
University of Wisconsin-Milwaukee Points of Pride

Students

Total enrollment: 23,155 students

- Milwaukee campus: 22,066 students
 - 17,360 undergraduates
 - 4,387 graduate students
- UWM at Washington County: 339 students
- UWM at Waukesha: 810 students
- Students from 72 Wisconsin counties and 49 states
- 39% of undergraduates are first-generation college students
- 1,057 veterans and military-related students enrolled, more than any other Wisconsin university

Alumni

More than 200,000 alumni

- 82% of graduates in the last decade live and work in Wisconsin

Academics

213 academic programs

- 108 graduate programs

Largest and top-rated online education program in Wisconsin

- More than 880 online courses
- 47 fully online degree and certificate programs

Economic Impact

- \$1.5 billion economic impact on Wisconsin, according to NorthStar Consulting Group

Community Engagement

- Partnerships with nearly 3,000 businesses, nonprofits and other organizations
- More than 35,000 hours of service-learning completed by students
- More than 2,600 students enrolled in nearly 70 service learning courses

Research

- Ranked in the top 4 percent of research universities, a category known as R1, by the Carnegie Classification of Institutions of Higher Education
- \$39.5 million in grants in 2022-23
- 2018 Campus-Wide Award for Undergraduate Research Accomplishments from the national Council on Undergraduate Research. UWM has more than 1,000 undergraduate researchers.

Only at UWM

- Wisconsin's only schools of architecture, freshwater sciences and public health
- The state's largest nursing program
- An engineering college ranked in the top 15 percent in the U.S.
- A nationally recognized actuarial science program
- The state's only bachelor's program in ASL/English interpretation
- A film program ranked among the top 50 in the world (Variety Magazine)
- The best online education program in the state, according to U.S. News & World Report

Strategic Partnerships

The **UWM Lubar Entrepreneurship Center** is a powerful resource for entrepreneurs, innovators and anyone who wants to make a positive change in their community. From courses and programs to workshops and networking, LEC provides the tools needed to transform ideas into reality.

Among its many offerings are:

- UWM Startup Challenge
- Milwaukee I-Corps Program
- University Innovation Fellows
- UWM Innovators Expo

The **Center for Water Policy** builds on the research of **UWM's School of Freshwater Sciences**, the **UW System's Freshwater Collaborative of Wisconsin**, and networks and partnerships with top scholars, scientists and policy institutions around the world.

The **Northwestern Mutual Data Science Institute** is an industry and academic partnership between Northwestern Mutual, UWM and Marquette University formed to inspire and cultivate passion for data science in the Milwaukee region. The groundbreaking partnership is helping to build a technology ecosystem and advance southeastern Wisconsin as a national hub for technology, research, business and talent development, while also creating an organic pipeline of tech talent.

UWM's Small Business Development Center in its **School of Continuing Education** is a go-to resource for entrepreneurs and business owners. The center helps build strong frameworks for growing and improving small- and mid-sized companies while also helping launch successful new ventures. The center provides free online training as well as no-cost, confidential consulting and education programs.

Student Success

UWM is one of three major public education institutions in Milwaukee to co-found **M-Cubed**, a critical initiative to close the achievement gap. UWM is home to the **Moon Shot for Equity's** inaugural launch in the Milwaukee region.

UWM is launching the **Milwaukee Tuition Promise** in Fall 2024 to ensure that incoming eligible students can meet the full cost of tuition for up to four years. The program will assist students whose families earn less than \$62,000 annually or independent students who earn less than \$31,000 per year. The program is structured to provide "last dollar" financial aid after federal and state grants. Students must attend full time, be Wisconsin residents, be first-time bachelor's- or associate-degree seeking students, and meet other criteria to qualify. UWM estimates the program could assist more than 1,000 students, which would simultaneously improve their lives while boosting the number of college graduates available to meet the state's workforce needs.

Opportunities for All

UWM has partnered with six other organizations for the **Milwaukee Anchor Collaborative**, which is dedicated to hiring more people of color and purchasing more goods from disadvantaged areas. Undertaken with the Metropolitan Milwaukee Association of Commerce, **UWM's Student Success and Talent Pipeline Initiative** places students from diverse backgrounds into internships to prepare them for career success.

World-class research. World-changing partnerships.

College of Engineering & Applied Science

UWM's College of Engineering & Applied Science is known for high-impact applied research and partnerships that deliver results. Our rich and productive collaborations with industry and government ensure a meaningful path for discoveries through innovation and tech transfer.

Energy & Sustainability

Southeast Wisconsin is home to over 1,000 energy, power and controls companies. The College of Engineering & Applied Science is in the ideal location for researchers to drive innovation, realize cost savings and fuel talent pipelines for the next generation of energy engineers. Their focus includes microgrids that complement the nation's energy grid, and cheaper and cleaner lithium-ion batteries, including faster-charging batteries and safer and improved energy storage.

UWM hosts Wisconsin's only **U.S. Department of Energy Industrial Assessment Center**, which helps manufacturers and utilities increase productivity and competitiveness by reducing energy and water consumption, enhancing cybersecurity and adopting smart manufacturing technology.

GRAPES: The Midwest's university partner in the Grid-connected Advanced Power Electronic Systems, a National Science Foundation Industry/University Cooperative Research Center (I/UCRC), with a mission to accelerate the adoption and insertion of power electronics into the grid to improve system stability, robustness and economy.

Water & Environment

Researchers are focused on designing more cost-effective filters, sensors and membranes to make our water supply cleaner and safer. The new **Freshwater Collaborative of Wisconsin** is led by a college alumna.

UWM faculty members lead the **Water Equipment and**



Policy Center (WEP), a National Science Foundation Industry/University Cooperative Research Center (I/UCRC). WEP provides innovative water technologies and processes to promote water industry advancement, and conducts research to inform water policymakers. Nearly 100 precompetitive research projects have been completed in the past decade.

Infrastructure & Transportation

The college hosts the **largest structural testing facility** in Wisconsin, providing a ready workspace for industry and government collaboration. Our researchers are known worldwide for their expertise in concrete, structural engineering, traffic safety, urban mobility, and transportation solutions.

Researchers from the college lead the **Institute of Physical Infrastructure and Transportation**, fostering collaboration with transportation and infrastructure companies and agencies across southeast Wisconsin and beyond.

Biomedical & Health

World-renowned faculty and their students are making an impact on many fronts. Their work includes more accurate scanners so medical providers have sharper images to make better diagnoses; prosthetics, robotics and medical devices that help deliver better outcomes; and biomaterial-based therapies to improve bone healing.

Advanced Manufacturing

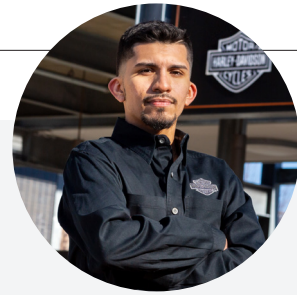
- UWM researchers have long-standing collaborations with the region's strong manufacturing community.
- The Connected Systems Institute, established in partnership with Rockwell Automation, hosts an Advanced Manufacturing Testbed, the only one of its kind in the U.S. CSI provides students and researchers an integrated manufacturing platform, supporting development of advanced manufacturing processes.

Diverse Student Population

- The college has an enrollment of more than 2,000 students, and 45% of its students are non-white.
- First-generation students comprise 26% of the college's students.
- The college saw a 44% increase in veteran students over the last 10 years, and the percentage of female students have nearly doubled at the college over that same time frame.

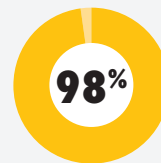
Alumni CEOs & Entrepreneurs

- **Satya Nadella**, CEO of Microsoft, just the third CEO in the company's history
- **John Kissinger**, CEO of GRAEF, an international engineering, planning and design firm. He worked on the Milwaukee Art Museum's Calatrava addition, which was Time magazine's top-ranked design of 2001.
- **Carrie Bristol-Groll**, founder of Stormwater Solutions Engineering, LLC, the only stormwater-focused engineering firm in Wisconsin.
- **Jesse DePinto**, co-founder and CEO of Frontdesk, short-term apartment rental company named to Inc.'s 5,000 fastest-growing travel companies in 2021 and 2022.
- **Ben Caya**, founder and president, Spike Brewing Equipment, overseeing a \$9 million expansion into a new Milwaukee location

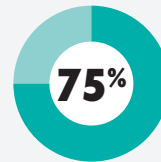


\$72,000

average starting salary for a graduate with a Bachelor's degree



of students start careers or continue their education upon graduation



of graduates stay in Wisconsin to contribute to the local economy

CEAS graduates have been hired by:

- | | |
|---------------------|--------------------|
| - Amazon | - Microsoft |
| - Apple | - Milwaukee Tool |
| - Briggs & Stratton | - Modine |
| - Eaton | Manufacturing |
| - FCA Fiat Chrysler | - Molson Coors |
| Automobiles | - Northwestern |
| - FIS | Mutual |
| - GE Healthcare | - Raytheon Missile |
| - Generac | Systems |
| - GRAEF | - Rockwell |
| - Harley-Davidson | Automation |
| - Intel | - Tesla |
| - Johnson Controls | - We Energies |
| - Kohler Company | |

Creating a Talent Pipeline for Wisconsin's Manufacturers

Connected Systems Institute

The University of Wisconsin-Milwaukee's Connected Systems Institute is working to create a new team to support small and medium manufacturers in southeast Wisconsin on their digital adoption journey.

About 140,000 small and medium manufacturing jobs are located in the M7 region, and at least 20% of those jobs are at risk over the next 30 years. About 85% of Wisconsin's 9,400 manufacturers are small or medium, and most have made little to no progress in adopting digital technologies necessary to survive in today's supply chain.

To ensure that the Milwaukee region remains globally competitive and the economic impact of our manufacturing sector remains sustainable, two urgent and interrelated problems must be addressed:

1. Our small and midsize manufacturers are facing an adopt-or-die moment. They must make a technological transition to remain viable.
2. Meanwhile, we must address the economic distress tied to the decline of traditional manufacturing that has had a staggeringly disproportionate effect on our diverse populations.



Manufacturing Workforce Innovation Program

CSI's Manufacturing Workforce Innovation Program (MWIP) will help address the talent gap and worker shortage that preceded the pandemic and has only been made worse by it.

Of the 400 employers surveyed in 2021 by the Wisconsin Center for Manufacturing and Productivity, 83% stated they were having difficulty finding the right talent. The impact has been widespread across manufacturers of all sizes in all areas of Wisconsin.

The MWIP will provide the in-demand comprehensive set of technology and digital skills needed in the manufacturing environment. Participants will be nominated by employers from within their workforce, from nearly qualified applicants, or recruited from job centers.

While concentrated in the M7 region, where there are 180,000 manufacturing jobs, the courses will be made available to individuals across the state. Special emphasis will be placed on recruiting underrepresented learners.

MWIP currently offers two in-demand courses:

Digital Manufacturing Leadership

This course is geared toward business leaders of small and medium manufacturing facilities who are ready to steer their team toward adopting Industry 4.0 advanced technologies.

Microsoft Azure for Manufacturing

This course, done in collaboration with Microsoft, introduces manufacturing professionals to the possibilities of industrial internet of things solutions using Azure.

Locating a Satellite Field Station on Lake Michigan's Western Coast

School of Freshwater Sciences

The University of Wisconsin-Milwaukee School of Freshwater Sciences invites NOAA Great Lakes Environmental Research Laboratory to consider using the UWM Great Lakes Research Facility in Milwaukee as its primary base of operations for research conducted on the western side of Lake Michigan. UWM offers many benefits:

State-of-the-Art Labs and Facilities: Access to labs, marine operations, an instrument shop, meeting spaces and equipment located in the Great Lakes Research Facility - no need for NOAA to construct anything new.

Collaboration: The ability to collaborate with faculty, technicians, students and the community who have expertise in freshwater sciences and atmospheric science. Our facility houses nine on-site governmental and nonprofit collaborators.

Prime Location: Proximity to the new Lake Michigan NOAA Marine Sanctuary, the entirety of the Wisconsin and Illinois coastline, infrastructure in Milwaukee and Chicago, and access to NOAA's Muskegon location.



The Great Lakes Research Facility houses
9 additional on-site collaborators:

- U.S. EPA RV Lake Guardian
- USDA – Agriculture Research Service, Aquaculture and Fish Disease
- USGS – Upper Midwest Water Science Center, Water Quality Monitoring
- Wisconsin Sea Grant Program
- Wisconsin Department of Natural Resources – Lake Michigan Fisheries Management Unit
- Freshwater Collaborative of Wisconsin
- Harbor District Inc.
- Southeast Wisconsin Watershed Trust
- Milwaukee Riverkeeper

Collaborate with a Leading Research and Academic Institution

UWM is ranked nationally among the top 4% of research universities, a category known as R1, by the Carnegie Classification of Institutions of Higher Education. We're also a Carnegie Engaged Institution. UWM is the most diverse campus within the UW System, thus offering NOAA opportunities for recruiting new talent.

- 23,000+ students on three campuses; 81% are Wisconsin residents
- 5,000+ graduates per year, over 80% of alumni stay in Wisconsin
- 1,290 international students from 88 countries
- More than 1,000 veterans and military-related students enrolled
- 39% of undergraduates are first-generation college students
- 32% are students of color

UWM's School of Freshwater Sciences has a longstanding history in freshwater research and offers undergraduate and graduate degree programs in freshwater sciences and atmospheric science. The School of Freshwater Sciences is also home to the UW Center for Water Policy and is the lead institution within the Freshwater Collaborative of Wisconsin, a partnership of Wisconsin's 13 public universities focused on student training, workforce development and freshwater research.

Facilities Available to NOAA

The UWM Great Lakes Research Facility is an oceanographic-style facility designed to facilitate Great Lakes and water science research and education. Key features and benefits include:

- ~ 200,000 square feet of laboratory, marine operations, classroom, and conferencing space
- 1,400 square feet of protected dock space
- Location in Milwaukee's protected Harbor District with direct access to Lake Michigan
- Easy access to major airports in Milwaukee and Chicago; connected to GLERL's Lake Michigan Field Station in Muskegon by high-speed ferry

Research Facilities and Onsite Support Centers and Labs

The UWM Great Lakes Research Facility has extensive research centers, labs and other facilities to support NOAA researchers and visiting scientists.

Research Centers

- Great Lakes Genomics Center
- Great Lakes Aquaculture Center
- Water Technology Accelerator
- Center for Water Policy
- Innovative Weather
- National Science Foundation Water Equipment and Technology Industry/University Cooperative Research Center

Onsite Support Facilities and Labs

- Analytical Core Facility
- Aquaria and Fish Research Labs
- Bio Secure and Quarantine Labs
- Data Visualization Labs
- DNA Sequencing and Bioinformatics
- Instrument Shop
- Robotics and Great Lakes Observation Systems Lab
- Marine Operations Facilities
- U.S. EPA Great Lakes Fish Tissue Archive

Research Fleet

UWM operates a fleet of craft that includes the R/V Neeskay, small boats, and remotely operated vehicles. It also operates several NOAA GLOS Buoys. All UWM craft are available for use by NOAA scientists and partners through UWM's participation in NOAA CIGLR. In addition, the U.S. EPA R/V Lake Guardian docks and winters at the Great Lakes Research Facility.

The School of Freshwater Sciences has plans to construct the R/V Maggi Sue, which will be the Great Lakes' most technologically advanced research vessel.

Conclusion

UWM's Great Lakes Research Facility is a hub for freshwater research. By locating the GLERL's western Lake Michigan research operations at the Great Lakes Research Facility, NOAA could cost-effectively connect with numerous water organizations, tap into UWM's network of faculty expertise, access workforce talent, and gain immediate use of state-of-the-art facilities.

For questions, discussions, or to set up a visit, please contact Rebecca Klaper at rklaper@uwm.edu or Eric Leaf at leaf@uwm.edu.