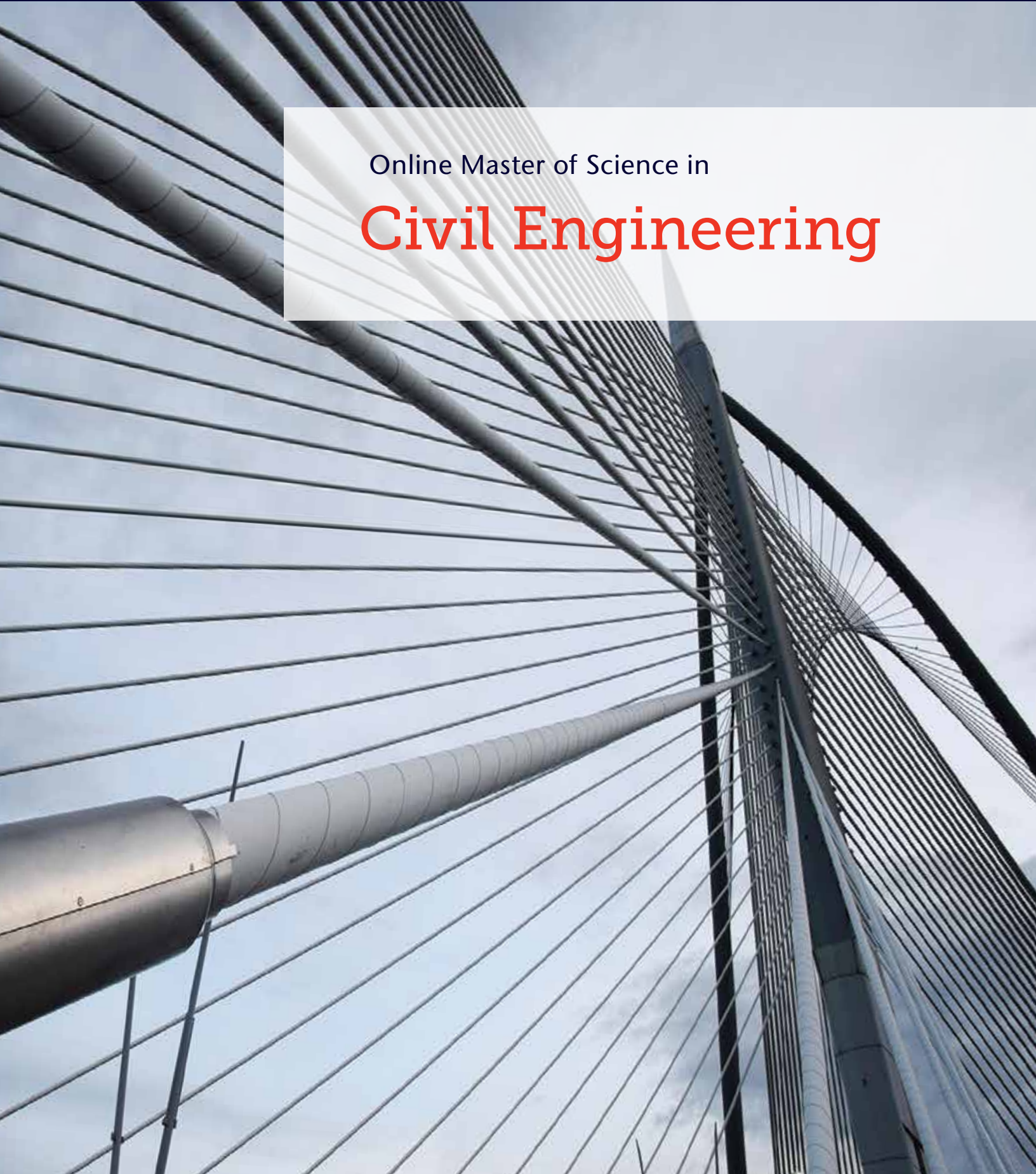


NJIT<sup>®</sup>

New Jersey Institute  
of Technology

Online Master of Science in

# Civil Engineering



# Reengineer the **World** and Your Future

The world relies on civil engineers to develop the infrastructure essential to our modern lives. From designing the systems that supply power and water to building the bridges and roadways that connect our communities, it's the work of these individuals that helps make progress possible.

For over 100 years, New Jersey Institute of Technology has been working to educate leaders who can find solutions through applied knowledge and innovation. Our **Online Master of Science in Civil Engineering (MSCE)** is designed to prepare the next generation of civil engineers to lead the way in planning 21st century infrastructure.

## Leading the Way in Planning 21st Century Infrastructure

With this future-focused degree you can:

- Expand your understanding of infrastructure engineering sciences and materials
- Prepare to lead diverse teams and manage large, intricate projects. Explore the legal and environmental issues encountered in civil engineering
- Become familiar with channel flow and hydrology to understand the needs of today's water management systems
- Gain an understanding of current urban transportation structures, traffic patterns, growth trends, and surveying methods
- Qualify to substitute your degree work for one of the four years of experience required to obtain P.E. licensure.

## Work at the Edge of Innovation

Tailor your program to align with your interests by selecting one of three specializations:

### Structural Design and Construction

Focus on civil engineering as it relates to the analysis, design, construction, and maintenance of modern infrastructure projects.

### Transportation

Learn to design, model, forecast, plan, and operate the transportation facilities and systems that support safe and efficient highway, rail, water, and air travel.

### Construction Management

Cultivate the management and leadership acumen to thrive within an engineering or construction firm.

**Become a student of NJIT's Online MSCE program, and you can do more than refine your expertise. You can help lead the design and construction of the structures that help shape and support our world.**

**Ready to Get Started or Have Questions?**

Call 1-866-939-5793 to speak with an enrollment advisor today.

[GRADUATEDEGREES.ONLINE.NJIT.EDU/ONLINE-MSCE](http://GRADUATEDEGREES.ONLINE.NJIT.EDU/ONLINE-MSCE)

# Coursework

## Engineered by Experts

The forward-thinking curriculum of NJIT's Online MSCE program provides a broad technical exploration of civil engineering paired with concepts in management science and organizational behavior, plus legal and environmental issues. It concentrates on three major areas of need within the civil engineering profession: construction, transportation, and water resources. The 30-credit program can be earned completely online in less than two years. There are three terms a year: Fall, Spring, and Summer.

### Program Admission Requirements

Redefine the Cutting-Edge at NJIT

To be eligible for NJIT's Online MSCE program, you must:

- Have an undergraduate degree in Civil Engineering or its equivalent\* (i.e. Mechanical, Industrial, or Chemical) from an accredited college or university.
- Submit the Online Graduate Application (\$65 nonrefundable application fee).
- Provide official transcripts from all colleges and universities attended.
- Send official GRE scores. Note: The GRE is required if you do not have an engineering background, if you have a GPA lower than 2.8, or if you are an international applicant.
- Provide one letter of recommendation, preferably from a faculty member; however, if you have substantial work experience, you may provide recommendations from a supervisor or colleague.
- Submit additional application materials if you do not hold a degree from a United States post-secondary institution, including TOEFL/IELTS scores and transcript evaluations if the transcripts are not in English.

## Program Curriculum

### Structural Design and Construction Specialty

|  |   |                     |
|--|---|---------------------|
| Specialty Core Courses                           |   | <b>9 credits</b>    |
| CE 632   | Prestressed Concrete Design                   | 3                   |
| CE 634   | Structural Dynamics                           | 3                   |
| CE 636   | Stability of Structures                       | 3                   |
| CE 637   | Short Span Bridge Design                      | 3                   |
| CE 639   | Applied Finite Element Methods                | 3                   |
| Construction Engineering/Management Core Courses |   | <b>6 credits</b>    |
| CE 610   | Construction Management                       | 3                   |
| CE 615   | Infrastructure and Facilities Remediation     | 3                   |
| CE 616   | Construction Cost Estimating                  | 3                   |
| General Technical Electives*                     |   | <b>6 -9 credits</b> |
| CE 611   | Project Planning and Control                  | 3                   |
| CE 621   | Hydrology                                     | 3                   |
| TRAN 603   | Introduction to Urban Transportation Planning | 3                   |
| TRAN 615   | Traffic Studies and Capacity                  | 3                   |

### Transportation Specialty

|                              |   |                      |
|------------------------------|---|----------------------|
| Specialty Core Courses       |   | <b>15 credits</b>    |
| TRAN 603                     | Introduction to Urban Transportation Planning | 3                    |
| TRAN 615                     | Traffic Studies and Capacity                  | 3                    |
| TRAN 625                     | Public Trans Operations and Technology        | 3                    |
| TRAN 650                     | Urban Systems Engineering                     | 3                    |
| TRAN 752                     | Traffic Control                               | 3                    |
| General Technical Electives* |   | <b>6 - 9 credits</b> |
| CE 610                       | Construction Management                       | 3                    |
| CE 616                       | Construction Cost Estimating                  | 3                    |
| CE 620                       | Open Channel Flow                             | 3                    |
| CE 621                       | Hydrology                                     | 3                    |

### Construction Management Specialty

|                              |   |                      |
|------------------------------|---|----------------------|
| Specialty Core Courses       |   | <b>15 credits</b>    |
| CE 610                       | Construction Management                       | 3                    |
| CE 611                       | Project Planning and Control                  | 3                    |
| CE 614                       | Underground Construction                      | 3                    |
| CE 616                       | Construction Cost Estimating                  | 3                    |
| CE 711                       | Methods Improvement in Construction           | 3                    |
| General Technical Electives* |   | <b>6 - 9 credits</b> |
| CE 620                       | Open Channel Flow                             | 3                    |
| CE 621                       | Hydrology                                     | 3                    |
| TRAN 603                     | Introduction to Urban Transportation Planning | 3                    |
| TRAN 752                     | Traffic Control                               | 3                    |

### All Specialties

|                                     |                               |                      |
|-------------------------------------|-------------------------------|----------------------|
| Management and Leadership Electives |                               | <b>6 - 9 credits</b> |
| EM 602                              | Management Science            | 3                    |
| EM 632                              | Legal Aspects of Construction | 3                    |
| HRM 601                             | Organizational Behavior       | 3                    |

|                              |           |
|------------------------------|-----------|
| <b>Total Program Credits</b> | <b>30</b> |
|------------------------------|-----------|

*\*Electives are typical and others may also be available.*

# About NJIT

## Shaping the Next Generation of Civil Engineers

NJIT's Newark College of Engineering offers 13 undergraduate majors, 16 master's degrees, and 10 doctoral degree programs—each focused on preparing today's engineers for tomorrow's challenges. Maintained and taught by a team of 150 professionally licensed and award-winning instructors, these degree programs have produced a global network of more than 40,000 esteemed alumni. Thanks to the introduction of the Online learning environment option, several of these acclaimed engineering programs are now available to engineers throughout the world.

### Rankings

*Recognized Among the Best in Innovation and Education*

*U.S. News & World Report's 2014 Annual Guide to America's Best Colleges* has ranked NJIT among the nation's "Best National Universities" and #79 among the nation's "Top Public Schools."

*U.S. News & World Report* ranks NJIT's College of Engineering one of the "Best Engineering Schools" in the country.

NJIT was named by *The Princeton Review* as one of "the Best 296 Business Schools" (2013 edition).

*Payscale.com's* 2013 rankings places NJIT 6th (in the top one percent) for return on investment (ROI) among 437 public universities and 27th (in the top two percent) among 1,511 public and private institutions in the U.S.

NJIT is a high research activity university, according to the latest Carnegie classification, and was noted among the nation's top tier of national research universities offering a range of undergraduate majors, master's degrees, and doctoral programs.

### About the Newark College of Engineering

*Shaping the Next Generation of Civil Engineers*

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### Accreditation

*Committed to Quality and Chosen for Excellence*

NJIT is regionally accredited by the Middle States Commission on Higher Education (MSCHE).



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