Course Information

Course Code	1200204
Course Section	2
Course Title	DIGITAL MEDIA IN ARCHITECTURE II
Course Credit	3
Course ECTS	4.0
Course Catalog Description	Knowledge and skills on building information modeling, generative design methods, parametric modeling and digital fabrication, digital skills that relate to representation, information, generation and fabrication in design Prerequisite: ARCH 203.
Prerequisites	Students must complete one of the following sets to take this course.

Set	Prerequisites
1	1200203

Schedule	Wednesday, 08:40 - 12:30, -

Instructor Information

Name/Title	Academic Staff Dr. MEHMET KORAY PEKERİÇLİ
Office Address	MATPUM Building No:16
Email	koray@metu.edu.tr
Office Phone	
Office Hours	Wednesdays 13:30 - 16:30
Name/Title	Assoc.Prof.Dr. ALİ MURAT TANYER
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Office Phone	210 7274
Office Hours	08:40-12:30

Course Objectives

- Gain the theory, techniques, methodologies and tools for modelling information for construction,
- Understand the capabilities and limitations of building information modelling,
- Apply Building Information Modelling Tools for the analysis of buildings and planning of construction,
- Develop a two and three dimensional design representations encompassing various tools and techniques given within the course,
- Have an awareness on the capabilities and limitations of different approaches to representation,
- Creatively and fluidly combine different representational methods,

Course Learning Outcomes

- Define the concept of Building Information Modelling (BIM),
- Explain the differences between conventional computer aided design techniques and BIM,
- Demonstrate the capability to utilize BIM tools in conceptual design and design documentation,
- Analyze the impact of BIM in architectural design process,
- Integrate BIM capabilities into architectural design representation domain,

Program Outcomes Matrix

Undergraduate

		Level of Contribution			
	Program Outcomes	**0**	**1**	**2**	**3**
1	Ability to establish connections between the discipline of architecture and its related areas of competence, with the cultural and social aspects of architectural production.	X			
2	Gaining, evaluating and applying the technical, aesthetic and ethical dimensions of the knowledge and values of architecture with a scientific and critical approach.			X	
3	Making analysis and synthesis of data by employing theories, methods and currents of thought that aid in the identification and solution of architectural design problems.	X			
4	Developing creative and original ideas into the stages of theoretical design, projects, application and evaluation of architectural services and realizing them independently as well as in a team.		X		
5	Being able to effectively use the traditional and digital communication technologies and visual expression tools.				X
6	Providing leadership to achieve synthesis through a productive coordination of the scientists and professionals of different disciplines taking part in the formation of the built environment.		X		
7	Being open to lifelong education by internalizing world experiences related to architectural thought and applications and following new developments.		X		
8	Understanding the requirements of environmental, cultural and economic sustainability in both global and local scales and considering them in all professional activities.			X	
9	Defending the society's rights to shelter, within nature and city applying universal principles and resisting applications that are against professional ethics and laws while creating unique solutions and putting them into practice.	X			

0: No Contribution **1:** Little Contribution **2:** Partial Contribution **3:** Full Contribution

Instructional Methods

- Lecture,
- Problem-based learning,
- Demonstration,
- Simulations,
- Pairwork,
- Individualized study,
- Laboratory method,

Tentative Weekly Outline

Week	Topic	Relevant Reading	Assignments
1	Introduction to the Course		
2	Fundamentals of Digital Design		
3	Introduction to Building Information Modelling		
4	Building Information Modelling		

Week	Topic	Relevant Reading	Assignments
5	Building Information Modelling		
6	Analysis of Energy Performance of Buildings		
7	Analysis of Lighting		
8	BIM for Construction Documentation		
9	BIM for Bill of Quantities		
10	Design Presentation Techniques		
11	Design Presentation Techniques		
12	Design Presentation Techniques		

Course Textbook(s)

No text book will be used in this course.

Course Material(s) and Reading(s)

Material(s)

- Eastman, C., Teicholz, P., Sacks, R. and Liston, K. (2011) BIM Handbook: A Guide to Building Information Modeling for Owners, Managers, Designers, Engineers and Contractors, 2nd ed., Wiley Publishing, Inc.

Reading(s)

- Deutsch, R. (2011) BIM and Integrated Design: Strategies for Architectural Practice, Wiley.

Supplementary Readings / Resources / E-Resources

Resources

http://www.autodesk.com/education/home

http://www.graphisoft.com/learning/online-seminars/

Assessment of Student Learning

Assessment	Dates or deadlines
• Criterion-referenced assessment, • Performance assessment, • Grading,	

Course Grading

Deliverable	Grade Points
Assignments	20

Deliverable	Grade Points
Attendance and Class Participation	10
Midterm Examination	30
Final Examination	40
Total	100

Course Policies

Class Attendance

According to the University regulations a minimum 70% of attendance is compulsory. More than 30% of absenteeism would result in automatic failure. Therefore attendance will be taken regularly. Attendance corresponds 10% of the grades and unattended classes will be deducted from the final points achieved.
Unavoidable absences (e.g. class trips, medical reports, etc.) should be explained to the instructor with official proofs. Students are responsible to submit the official proofs of such absences to the instructor following the week of the absenteeism. The Office of Student Affairs does not submit any excuse report to the course tutors.

Information for Students with Disabilities

To obtain disability related academic adjustments and/or auxiliary aids, students with disabilities must contact the course instructor and the ODTÜ Disability Support Office as soon as possible. If you need any accommodation for this course because of your disabling condition, please contact me. For detailed information, please visit the websie of Disability Support Office: http://engelsiz.metu.edu.tr/

Academic Honesty

The METU Honour Code is as follows: *"Every member of METU community adopts the following honour code as one of the core principles of academic life and strives to develop an academic environment where continuous adherence to this code is promoted. The members of the METU community are reliable, responsible and honourable people who embrace only the success and recognition they deserve, and act with integrity in their use, evaluation and presentation of facts, data and documents."*