

NORTHERN ILLINOIS UNIVERSITY

College of Engineering and
Engineering Technology

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Dean and
Professor of Mechanical Engineering

February 13, 2020

125
YEARS
1895-2020



Northern Illinois
University



The CEET Promise

We teach students to innovate, solve real-world problems, and make a difference. Through expert faculty, state-of-the-art laboratories, and partnerships with industry, students are well prepared for a successful career when they enter our global workforce.



About CEET

- Youngest college on campus (est. 1985)
- Practiced-based college with many partnerships with industry
- Accredited by ABET and ATMAE
- All courses taught by faculty, most of whom hold doctoral degrees
- More than 12,000 alumni and 77% of whom live in IL



CEET by the Numbers

1,456

engineering students

24

average class size

25:1

students to faculty

40

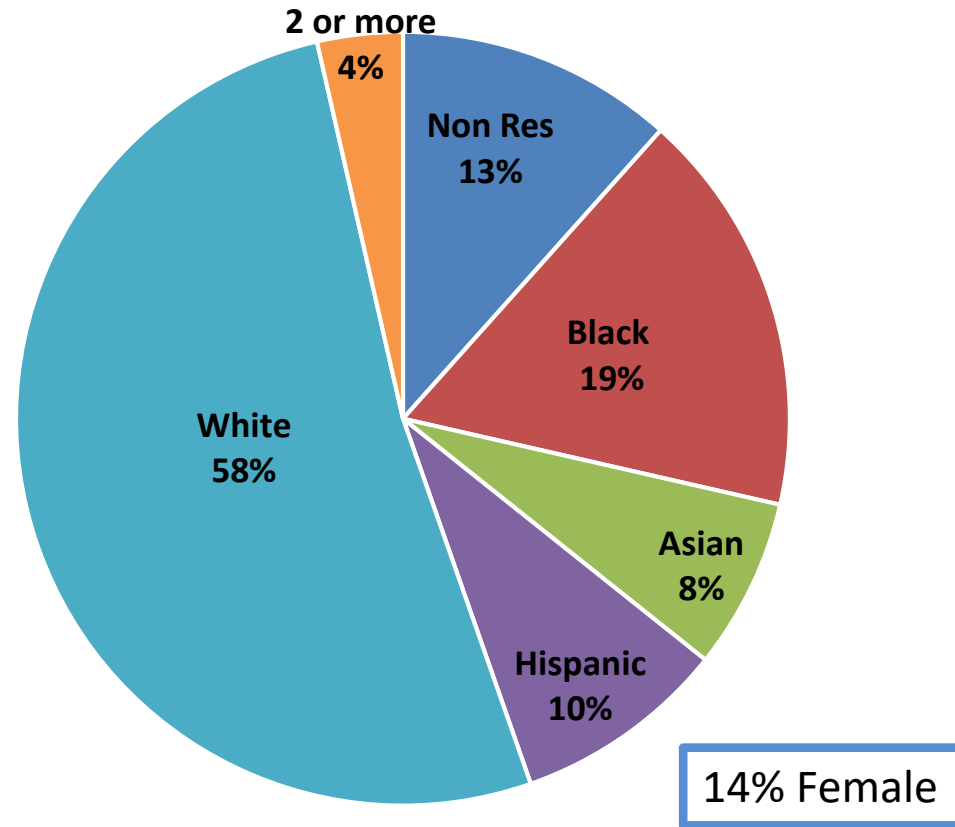
state-of-the-art labs

38

2020 US News & World Report Ranking
(for programs with no doctorate)

CEET Diversity

Undergraduate and Graduate



Academic Programs

- Biomedical Engineering – **B.S.**
- Electrical Engineering – B.S., M.S., **Ph.D.**
- Industrial & Systems Engineering – B.S., M.S., **Ph.D.**
- Mechanical Engineering – B.S., M.S., **Ph.D.**
- Mechatronics Engineering – **B.S.**
- Engineering Technology – B.S., M.S.

Online Degrees

- Industrial Management – M.S.
- Engineering Management – M.S.
- Applied Manufacturing Technology – B.S.

16 Grad. Certificates across 3 disciplines

- Engineering Technology
- Industrial and Systems Engineering
- Mechanical Engineering

2+2 Articulation Agreements

Black Hawk College, Moline

Carl Sandburg College, Galesburg

City Colleges of Chicago

College of DuPage, Glen Ellyn

College of Lake County, Grayslake

Elgin Community College, Elgin

Harper College, Palatine

Heartland Community College, Normal

Highland Community College, Freeport

Joliet Junior College, Joliet

Illinois Central College, East Peoria

Illinois Valley Community College, Oglesby

Kankakee Community College, Kankakee

Kishwaukee College, Malta

Lake Land College, Mattoon

McHenry County College, Crystal Lake

Moraine Valley Community College, Palos Hills

Oakton Community College, Des Plaines

Prairie State College, Chicago Heights

Rock Valley College, Rockford

Sauk Valley Community College, Dixon

South Suburban College, South Holland

In Progress: Gateway CC, Racine, WI
MATC, Milwaukee, WI
St. Louis CC, St. Louis, MO

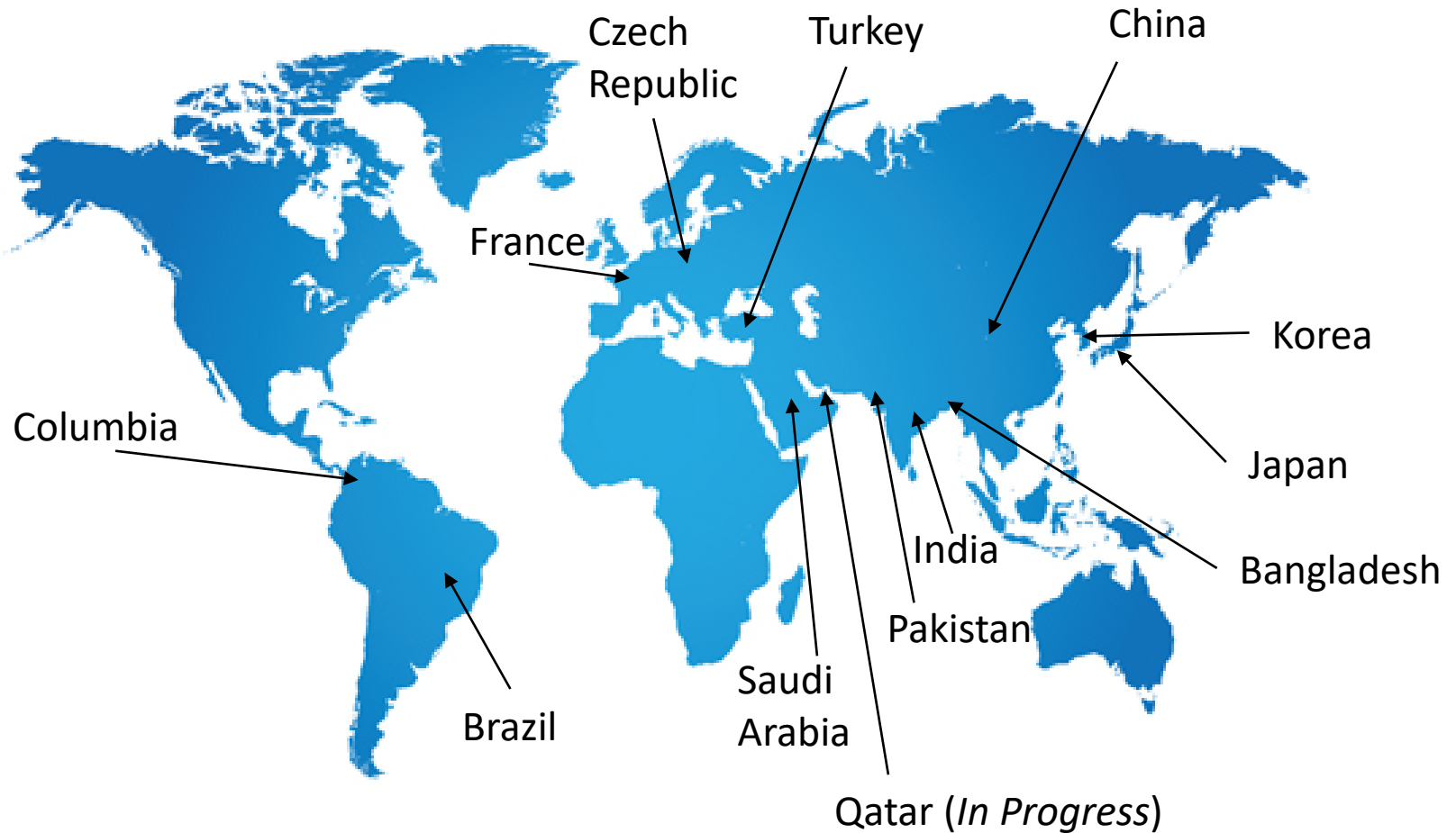
NIU and Rock Valley College

B.S. Mechanical Engineering

- **2017 Award of Excellence** for *Talent and Place Development* by the University Economic Development Association (UEDA)



International Articulation Agreements



Student Engagement

7

student teams

12

student chapters of professional societies

2

engineering honors societies

Robotics Club

- 1st place in Midwestern Robotics Design Competition (MRDC) for two consecutive years



Supermileage Team

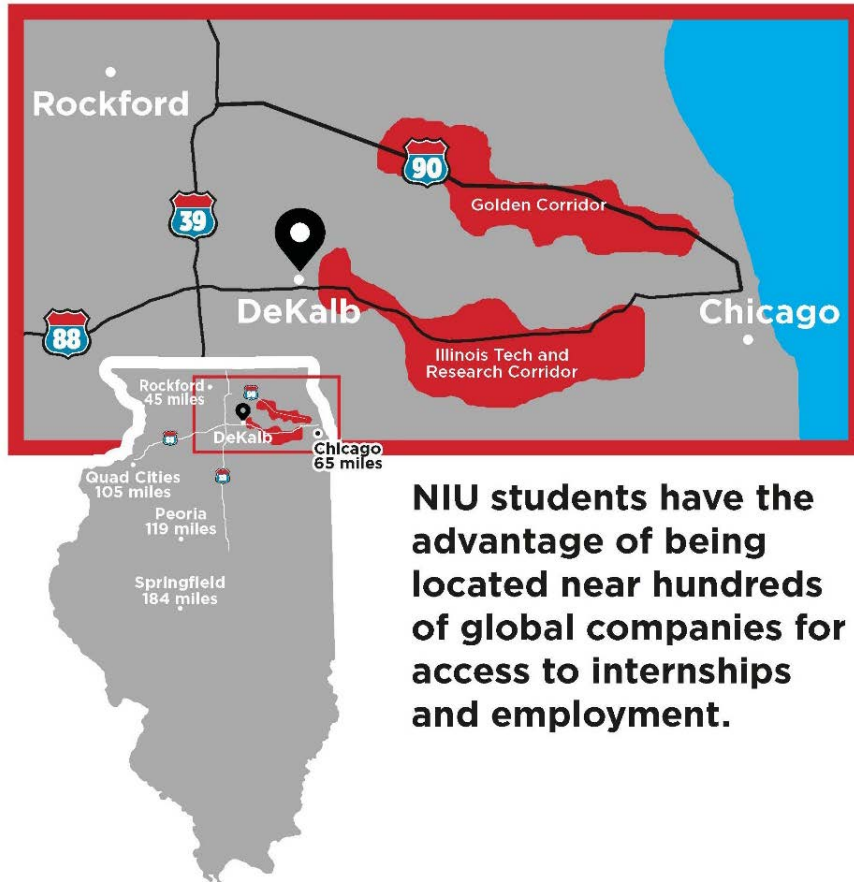
- 1,717 miles on one gallon of gasoline
- 2019 International Competition
 - 2nd overall, won the Endurance Award, and placed 1st for Internal Combustion Engine Prototype



Meet a Few Employers of Our Graduates

- Argonne National Lab
- Caterpillar
- Collins Aerospace
- Commonwealth Edison
- Facebook
- Fermilab
- Ideal Industries
- Illinois Environmental
- John Deere
- JPMorgan Chase & Co.
- Kohl's
- Lockheed Martin
- Mitutoyo
- Motorola
- NASA
- Navistar
- Nestlé
- Northrop Grumman
- OMRON
- Raynor
- Society of Automotive Engineers
- SPX
- Tesla
- Texas Instruments
- UniCarriers Americas
- U.S. Nuclear Regulatory Commission
- UPS
- U.S. Air Force
- Wahl Clipper
- Woodward

Our Strategic Partnerships Support Learning and Research



NIU students have the advantage of being located near hundreds of global companies for access to internships and employment.

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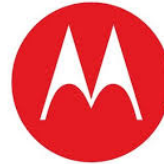
Meet companies hiring engineers for full-time, part-time, co-ops and internships. Dress in business attire and bring resumes.

Spring Job and Internship Fair

Tuesday, Feb. 18, 2020, 10:30 a.m. to 3 p.m.
Holmes Student Center, Duke Ellington Ballroom

go.niu.edu/SpringJobFair2020

Corporate Partnerships



MOTOROLA

SPXFLOW

Baxter



JOHN DEERE

NAVISTAR

UNICARRIERS
UniCarriers Americas Corporation



OMRON



Collaboration with National Labs



Collaboration with Non-Profit Entities



Research and Grants

Educational and Workforce Development Grants

- NSF STEP PROMISE Grant
- Department of Commerce and Department of Labor
- NSF grant on alternative energy and computer games
- US Department of Education on STEM education

Advanced Manufacturing Grants

- DARPA
- NIST



Interdisciplinary Grants with Science Faculty

- NSF
- DOE
 - Fermi National lab
 - Argonne National Lab

Industry Grants

- Engineering in Residence



Industry Fellows Program (IFP)

New PhD programs

- Electrical Engineering
- Industrial and Systems Engineering
- Mechanical Engineering



Key objectives

- Innovation of new products and processes
- Managing complexities of theories and applications
- Immerse into actual engineering design and processes relevant to industry
- Develop creative solutions for real-world and practical applications

IFP starts in the 2nd year after completion of the candidacy exam

- Fellows are sponsored by industry and work at worksite
- Fellows are mentored both faculty and industry mentors
- Fellows apply doctoral-level engineering solutions to contemporary industrial challenges at actual worksites

Looking Ahead

Strategic growth in our new and existing programs

- Ph.D. in *Electrical Engineering*
- Ph.D. in *Industrial Systems Engineering*
- Ph.D. in *Mechanical Engineering*
- B.S. in *Biomedical Engineering*
- B.S. in *Mechatronics Engineering*

B.S. in Civil and Environmental Engineering

- In support of NICCS and IIN

Strengthening partnerships with industry and national labs

Regional, national, and global posturing

Thank You!

Senior Design Demonstration Day



Please join us for our senior design showcase of the College of Engineering and Engineering Technology at Northern Illinois University.

Friday, May 1
Noon-3 p.m.

NIU Convocation Center, 1525 W. Lincoln Highway, DeKalb, Illinois

Over 200 students will showcase their innovative engineering and technology senior projects and designs. *Open to the public!*
Visitors are welcome -
Free admission!

