The world
is full of problems

LEARN TO SOLVE THEM

Science seeks to understand the world

WE WORK TO CHANGE IT

When the world has a problem, engineers and computer scientists step up to find an answer. They create sustainable, economical, and safe solutions that improve our quality of life and the well-being of our society. From software to GPS, chemical processes and the power grid, they make the products and systems we rely on.

Top 10
Public Undergraduate Engineering Program

U.S. News & World Report, 2020

Top 20
Engineering Management Degree

Business-Management-Degree, 2021

Top 10
Software Engineering Degree

Intelligent, 2021

#2
FOR SKILLED TECHNICAL TALENT IN CODING

CodeSignal, 2021

Imagination,
Ingenuity,
& Impact

Areas of Focus

CHEMICAL, PAPER, AND BIOMEDICAL ENGINEERING

Everything — every process we follow, every material we use, every medicine we take — depends upon a chemical reaction. Chemical engineers create products and processes in diverse areas like pharmaceuticals, energy, environment, and pulp and paper science. Biomedical engineers use technology to improve human health by developing engineering solutions for health care-related problems.

COMPUTER SCIENCE AND SOFTWARE ENGINEERING

Computer scientists and software engineers are the brilliant minds behind next-generation innovations in mobile apps, virtual reality, and computational biological analysis. They seek to understand society's needs and create software systems that make a difference. As more of the world runs on software, the demand for these people will only continue to grow.

ELECTRICAL, COMPUTER, AND ROBOTIC ENGINEERING

If a product is powered by or produces electricity, chances are an electrical or computer engineer developed it. Electrical and computer engineers combine disciplines to design cutting-edge solutions in areas like robotics, cellular technology, GPS, and computers. From designing the circuits within devices we use daily to managing the energy-smart grid our devices rely on, electrical engineers are an invaluable asset to society.

MECHANICAL AND MANUFACTURING ENGINEERING

In one of the broadest engineering disciplines, mechanical and manufacturing engineers research, develop, analyze, design, manufacture, and test a wide range of tools and systems. From developing sensors to designing cars, aircrafts, and everything in between, these engineers are the masterminds behind most of the innovations we depend on.

ENGINEERING MANAGEMENT

By combining business or entrepreneurial focus with the technical specialty of your choice, students who major in Engineering Management prepare for careers in project management or consulting and are able to lead diverse teams in the development of new products and designs.

EACH YEAR,
MORE THAN

2,800

UNDERGRADUATES
WORK WITH
PROFESSORS ON
FUNDED RESEARCH
(MANY BEGINNING IN
THEIR FIRST YEAR).

You won't get this experience at most schools

MIAMI ISN'T MOST SCHOOLS

We call it the Miami Experience. From your very first day on campus, first-year students can access state-of-the-art equipment and conduct critical research. Our faculty look for undergraduate students to work on their research teams, allowing you to get involved with meaningful projects from your very first semester.

Lyndsey Mcmillon-Brown '13

Research Electrical Engineer, NASA Glenn Research Center

"Miami gave me the ability to think critically and use resources. I'm used to having autonomy in the lab and picking a research problem to explore."

ENGINEERS WITHOUT BORDERS (EWB)

Our award-winning, internationally recognized students are involved in everything from local projects and STEM outreach to improving the lives of people across the globe. In regions like Ecuador, Rwanda, and Uganda, EWB teams have helped villages develop systems to access clean water. And, through work and research with faculty, our students are gaining worldwide recognition for their methods of heavy metal removal from water sources.

We take
YOUR SUCCESS PERSONALLY

Our commitment to undergraduate education is most noticeable in the close professional relationships and mentorships between our students and faculty. You'll experience this connection firsthand while working directly with leading faculty on innovative discoveries inside state-of-the-art labs. Get one-on-one feedback and personalized attention in a program that's just the right size for your continued success.

98.4%

of CEC graduating seniors had **at least one Experiential Experience**

Senior Exit Survey, 2020

2021 OUTSTANDING FACULTY
FOR STUDENT SUCCESS AWARD

Karen Davis

Associate Professor, Computer Science and Software Engineering
Davis' award-winning innovations in the classroom have shifted the way students engage with the material. "You have to take some ownership for your learning, and I know you are going to learn more, [and] it's uncomfortable sometimes. But you learn when you engage."

TURN NEW IDEAS INTO ACTION

Crack the
CODE

21% WOMEN

+ 79% MEN

CEC STUDENT POPULATION*
FALL 2020

*POPULATION INCLUDES INDIVIDUALS WHO DO NOT
IDENTIFY AS EITHER MALE OR FEMALE (GRAPHIC
USES DATA FROM THE U.S. DEPARTMENT OF LABOR
AND THE U.S. DEPARTMENT OF EDUCATION, WHICH
REQUIRES THAT ALL INDIVIDUALS REPORT AS
EITHER MALE OR FEMALE.)

GIRLS WHO CODE

Since 1984, the number of computer science graduates who are women has dropped from 37% to 18%. Girls Who Code, led by Daniela Inclezan, assistant professor of Computer Science and Software Engineering, along with Miami students and alumnae, takes Miami expertise inside regional classrooms to get young girls interested in programming. Beyond raw coding, the program teaches the communication, critical thinking, and teamwork skills needed for a successful career. Most importantly, Inclezan notes, "the volunteers provide the mentorship, encouragement, and personalized attention that Miami is known for."

Joe Rutkowski '22

Major: Software Engineering
President, Kode2Learn
Kode2Learn gave Joe Rutkowski the opportunity to teach STEM field education to local first-through-sixth graders.

"Miami encourages students to engage with the community, and Kode2Learn gives me the opportunity to have an impact right here in Butler County."

SENIOR DESIGN EXPO

Friendly competition hatches the best ideas. That's why CEC created the annual Senior Design Expo. Seniors team up to design and develop a product that solves a real-world problem — like a walker that reduces the risk of falls or a drone that can accomplish complicated tasks.

REDHAWK RACING

Off-road or on the track, RedHawk Racing sets a blistering pace. Competing against teams from around the world through the Society of Automotive Engineers, Miami students design, build, and race custom Baja and formula vehicles. While they're chasing the checkered flag, RedHawk racers flex the mechanical and manufacturing concepts learned in the classroom.

The sturdiest structure is

WELL-ROUNDED

At Miami, excellence is the expectation. But our graduates take their academic skills further, earning degrees with a strong sense of ethics, understanding the importance of teamwork, and communicating effectively and clearly. You'll graduate as an innovative, versatile leader who sees the big picture. With a degree from Miami, you'll stand out in a crowd. You'll stand out to employers.

Lucas Rickman '22

Major: Mechanical Engineering

"I learned a lot of things I probably wouldn't have learned if I hadn't gone and done research. So it was really intensive because it's different from normal classwork. It was a lot more open ended because it was something that someone hadn't done before. I thought that was really valuable, really useful, and I really liked the idea of being able to publish my own work."

LOCKEED MARTIN LEADERSHIP INSTITUTE

Rise to the challenge, and unleash your leadership potential. Here, you'll sharpen your communication skills, business acumen, and collaboration strategies. The institute enables students to first understand their strengths and weaknesses and then leverage that knowledge to become effective leaders who can create innovative solutions to society's most complex problems.
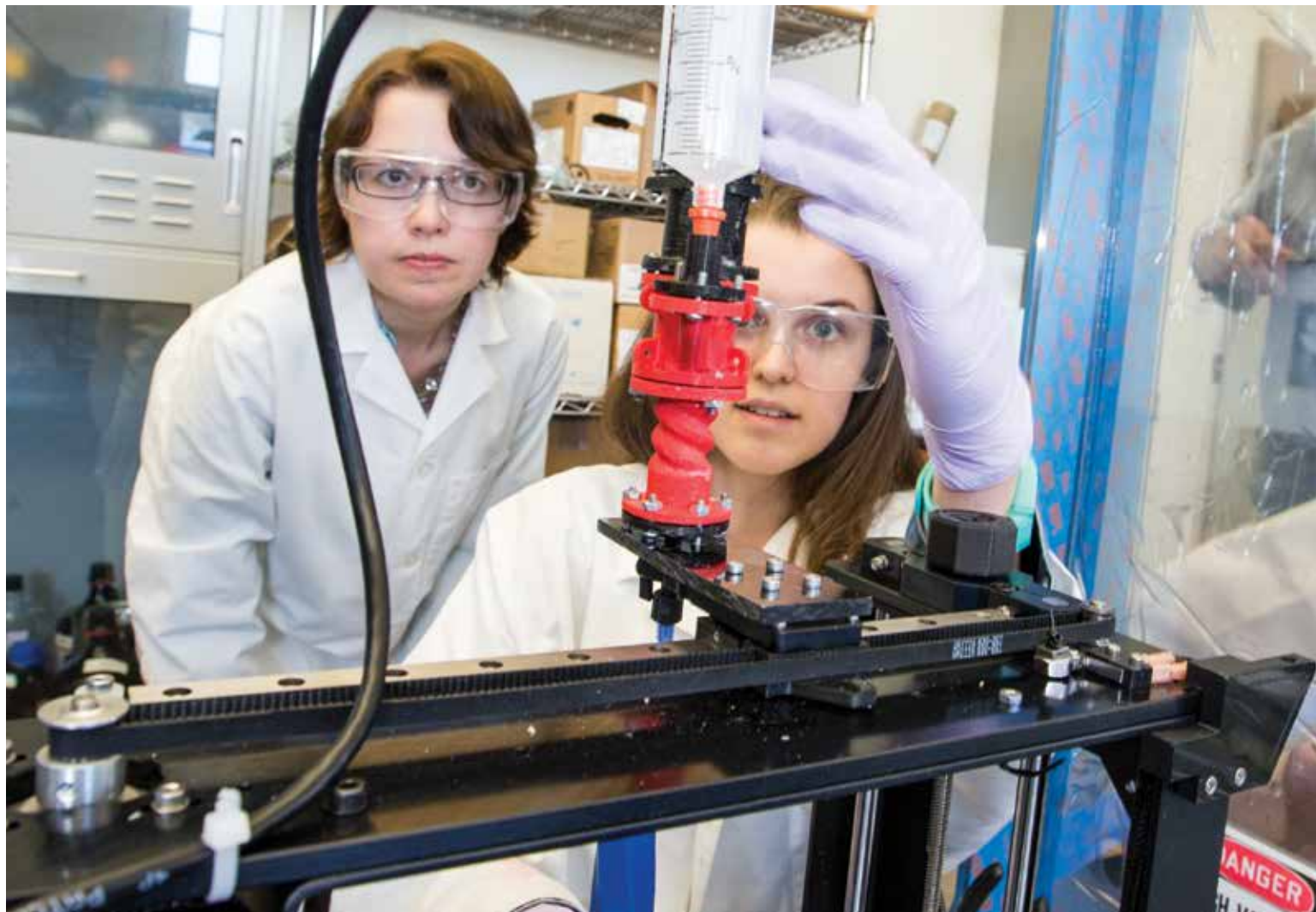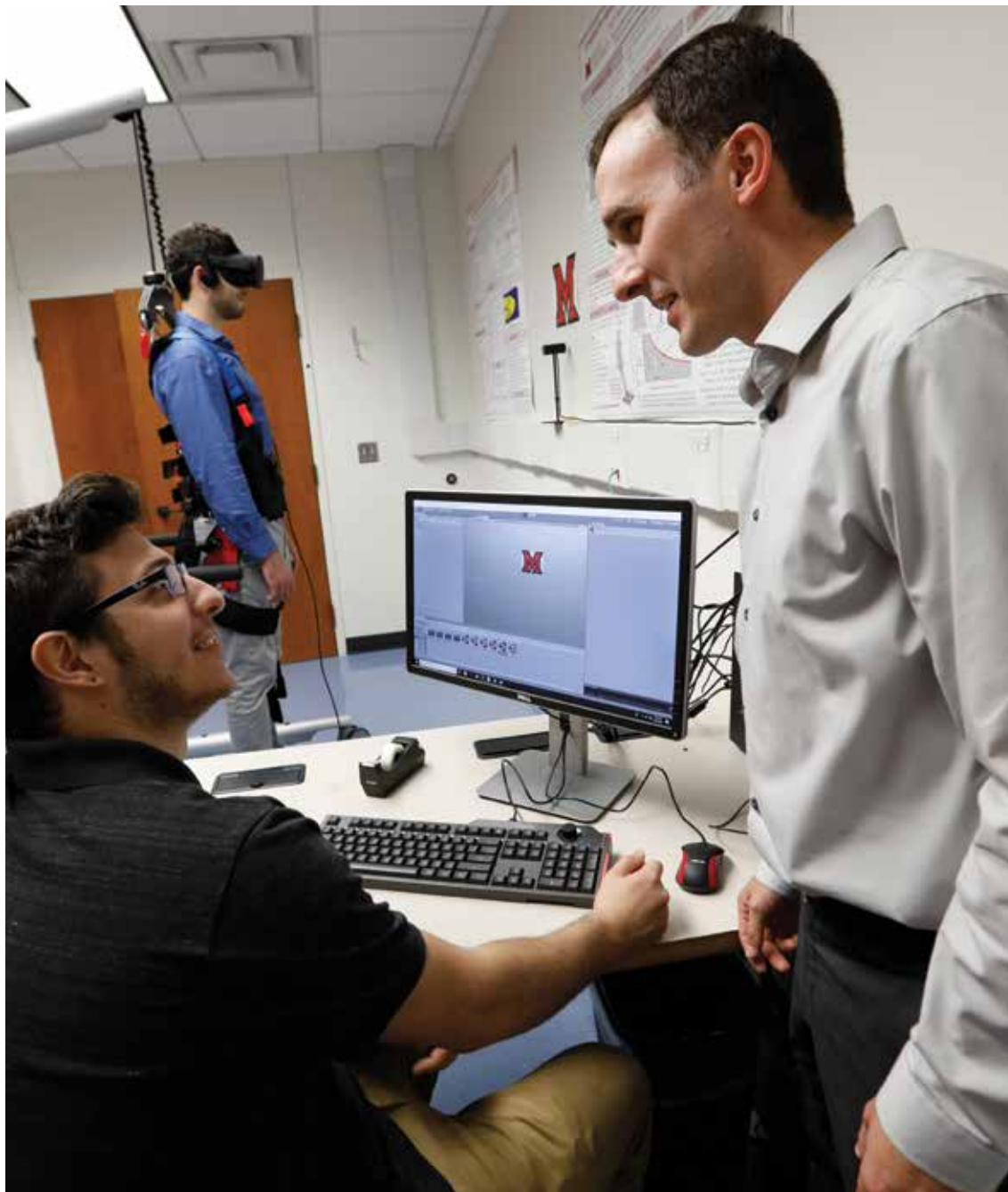
Socially
ENGAGED

Are you ready to solve the "**grand challenges**" of the next century? From public health to infrastructure, energy to cybersecurity, the National Academy of Engineering (NAE) looks to upcoming engineers to tackle society's most pressing problems. CEC has launched an NAE-approved **Grand Challenge Scholars Program** to provide students with the hands-on, interdisciplinary research opportunities needed to solve humanitarian issues that have global implications.

James Chagdes

Associate Professor, Mechanical and Manufacturing Engineering

Having a focus on the combination of research and education, Chagdes was drawn to Miami and eventually found his way to the Miami University Center for Assistive Technology. Now as the center's director of MUCAT, Chagdes uses his experience in Mechanical and Manufacturing Engineering and his wisdom as a professor to instill the promise of I3: Imagination, Ingenuity, & Impact. This focus helps to bring the creativity of the students forward so that they can design innovative technologies and unique solutions as a way to help those in need. "I hope that my work with MUCAT, focusing on socially relevant problems, can also be brought into teaching and research so that we can really help individuals live a higher quality of life."

HUMANITARIAN ENGINEERING AND COMPUTING MINOR

In the Humanitarian Engineering and Computing minor, you'll perfect your technical skills while nurturing your passion for social equity. Exploring aspects of global, social, and cultural service, you'll apply classroom learning to real-world projects like designing sustainable housing, implementing clean-water systems, or developing products for people with disabilities.

Live an extraordinary life
ON THE **IDEAL** COLLEGE CAMPUS

Stereotypes are overrated. Yes, engineers are laser-focused and academically ambitious. But they're also campus leaders, entrepreneurs, and competitive athletes. They're ROTC cadets and midshipmen, creative artists, world travelers, and advocates for every cause you can imagine. CEC students are at the center of a vibrant community, collaborating with people from diverse backgrounds and interests. At Miami, all students are invited to experience college life to the fullest.

CEC student organizations:

American Institute of Aeronautics and Astronautics

American Institute of Chemical Engineers

American Society of Mechanical Engineers

Association for Computing Machinery

Association for Computing Machinery-Women

Cyber Security Club

Drone Sports Club

Engineers Without Borders

Girls Who Code

Institute of Electrical and Electronics Engineers

Kode2Learn

Lockheed Martin Leadership Institute

National Society of Black Engineers

RedHawk Racing

Renewable Energy Club

Society for Biological Engineers

Society of Women Engineers

Tau Beta Pi (engineering honor society)

Technical Association of the Pulp and Paper Industry

Theta Tau (engineering fraternity)

Allison Jacob '22

Majors: Electrical Engineering and Music

"I feel like I've learned so much because I started at a place where I didn't know anything about machine learning, [etc.], but over time, with all the reading, practicing, and hands-on stuff, then I [realized] I actually can work with this."

OUR STUDENTS CAN
CHOOSE FROM

600+

STUDENT
ORGANIZATIONS

See where you can
SUCCEED

BACHELOR GRADUATES

96.7%
Success rate

*Miami University
First Destination report
for 2020*

The College of Engineering and Computing provides an exceptional education. From day one, you'll be immersed in rigorous research experiences rounded out with Miami's broad-based Global Miami Plan. Along with invaluable mentorship from our top-notch faculty, you'll graduate thoroughly prepared to stand out from your peers.

Graduates who wish to continue their education gain admission to the top graduate programs in the country. And those who decide to enter business and industry often receive job offers even before they receive their diplomas.

Where our graduates land:

Amazon	GE Aviation	Peace Corps
Boeing	Government Agencies	Procter & Gamble
Eli Lilly	International Paper	Swagelok
Facebook	JPMorgan Chase	Walt Disney Company
FIS	Northrop Grumman	World Fuel Services
Google	Packaging Corporation of America	

$69,264
AVERAGE FULL-TIME SALARY

19-20 Oxford Campus Bachelor's Graduate Report

80%
of CEC graduates receive an

Internship or Work Experience

Miami University First Destination report for 2020

Dean's Message

In the College of Engineering and Computing, you will have the opportunity to join an incredibly diverse and talented group of students who epitomize our tagline of I–3: Imagination, Ingenuity, and Impact. Our faculty are some of the best teachers and researchers who inspire engaged learning and nurture the entrepreneurial spirit. You will have the opportunity to work with them in hands-on projects, laboratories, and research.

We support our diverse student body through various mentoring experiences to ensure your success. You will be able to join professional organizations, engage in leadership training, and have international learning experiences. This is what we call "socially engaged engineering and computing." Through these engagements, inside and outside the classroom, you will be able to make a positive difference in the global and local community.

I encourage you to join us and learn what an impact a personalized technical education, grounded in liberal arts, will have in preparing you for the technological challenges of the 21st century.

Beena Sukumaran

Beena Sukumaran, Ph.D.,
Dean
Professor Mechanical and
  Manufacturing Engineering

Find your future here in the
COLLEGE OF ENGINEERING AND COMPUTING

———

Learn and explore more at t **MiamiOH.edu/cec**.

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M
MIAMI
UNIVERSITY

College of Engineering and Computing

106 Benton Hall | 510 East High Street | Oxford, OH 45056

cec@MiamiOH.edu | 513-529-0700