



Civil, Architectural, and Environmental Engineering



Advance your career with the University of Miami's Master's and Doctoral Degrees

The Department of Civil, Architectural, and Environmental (CAE) Engineering offers graduate programs leading to Master of Science (MS) and Doctor of Philosophy (PhD) degrees in the following areas:

➤ **Civil Engineering**

- Master of Science in Civil Engineering
- 5-year Bachelor of Science + Master of Science (BSCE+MSCE)
- Doctor of Philosophy in Civil Engineering

➤ **Architectural Engineering**

- Master of Science in Architectural Engineering
- Doctor of Philosophy in Civil Engineering (Architectural Eng. emphasis)

➤ **Environmental Engineering**

- Master of Science in Civil Engineering (Environmental Eng. emphasis)
- Doctor of Philosophy in Civil Engineering (Environmental Eng. emphasis)



Graduate Degree Programs

*Educating Tomorrow's Technology Leaders
for Career Success*



Why choose the U?

- Accredited by the Southern Association of Colleges and Schools (SACS)
- Contemporary laboratories and access to shared equipment on campus
- Core concepts taught as a balance between theory and design application
- Collaboration with the College of Arts & Sciences, School of Architecture, School of Business, Rosenstiel School of Marine and Atmospheric Science, and the Miller School of Medicine
- Faculty includes licensed professional engineers dedicated to teaching
- Small class size ideal for learning (~15 students per class)
- Scholarships, Fellowships, and Financial Aid available
- Study Abroad opportunities



A faculty advisor (of your choice) will help you tailor your educational experience and graduate degree to include one or more of our areas of specialization:

- Structural engineering and construction materials
- Environmental and water-resources engineering
- Integrated building engineering and sustainable development

CORE FACULTY

CIVIL

- **Ali Ghahremaninezhad:** Solid mechanics, multiscale modeling and characterization of materials, computational mechanics, and failure analysis of materials
- **James Giancaspro:** Structural engineering, material testing, aerospace and civil infrastructure applications of composite materials
- **Antonio Nanni:** Construction materials; structural design; field applications including evaluation and repair; civil infrastructure sustainability and renewal
- **Landolf Rhode-Barbarigos:** Form-finding, analysis and optimization; space engineering and construction; resilience and sustainability; computer-aided engineering
- **Wimal Suaris:** Fracture mechanics, non-destructive testing, wind effects on structures, structural engineering
- **Prannoy Suraneni:** Concrete durability and sustainability; cement chemistry; alternate and supplementary cementitious materials; chemical admixtures
- **Derin Ural:** Geotechnical engineering; liquefaction; earthquakes; disaster management

ARCHITECTURAL

- **Matthew Trussoni:** Life cycle assessment (LCA) of structures, building information modeling applications, composite construction materials and fracture mechanics
- **Gang Wang:** District heating and cooling systems, heat and mass transfer, renewable energy; modeling, control, optimization of mechanical and power systems

ENVIRONMENTAL

- **David Chin:** Fate and transport of contaminants in natural systems, environmental risk assessment, hydrology, stormwater management, remediation of impaired waters
- **James Englehardt:** Sustainable water management; development of energy-positive, nutrient-recovering net-zero water treatment systems; water quality risk detection
- **Sung Hee Joo:** Nano-catalysts for wastewater treatment, effects of emerging contaminants, fate and bioavailability of engineered nanoparticles in ecosystems
- **Helena Solo-Gabriele:** Environmental engineering, contaminant transport, fate of microbes and metals; relationships between the environment and public health

Learn about our faculty: <http://www.coe.miami.edu/departments/cae-engineering/faculty/>



Financial Aid

- **Doctor of Philosophy (PhD)**
 - Teaching and research assistantships including full tuition and full stipend are available on a competitive basis for accepted Ph.D. students.
 - Contact a professor working in your area of interest for financial support.
- **Master of Science (MS)**
 - Partial tuition scholarships (up to 40%, based on academic record) are made available by the College of Engineering.
 - M.S. students in environmental engineering may be eligible for support from the Environmental Engineers of the Future. For more information, please visit www.engineeringmastersfunding.org/EMastersFunding



UNDERGRADUATE REQUIREMENTS

Students with non-engineering baccalaureate degrees may be admitted to the graduate program upon completion of (a) the regular graduate degree requirements, and (b) deficiency courses, which include:

1. Calculus (10 credits)
2. Advanced Mathematics (6 credits)
3. General Chemistry (4 credits)
4. Calculus-based Physics (8 credits)
5. Statics (3 credits)
6. Engineering Science related to area of study (3 credits)
7. Engineering Design related to area of study (6 credits)

ADMISSIONS GUIDELINES

Applicants must provide academic transcripts, reference letters, and scores on standardized tests. The general admissions guidelines are summarized below.

| Degree Sought | Degree Held | GRE Score (Quantitative + Verbal) | GPA (4-pt) | English Assessment (International Students) | Financial Aid Availability |
|---------------|-------------|-----------------------------------|------------|---|----------------------------|
| Ph.D. | B.S. | 308 | 3.5 | TOEFL IBT: 80 | ✓ |
| Ph.D. | M.S. | 302 | 3.5 | | TOEFL PBT: 550 |
| M.S. | B.S. | 300 | 3.0 | IELTS: 6.5 | ✓ |
| B.S.+M.S. | - | 300 | 3.0 | | ✓ |



Online Resources



- **UM CAE Graduate Program Requirements**
<http://www.coe.miami.edu/departments/cae-engineering/graduate/>
- **UM Graduate School Helpful Links and Resources**
www.miami.edu/gs/index.php/graduate_school/helpful_links_resources/
- **Online Admission Application**
<http://grad.miami.edu/apply/index.html>
- **Graduate Admission Criteria and Application Checklist**
 Master's: www.coe.miami.edu/apply/prospective-ms-students/
 Doctoral: <http://www.coe.miami.edu/apply/prospective-phd-students/>
- **International Admission Requirements**
http://www.miami.edu/coe/index.php/coe/prospective_graduate_student/graduate_admission/graduate_admission_application_checklist



CONTACTS

- Questions regarding the application process, financial aid, and the M.S. program:
David Poole, College of Engineering Director of Admissions
 McArthur Engineering Building, suite 251
dtpoole@miami.edu (305) 284-4773
- Questions regarding your application status and receipt of documents:
Ruth Castillo, CAE Graduate Program Secretary
 McArthur Engineering Building, suite 325
res202@miami.edu (305) 284-3391
- Questions related to coursework, Ph.D. support, and areas of research: contact a faculty member with interests in your desired area of study.
- All other questions may be directed to:
Dr. James Giancaspro, CAE Graduate Program Director
 McArthur Engineering Building, suite 323
jwgiancaspro@miami.edu

