

MIM 484E – Construction Project, 23438

Course Syllabus | 2020-2021 Spring Semester

Course Day and Hour : Tuesday 13:30-17:29 Friday 08:30-12:29
Course Room : Zoom
Course Credit : 5
Course Web Site : ninova.itu.edu.tr

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Construction Project Studio Description

The objectives of the Construction Project Studio are:

- to gain the ability to find holistic, ready for construction, architectural solutions considering constructional and technological factors, legislative factors (codes, standards etc) and aesthetic criteria in the process of design, development, and integration of building sub-systems taking user requirements and environmental factors into account
- to gain the ability to generate and to integrate building elements and their details in the context of a comprehensive design
- to gain the ability to select proper building materials and to select and arrange structural system components in the context of a comprehensive design
- to gain the ability to select or to generate passive and active environmental control systems considering energy efficiency and sustainability criteria and to integrate those systems with other building sub-systems in the context of a comprehensive design
- to gain the ability to prepare drawings and other related documents (specifications etc) for each design stage according to the relevant national and/or international legislations and drawing principles in the context of a comprehensive design

The content of the Construction Project Studio is:

- research and material selection and decision making on; building construction type and environmental control systems, structural system arrangement in comprehensive building design
- preparation of projects for all design stages (preliminary, developed, construction) according to building regulations (i.e. earthquake directive, thermal insulation directive, noise control directive, fire protection directive)
- integration and coordination of building sub-systems (building elements, structural, service) with other building components
- preparing documents for each design stage according to the relevant national and/or international legislations and drawing principles.

The topic is a single family detached house in İstanbul.

Construction Project Studio Structure and Plan

WEEK	DATE	TOPIC
01	02 March 2021	Introduction: Design Brief and Process
	05 March 2021	Research on Codes and Standards
02	09 March 2021	Preliminary design studies, Scale: 1/100
	12 March 2021	Preliminary design studies, Scale: 1/100
03	16 March 2021	Preliminary design studies, Scale: 1/100
	19 March 2021	Preliminary design studies, Scale: 1/100
04	23 March 2021	PRELIMINARY DESIGN SUBMISSION
	26 March 2021	Design development: Structural system, Scale: 1/50
05	30 March 2021	Design development: Structural system, Scale: 1/50
	02 April 2021	Design development: Structural system, Scale: 1/50
06	06 April 2021	Design development: Sanitary system, Scale: 1/50
	09 April 2021	Design development: Sanitary system, Scale: 1/50
07	13 April 2021	Design development: Heating system, Scale: 1/50
	16 April 2021	Design development: Heating system, Scale: 1/50
08	20 April 2021	Design development: Lighting system, Scale: 1/50
	23 April 2021	PUBLIC HOLIDAY
09	27 April 2021	Integration of building subsystems, Scale: 1/50
	30 April 2021	Integration of building subsystems, Scale: 1/50
10	04 May 2021	DEVELOPED DESIGN SUBMISSION
	07 May 2021	Sub-system integration at external envelope level, Scale: 1/20
11	11 May 2021	Sub-system integration at external envelope level, Scale: 1/20
	14 May 2021	EID HOLIDAY
12	18 May 2021	Sub-system integration at wet space level, Scale: 1/20
	21 May 2021	Sub-system integration at wet space level, Scale: 1/20
13	25 May 2021	Sub-system integration in stair systems, Scale: 1/20
	28 May 2021	Sub-system integration in stair systems, Scale: 1/20
14	01 June 2021	Sub-system integration at building level, Scale: 1/5
	04 June 2021	Sub-system integration at building level, Scale: 1/5
15	08 June 2021	Preparation of technical documents
	11 June 2021	Preparation of technical documents

Recommended Readings

- Bovill, C., 1991. Architectural design: Integration of structural and environmental systems. New York: Van Nostrand Reinhold.
- Ambrose, J., Tripeny, P., 2012. Building structures. Hoboken, N.J.: Wiley
- Hegger, M., Auch-Schwelk, V., Fuchs, M., & Rosenkranz, T., 2006. Construction materials manual. Basel: Birkhäuser
- Lechner, N., 2015. Heating, cooling, lighting : Sustainable design methods for architects. Hoboken, N.J.: Wiley
- Rich, P., Dean, Y., 1999. Principles of Element Design. Oxford: Architectural Press.
- Wienand, N., 2008. Materials, Specification and Detailing: Foundations of Building Design. Abingdon: Taylor & Francis.
- Binalarda Enerji Performansı Yönetmeliği (2008, 5 Aralık). Resmi Gazete, Sayı: 27075
- Binaların Gürültüye Karşı Korunması Hakkında Yönetmelik (2017, 31 Mayıs). Resmi Gazete, Sayı: 30082
- Binaların Yangından Korunması Hakkında Yönetmelik (2007, 19 Aralık). Resmi Gazete, Sayı: 26735
- İstanbul İmar Yönetmeliği (2018, 20 Mayıs). Resmi Gazete, Sayı: 30426
- Türkiye Bina Deprem Yönetmeliği (2018, 18 Mart). Resmi Gazete, Sayı: 30364
- TSE, 2013. TS825: Binalarda Isı Yalıtım Kuralları. Ankara: TSE.
- TMMOB, MO, 2015. Mimari Proje Çizim ve Sunuş Standartları. İstanbul: TMMOB, MO, İstanbul Büyükşehir Şubesi.
- TMMOB, MO, 2015. Ulaşılabilirlik Kılavuzu. İstanbul: TMMOB, MO, İstanbul Büyükşehir Şubesi.

Project Studio Assessment

Students are expected to make project submissions (schematic design, developed design, and research report) and participate in all research work, seminars, and studio works during the semester. Students are also expected to make a final submission of the construction project at the end of the semester.

- Project submissions during the semester: 40 %
- Construction project final submission: 60 %

Requirements of Construction Project Final Submission

- Site plan (1/200)
- Plans, Sections & Elevations (1/50)
- Structural Plans & Sections (1/50)
- Sanitary System Plans (1/50)
- Heating System Plans (1/50)
- Lighting System Plans (1/50)
- Sub-system integration at external envelope level (1/20)
- Sub-system integration at wet space level (1/20)
- Sub-system integration in stair systems (1/20)
- Sub-system integration at building level (1/5)
- Door & Window Schedule
- Zone list
- Material file
- A3 Posters