Master of Science (M.Sc.) Program
Civil Engineering

June, 2024

Program Overview

The M.Sc. in Civil Engineering builds upon the foundational knowledge from the undergraduate program, enhancing the student's expertise and understanding in the field according to their individual focus areas.

Our M.Sc. Engineering program is tailored to propel your career forward. This degree provides a critical understanding of managing engineering projects on a global scale, along with the theoretical and practical skills necessary to influence business practices effectively.

The curriculum has been recently updated to ensure that the modules and course content are aligned with the latest developments and demands in the civil engineering industry. You'll have the chance to showcase your abilities through portfolio development, case studies, risk assessments, and a capstone engineering transformation project.

The program includes a variety of assessments designed to highlight your strengths, such as reports, presentations, research proposals, and either a dissertation or a journal article.

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Our Students and Graduates

Most of our students come from the civil engineering profession, seeking to expand their knowledge, enhance their technical skills, or fulfill the requirements of professional institutions. We also welcome applicants from different backgrounds who aim to pursue a career in civil engineering. Graduates of this program are highly sought after by employers in fields such as water and wastewater engineering, structural analysis, transportation, soil mechanics, and the energy sector.

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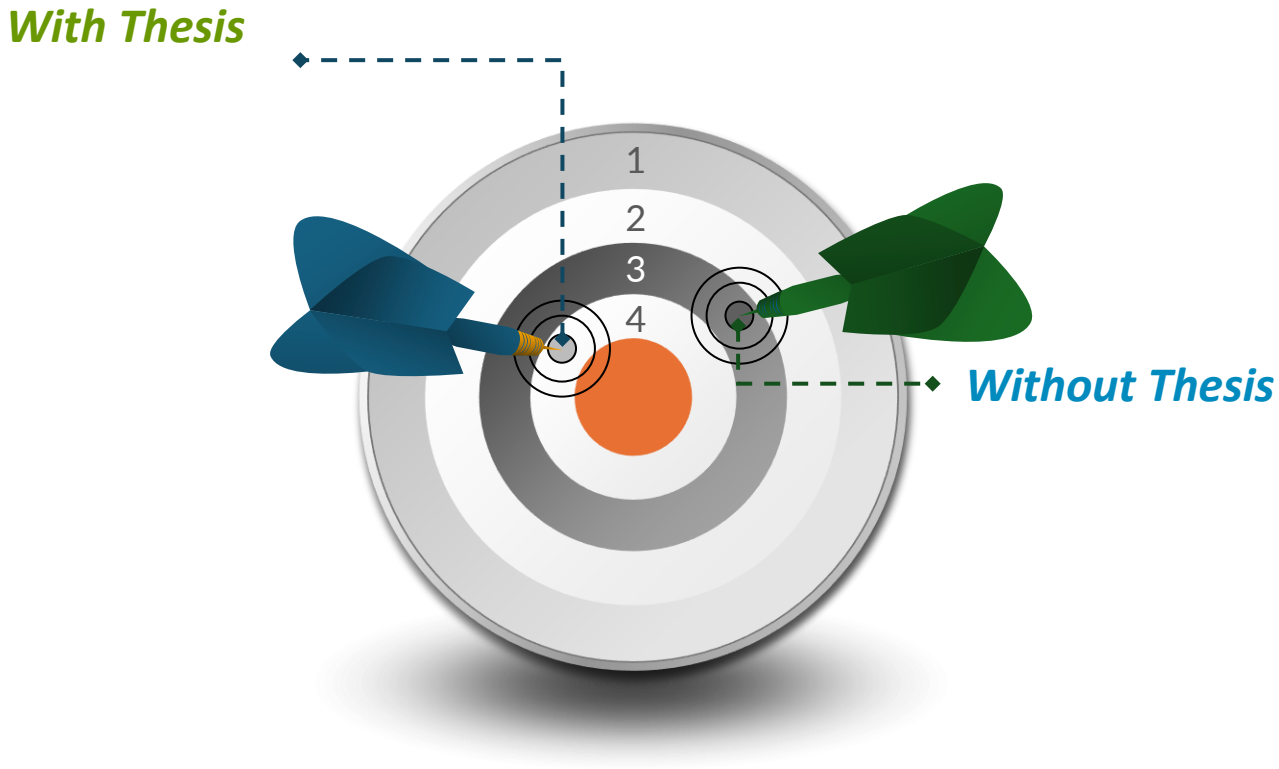
Types of Master of Science (M.Sc.) Program



Detailed Degree Guide

Understanding, Knowledge, and Cognitive Skills

Students are expected to demonstrate the ability to:

- Gain advanced knowledge of current civil engineering practices.
- Develop specialized expertise within their chosen field of civil engineering.
- Enhance applied mathematical skills required for professional engineering.
- Achieve a comprehensive understanding of the concepts, principles, and theories related to specialized technical issues to meet their professional goals.
- Transfer problem-solving skills across various contexts and multidisciplinary scenarios.
- Apply technical and management skills to practical civil engineering problems.

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Detailed Degree Guide

Scholarship, Inquiry, and Research (Research-Informed Learning)

Students should be able to:

- Enhance their skills in researching new technical issues.
- Show an understanding of recent technological developments in Civil Engineering.
- Manage complex project-based tasks independently.
- Apply technical knowledge to new and varied situations and analyze new problems.
- Provide professional leadership in situations requiring technical expertise.
- Use numerical and analytical problem-solving skills, as well as engineering knowledge, in various Civil Engineering contexts.

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Detailed Degree Guide

Teaching and Learning Approaches

This postgraduate program in Civil Engineering aims to provide students with an advanced degree in the field. Students are required to complete eight technical courses focused on structural, water, and geotechnical engineering. Additionally, students must undertake a technical research project or dissertation.

Students may study on-campus or through distance learning. At the master's level, students are expected to take significant responsibility for their studies. On-campus students benefit from lectures, tutorials, lab sessions, and seminar activities that promote individual knowledge and teamwork. Distance learners are provided with practical study guides, detailed course texts, or required textbooks, along with comprehensive lecture notes, tutorial examples, and solutions. Communication with faculty, dedicated distance learning tutors, and other students is facilitated through email, discussion groups, or other tools like blogs and Blackboard website. Students are encouraged to engage in discussions with peers and more experienced colleagues.

Courses typically include objectives, theoretical concepts, real-world applications, worked examples, and exercises that form part of the formative assessment and feedback. Some courses also involve coursework to foster a deeper understanding of complex issues or where practical software applications are needed. Teaching and learning methods are regularly reviewed and developed to align with students' abilities and experiences and to incorporate industry feedback on course content.

Detailed Degree Guide

Understanding, Knowledge, and Cognitive Skills

The program employs various assessment types.

Coursework is used to develop problem-solving skills and demonstrate mastery of techniques that are too extensive for exam questions or require software applications. It also helps students develop professional report-writing skills, focusing on proper report structure, writing style, summaries, and referencing. All courses include some form of formative assessment that provides feedback from self-assessment, peers, or staff as needed.

Examinations constitute the majority of summative assessments as they effectively test individual students' abilities against course objectives.

Students progressing to the MSc dissertation must demonstrate strong research skills and a higher level of critical thinking and analysis than what is assessed through exams. Each student is assigned an academic supervisor for the duration of their project.

Assessment methods are continually reviewed. Specific details about assessment methods are provided in the course descriptors.

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Müdek Accreditation

European Accreditation of Engineering Programmes

EUR-ACE® Bachelor

This is to certify that the engineering degree programme

İnşaat Mühendisliği [İngilizce]
(Civil Engineering [English])

provided by
Işık Üniversitesi
Mühendislik ve Doğa Bilimleri Fakültesi
accredited by
MÜDEK

on **1 May 2022** until **30 September 2027**

satisfies the criteria for Bachelor degree programmes specified in the EUR-ACE® Framework Standards for the Accreditation of Engineering Programmes, and therefore for the above period of accreditation is designated as a

EUROPEAN-ACCREDITED ENGINEERING BACHELOR DEGREE PROGRAMME.

certificate

ENAEE — For the European Network for Accreditation of Engineering Education (ENAEE)

MÜDEK — For the Association for Evaluation and Accreditation of Engineering Programs (MÜDEK)

The President
Mr. Damien OWENS

Chair, Executive Board
Dr. M. Yavuz ERÇİL

Brussels, 25 June 2022

Istanbul, 25 June 2022

European Accreditation of Engineering Programmes

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This is to certify that the engineering degree programme

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Civil Engineering Faculty Members

Prof. Dr. Bihrat Önöz
Department Chair

Asst. Prof. Dr. Ehsan Etminan

Asst. Prof. Dr. Önder Umut

Asst. Prof. Dr. Bora Akşar

Civil Engineering Faculty Members

Prof. Dr. Bihrat Önöz

bihrat.onoz@isikun.edu.tr

Education

Bachelor's Degree : Ege University / Department of Civil Engineering
Master's Degree : ITU, Institute of Science and Technology / Water Program
Ph.D. : ITU, Institute of Science and Technology / Water Program

Experiences

- 1978-1983 : Research Engineer at Braunschweig Technical University (Germany), Leichtweiss Institute
- 1984-1985 : Research Assistant at ITU, Faculty of Civil Engineering, Department of Environmental Engineering
- 1985-1992 : Research Assistant at ITU, Faculty of Civil Engineering, Department of Civil Engineering
- 1992-1998 : Assistant Professor at ITU, Faculty of Civil Engineering, Department of Civil Engineering
- 1998-2003 : Associate Professor at ITU, Faculty of Civil Engineering, Department of Civil Engineering
- 2003- 2022 : Professor at ITU, Faculty of Civil Engineering, Department of Civil Engineering
- 2024- : Department Chair, Department of Civil Engineering, Işık University

Research/Interest Areas

- Planning and Operation of Water Resources Systems
- Flood and Low Flow Hydrology
- Stochastic Hydrology
- Physical Hydrology
- Hydroelectric Power Generation
- Wave Energy

Civil Engineering Faculty Members

Asst. Prof. Dr. Ehsan Etminan

ehsan.etminan@isikun.edu.tr

Education

Bachelor's Degree : Urmia University / Department of Civil Engineering
Master's Degree : ITU, Institute of Science and Technology / Geotechnical Engineering Program
Ph.D. : ITU, Institute of Science and Technology / Geotechnical Engineering Program

Experiences

- 2016 - : Faculty Member, Department of Civil Engineering, Işık University
- 2012 – 2016 : Research Assistant, European Union Marie Curie Project, Yeditepe University
- 2010 – 2012 : Research Assistant at ITU, Faculty of Civil Engineering, Department of Soil Mechanics and Geotechnical Engineering

Research/Interest Areas

- Soil Improvement Techniques
- Experimental Soil Mechanics
- Flow and Dynamic Liquefaction in Soils
- Deep Excavations
- Seismic Microzonation
- Slope Stability
- Soil-Structure Interaction

Civil Engineering Faculty Members

Asst. Prof. Dr. Önder Umut

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Education

Bachelor's Degree : Yıldız Technical University / Department of Civil Engineering
Master's Degree : ITU, Institute of Science and Technology / Earthquake Engineering Program
Ph.D. : ITU, Institute of Science and Technology / Earthquake Engineering Program

Experiences

- 2019 - : Faculty Member, Department of Civil Engineering, Işık University
- 2017 – 2019 : Part-Time Lecturer, Department of Civil Engineering, Işık University
- 2015 – 2018 : Expert Researcher, Earthquake Engineering Department, Boğaziçi University
- 2010 – 2015 : Research Assistant, Earthquake and Structural Engineering Department, Gebze Technical University

Research/Interest Areas

- Structural Earthquake Engineering
- Wind Effects on High-Rise Buildings
- Seismic Design of Earthquake-Resistant Structures
- Structural Seismic Performance Assessment
- Strong Ground Motion
- Structural Dynamics
- Structural Health Monitoring
- Seismic Analysis of Liquid-Filled Tanks
- Reinforced Concrete
- Seismic Isolation

Civil Engineering Faculty Members

Asst. Prof. Dr. Bora Akşar

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Education

Bachelor's Degree : Yıldız Technical University / Department of Civil Engineering
Master's Degree : ITU, Institute of Science and Technology / Earthquake Engineering Program
Ph.D. : Gebze Technical University / Earthquake and Structural Engineering Program

Experiences

- 2020 - : Faculty Member, Department of Civil Engineering, Işık University
- 2018 – 2019 : Faculty Member, Department of Civil Engineering, Istanbul Sehir University
- 2017 – 2018 : Part-Time Lecturer, Department of Architecture, Yıldız Technical University
- 2017 – 2018 : Part-Time Lecturer, Department of Architecture, Özyeğin University
- 2017 – 2018 : Part-Time Lecturer, Department of Architecture, Istanbul Kültür University
- 2017 – 2018 : Expert Researcher, Earthquake Engineering Department, Boğaziçi University
- 2013 – 2017 : Research Assistant, Earthquake and Structural Engineering Department, Gebze Technical University

Research/Interest Areas

- Structural Earthquake Engineering
- Seismic Design of Steel Structures
- Structural Seismic Performance Assessment
- Strong Ground Motion
- Structural Dynamics
- Structural Health Monitoring
- Steel Structures
- Seismic Isolation

Wish To See You Soon Among Us Soon

You Can Get In Touch With Us Any Time Via Email

Thank You for Listening