

Non-thesis MS in Civil Engineering, non-thesis MS in Construction Engineering & Management by University of Illinois, Chicago (UIC)

1. Introduction

Today Civil Engineering profession is more complex and demanding than it has ever been. Fast changing technology and high competition require that civil engineering graduates no longer view problems from traditional disciplined perspectives. Instead, graduates are becoming involved in all aspects of problems including planning, feasibility analysis, financing, design, management of new construction techniques and methods, selection of new construction materials and so on. Employers and investors in construction are looking for specialized knowledge and skills in construction techniques and methods. Therefore, there is an urgent need for people entering the construction industry to have an understanding of basic knowledge and up-to-date methods for the planning and control of the construction process.

In addition, most of these methods and processes are most effective when used together with related software. Therefore, good knowledge in computer usage and familiarity of related commercial package programs is a must.

2. Objectives of the Program

The objectives of the MS in civil engineering program (non-thesis) are:

- to equip graduates (new or working at industry) with technical and managerial principles required to meet the new challenging career in the construction industry.
- to provide specific skills that will enable graduates to apply innovative techniques and processes and contemporary best practice for site management of major complex projects.
- To enhance the design and construction site knowledge and skills of practicing engineers.
- To serve the needs of the construction industry all over the world by providing highly qualified graduate students who are proficient in the methods and techniques used in planning, control and execution of today's complex projects.
- To enable the students to demonstrate advanced technical knowledge to pursue careers in the civil engineering professional practice at various levels.

3. Degree granted

Master of Science (MS) in Civil Engineering (non-thesis) or Master of Science in Construction Engineering & Management (non-thesis) issued by University of Illinois, Chicago (UIC).

4. Proposed starting date of the program

2021-2022 academic year, Fall semester

5. A general description of the program

Admission:

Applicants must have BS degree with a minimum CGPA of 2.75/4.00 in civil engineering and must satisfy the English language requirements of EMU and UIC (IELT 6.5 and minimum 6 from all subdivisions; TOEFL ibt 80). Admission for candidate applicants will be given by EMU & UIC. Applications will be received according to dates announced in academic calendar of every year.

Teaching staff:

Current Civil Engineering Department of Eastern Mediterranean University (EMU) staff and Civil, Materials, and Environmental Engineering Department of University of Illinois, Chicago (UIC) staff will teach all the courses in this program.

Rules and regulations:

The program is governed by the academic rules and regulations of EMU and UIC. The program has a minimum duration of 2 semesters for full-time students.

Tuition (fees):

The tuition of EMU and UIC will be announced separately by each institution before every academic year.

The coursework program:

As part of 36 credit hours of coursework, students must complete a minimum of 12 credit hours at EMU and a minimum of 24 credit hours at UIC. Based on each semester, below can be applied:

First semester:

Total 12 credit hours (4 courses, each course 3 credit hours) will be taken from EMU.

Second and third semesters:

Remaining 24 credit hours (6 courses, each course 4 credit hours) will be taken from UIC.

Tentative list of courses that could be offered are given below.

Courses by Eastern Mediterranean University:

CIVL431 Engineering Hydrology, 3 hours
CE506 Computational Methods in Civil Engineering, 3 hours
CIVL551 Advanced Soil Mechanics, 3 hours
CIVL512 Stability of Systems, 3 hours
CIVL530 Special Topics in Hydraulic Engineering, 3 hours
CIVL537 Theories of Sediment Transport, 3 hours
CIVL543 Finite Element Method, 3 hours
CIVL544 Advanced Topics in Steel Structures, 3 hours
CIVL552 Geotechnical Earthquake Engineering, 3 hours
CIVL554 Advanced Soil Stabilization, 3 hours
CIVL557 Seismic Performance Assessment of Buildings, 3 hours
CIVL570 Structural Dynamics, 3 hours
CIVL582 Creep and Shrinkage of Concrete, 3 hours
CIVL587 Cement Replacement Materials, 3 hours
CIVL694 Project Management, 3 hours
CIVL592 Construction Management 2, 3 hours
CIVL596 Construction Technology 1, 3 hours

Courses by University of Illinois at Chicago:

CME 400. Advanced Design of Reinforced Concrete Structures. 4 hours.
CME 401. Advanced Design of Metal Structures. 4 hours.
CME 403. Hydraulic Design. 4 hours.
CME 405. Foundation Analysis and Design. 4 hours.
CME 406. Bridge Design I. 4 hours.
CME 407. Soil and Site Improvement Methods. 4 hours.
CME 409. Structural Analysis II. 4 hours.
CME 410. Design of Prestressed Concrete Structures. 4 hours.
CME 413. Design of Wood Structures. 4 hours.
CME 414. Design of Masonry Structures. 4 hours.
CME 415. Environmental Geotechnology. 4 hours.
CME 419. Structural Loads Determination. 4 hours.
CME 420. Water and Wastewater Analysis Laboratory. 4 hours.
CME 423. Management of Solid and Hazardous Wastes. 3 hours.
CME 425. Environmental Remediation Engineering. 4 hours.

CME 427. Engineering Hydrology. 4 hours.
CME 430. Theory of Elasticity I. 4 hours.
CME 431. Introduction to Continuum Mechanics. 4 hours.
CME 432. Energy Methods in Mechanics. 4 hours.
CME 433. Fracture Mechanics and Failure Analysis I. 4 hours.
CME 434. Finite Element Analysis I. 4 hours.
CME 435. Theory of Vibrations I. 4 hours.
CME 450. Probability and Reliability in Structural Design. 4 hours.
CME 453. Experimental Stress Analysis. 4 hours.
CME 454. Structural Analysis and Design of Tall Buildings. 4 hours.
CME 460. Crystallography and X-Ray Diffraction. 4 hours.
CME 470. Physical and Mechanical Properties of Materials. 4 hours.
CME 471. Thermodynamics of Materials. 4 hours.
CME 480. Welding Metallurgy. 4 hours.
CME 485. Construction Engineering and Management. 4 hours.
CME 486. Construction Equipment and Design Methods. 4 hours.
CME 494. Special Topics in Civil and Materials Engineering. 4 hours.
CME 500. Design of Concrete Plate and Shell Structures. 4 hours.
CME 502. Bridge Design II. 4 hours.
CME 503. Advanced Transportation Demand Analysis. 4 hours.
CME 505. Advanced Soil Mechanics. 4 hours.
CME 506. Physical/Chemical Principles in Environmental Systems. 4 hours.
CME 507. Sustainable Transportation Systems. 4 hours.
CME 510. Advanced Design of Prestressed Concrete Structures. 4 hours.
CME 514. Sustainable Engineering. 4 hours.
CME 516. Design of Landfills and Impoundments. 4 hours.
CME 519. Earthquake Resistant Design for Structural Steel Systems. 4 hours.
CME 520. Earthquake Engineering of Concrete Structures. 4 hours.
CME 530. Theory of Elasticity II. 4 hours.
CME 531. Nonlinear Continuum Mechanics. 4 hours.
CME 533. Fracture Mechanics and Failure Analysis II. 4 hours.
CME 534. Finite Element Analysis II. 4 hours.
CME 535. Theory of Vibrations II. 4 hours.
CME 536. Nondestructive Testing of Concrete. 4 hours.
CME 537. Plasticity I. 4 hours.
CME 539. Elastic Stability. 4 hours.
CME 541. Mechanics of Composite Materials. 4 hours.
CME 544. Structural Dynamics. 4 hours.
CME 546. Research Methods for Landscape Ecological and Anthropogenic Processes. 4 hours.
CME 549. Subsurface Flow and Contaminant Transport Modeling. 4 hours.
CME 550. Dynamics of Floating Offshore Structures. 4 hours.
CME 554. Nonlinear Finite Element Analysis. 4 hours.
CME 555. Transportation Systems Analysis. 4 hours.
CME 567. Principles of Computational Transportation Science. 4 hours.
CME 568. Kinetics of Reactions and Phase Transformations in Metals. 4 hours.
CME 570. Diffusion Phenomena in Materials. 4 hours.
CME 572. Advanced Thermodynamics of Materials. 4 hours.
CME 575. Computational Materials Science and Design. 4 hours.
CME 580. Infrastructure Management. 4 hours.
CME 581. Vadose Zone Hydrology. 4 hours.
CME 582. Lake and Watershed Management. 4 hours.
CME 583. Corrosion Engineering. 4 hours.
CME 584. Ceramic Materials Engineering. 4 hours.
CME 585. Construction Engineering Project Controls. 4 hours.
CME 586. Construction Regulations and Organizational Management. 4 hours.
CME 587. Construction Estimating and Scheduling. 4 hours.
CME 594. Advanced Special Topics in Civil and Materials Engineering. 1-4 hours.