



### Instructors

Prof.Dr. Birgül Çolakoğlu, *ITU Architecture*  
Erdoğan Çiftçi, *BOLD Mimarlık*

### Contributor

Hatidza Isanovic, *ITU Architecture PhD Candidate*

### Description

Building Information Modeling (BIM) shifts the emphasis from drawings to intelligent models and simulations of design. Understanding this shift through hands-on BIM projects is critical to prepare students for future roles in the rapidly changing field of architecture. This course will present BIM principles, methods and applications in the building lifecycle with a focus on the design process. The preferred dynamic of learning in this course is through three stages: learning the fundamentals of BIM, developing intelligent models, and their analysis and simulation.

### Course Objectives

- Learning the theories behind applications - main principles and concepts of BIM
- Understanding BIM's value for architect
- Learning how to use BIM tools
- Developing architecture project in BIM environment

### Typical class structure

- Lecture – theory and concepts
- Application – BIM exercises and development of project
- Discussions – of readings, homework and project

### Week Schedule

Week	Date	Theory	Application
1	26.09.2018.	<b>COURSE INTRODUCTION</b>	
2	3.10.2018.	<b>BIM FUNDAMENTALS</b>	Core concepts of Revit
3	10.10.2018	<b>WORKSHOP</b> – basic BIM skills /modeling sample building	
3	17.10.2018	<b>BIM in ARCHITECTURE</b>	Analysis of BIM cases
4	24.10.2018	<b>BIM PROCESS</b>	Starting Semester Project
5	31.10.2018.	<b>BIM TOOLS</b>	Modeling Building Elements
6	14.11.2018.	<b>BIM INFORMATION</b>	Organization of Project information
7	21.11.2018.	<b>PARAMETRIC OBJECTS</b>	Basics of Families
8	28.11.2018.	<b>ANALYSIS AND SIMULATION</b>	Energy Analysis
9	05.12.2018	<b>BIM PROJECT DELIVERY</b>	Building Documentation / Reports
10	12.- 19. 2018.	<b>PROJECT DEVELOPMENT</b>	
14	26.12..2018	<b>SEMESTER PROJECT PRESENTATION</b>	

### Semester Project

During the semester, students will develop a small scale project applying BIM concepts and tools. The project will be developed gradually, as the new knowledge is presented through multi-level BIM Exercises. All versions of the project are required to be submitted prior to the final version of the project. Final submission should contain:

1. *BIM model* - building floors, roofs, interior walls, etc. based on the building mass
2. *Analysis* – according to required BIM uses

3. *Descriptions & Diagrams* - explaining modeling process and student's critics about the BIM modeling applications for conceptual design, in terms of user interface, performance, limitations, etc. Clear and informative description is required.
4. *Project presentation* – an overview of what student has learned during this course

Any late submissions are not acceptable.

### **Evaluation**

Grading will be based on a set of quizzes, homework assignments, project, and class participation. Project will be evaluated considering the whole process of its development. The following percentage distribution will be used:

<u>Quizzes</u> <b>5%</b>	<u>Class Participation</u> <b>10%</b>	<u>Homework assignments</u> <b>35%</b>	<u>Projects (all versions)</u> <b>50%</b>
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