



RESEARCH INITIATIVES

The University of Wisconsin-Platteville continues to be the fastest-growing public university in Wisconsin and strives to provide an affordable, accessible, high-quality education to students. Whether a high school student looking for a home away from home, an adult learner preparing to retool his or her skill set for the changing economy, or anywhere in between, students can find their match at UW-Platteville. The university, set in the rolling hills of Southwest Wisconsin, has increased from around 5,000 students at the turn of the century to a robust university of 8,900 undergraduate and graduate students. The campus is rich in academic programs, contained in three colleges: the College of Business, Industry, Life Science and Agriculture; the College of Engineering, Mathematics and Science; and the College of Liberal Arts and Education.

UW-Platteville has particular strengths in agriculture, biology, business, criminal justice, engineering, and industrial technology. The 821-acre campus features 20 academic buildings and 12 residence halls.

The university stresses high-impact practices such as undergraduate research projects, international experiences, and the Pioneer Academic Center for Community Engagement (PACCE) that give students hands-on experience in and out of the classroom.

The 400-acre Pioneer Farm is a collaborative, research-oriented farm modeled for production agriculture supporting environmentally compatible and economically sustainable farms.

The UW-Platteville collaborative programs in electrical engineering and mechanical engineering enable place-bound students at the UW College's two-year campuses to earn accredited engineering degrees. In addition, the campus provides continuing education and career advancement options for place-bound students through the Distance Learning Center, which *U.S. News & World Report* ranks as a best online program for bachelor's business, graduate business, graduate criminal justice, and graduate education degrees. The Distance Learning Center also was designated by *G.I. Jobs* magazine as a Military Friendly School for

the 2014–15 academic year. UW-Platteville's Master of Science in Project Management is one of fewer than 25 programs worldwide globally accredited by the Project Management Institute®.

The campus has established partnerships with private industry to offer educational opportunities for personal and educational growth. UW-Platteville is forward thinking and innovative in continually developing new programs like nanotechnology and social and environmental justice.

As one of the largest employers in Southwest Wisconsin and the culture center for the region, UW-Platteville actively engages communities across the tri-state region of Wisconsin, Illinois, and Iowa in the form of hosting events, regional and national conferences, and renowned lecturers. The university is committed to a diverse campus with a rich presence of minority and international students, faculty, and staff.

UW-Platteville's strengths and partnerships with the federal government and many other stakeholders, as well as potential opportunities that may be possible with federal support, are outlined in the following document.

STRENGTHS AND OPPORTUNITIES

► **Existing Partnerships with Federal Agencies:**
UW-Platteville is a collaborative member of the USDA Long-term Agricultural Research Stations (USDALTARS), resulting in the establishment of partnerships with additional institutions and research centers, both in Wisconsin, as well as in other states. Additionally, UW-Platteville has received grant funding from the U.S. Department of Education, with an emphasis on underrepresented groups, for improvements to student retention and graduation rates.

► **Funded and Pending Grants at UW-Platteville:**
Faculty and staff at UW-Platteville have ongoing federal support from the **National Science Foundation (NSF)**, U.S. **Department of Education (DED)**, U.S. **Department of Agriculture (USDA)**, **National Endowment for the Arts (NEA)**, **U.S. Department of the Interior (DOI)** and U.S. **Department of Justice (DOJ)**.





► **Capital Investment Potential:**

- **Collaborative Engineering:** In 2002, UW-Platteville became the first in the state to offer the only accredited collaborative engineering degree program. This program enables students at UW College’s two-year campuses to earn engineering degrees. UW-Platteville is working to expand offerings of engineering degrees in 2014–15 to meet identified needs of industry and their respective communities that go beyond the borders of the state of Wisconsin in a way that is scalable and effective in delivering an accredited degree. UW-Platteville is exploring the potential for private capital investment as well as public investment through U.S. Departments of Education and National Science Foundation funding.

2014 AND 2015 LEGISLATIVE PRIORITIES

CENTERS AND INSTITUTES:

► **Pioneer Farm Research:**

- **Anaerobic Digestion:**

UW-Platteville has been doing a variety of research projects with anaerobic digestion for the last decade. Anaerobic digestion entails a process similar to composting, but without oxygen inside a container. This process leads to the same stable product, but produces natural gas that can be used as an energy source. This process can generate enough electricity (burn the natural gas) from every two to four cows for the average household. These projects have entailed working with dairy farmers to digest their cow manure along with other waste food and create markets for the byproduct.

The most recent venture has been to develop a sustainable industrial park. This park would be where industries process food and produce a variety of food waste that can be digested along with dairy manure to produce some if not all of the energy needed by these same industries. This project is currently securing interested parties and performing feasibility studies. If successful, it could recruit two to four new medium businesses to the area along with three to 10 start ups.

- **Long Term Agro-ecosystem Research:**

Agro-ecosystems are unique, diverse, and key to future security and prosperity. The over-arching challenge facing agricultural production is one of demand for increased production framed within long-term resilience and sustainability. Understanding the long-term fluxes of nutrient, water, and carbon within an agro-ecosystem is fundamental in ensuring a long-term sustainable future. The goal of the research program is to reduce scientific uncertainty and understand how an agro-ecosystem will respond to change in land use, management practice, and climate change drivers, and develop meaningful, integrated, economic, social, and institutional instruments for the implementation of long-term improved land and water resource use at the catchment, regional, and continental scale.



This will be accomplished through participation in the United States Department of Agriculture (USDA) Agricultural Research Service (ARS) Long Term Agro-ecosystem Research (LTAR)

network. The initial network includes 10 nodes strategically located across the United States, one of which is the Upper Mississippi River Basin (UMRB), a collaboration of four sites. The partnership includes the UW-Platteville Pioneer Farm Research Group and three USDA-ARS groups: the National Laboratory for Agriculture and the Environment in Ames, Iowa; the Soil and Water Management Research Unit in St. Paul, Minnesota; and the North Central Soil Conservation Research Laboratory in Morris, Minnesota. The Pioneer Farm Research Group is the only non-ARS facility included in the current network. This LTAR partnership will utilize previously established watersheds and other long-term studies at these locations in Wisconsin, Minnesota, and Iowa to provide new insights on agricultural sustainability and productivity in the Upper Mississippi River Basin.



- Hydrological Monitoring:**
 Pioneer Farm Research Group maintains one of the largest sites devoted to edge-of-field research in the world. Pioneer Farm Research Group has established a substantial infrastructure for monitoring surface and groundwater resources. Currently, there are 20 surface-water runoff gauging stations monitoring intermittent runoff (water quality) from agricultural catchments (that range in size from one to 74 acres)—all supporting paired-basin research projects. In addition to the surface-water monitoring efforts, 12 groundwater monitoring wells have been installed, each with nested piezometers. In addition, multiple rain gauges, lysimeters, soil moisture and temperature probes, and a perennial stream gauge are being brought online to compliment this research effort.

► **Engineering, Mathematics, and Science:**

- Nanotechnology Center for Collaborative Research and Development (NCCRD):**



NCCRD
 Nanotechnology Center for
 Collaborative Research and Development
 at the University of Wisconsin-Platteville

The NCCRD fosters innovation through collaboration, encourages high-tech business growth, trains students for

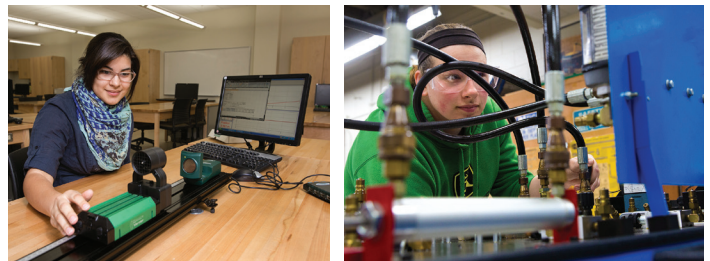
advanced jobs, and furthers the field of nanotechnology. The center is a joint initiative that identifies innovative technologies developed throughout the UW System and brings them to the marketplace.



- Microsystems and Nanotechnology:**
 Microsystems and nanotechnology prepares students for the rapidly developing field. UW-Platteville's program is among the first offered at a predominately-undergraduate institution. UW-Platteville is a member of the Sandia MEMS University Alliance, Sandia National Laboratory U.S. Department of Energy.

- Engineering, Mathematics and Science Recruitment and Retention Center:**

The center works collaboratively with campus resources to help bring qualified STEM degree-seeking students with an emphasis on women and underrepresented groups to campus and to provide tailored support to help students get from admission to graduation quickly and find job placements.



- STEM Scholars Project:**

The UW-Platteville STEM Scholars program will increase the number of students (emphasis on underrepresented populations) entering the College of Engineering, Mathematics and Science and retain them through graduation by providing scholarships.

The STEM Scholars program is a five-year program, annually awarding approximately 10 renewable scholarships of approximately \$3,800, increasing the cohort to 40 students in years four and five.

The Program Leadership Team oversees this new program, with UW-Platteville administration, support services, and faculty providing a structure of support services that facilitates a strong cohort; encouraging participation in structured networking opportunities including mentoring, advising, and research; promoting opportunities for students such as internships and co-operative education with industry; and supporting career selection and job placement.

Offering scholarships of significant amounts to STEM students will increase recruitment with emphasis on underrepresented populations, particularly as budgets and financial assistance are cut. The STEM Scholars program will focus current student support resources and create others to facilitate academic excellence in these individuals, as well as a cohort, which in turn will increase retention and graduation rates, thus adding more graduates in STEM careers. This program crosses STEM disciplines in building a cohort through various group activities, some of which are specific to interests particular to underrepresented populations. This diverse program may become a model for others to use.

- **Lois Cooper Scholars Program:**

The new (for fall 2015) UW-Platteville Lois Cooper Scholars Program aims to increase the number of distinguished underrepresented STEM graduates. Students selected for the program will benefit from the coordinated, comprehensive support, including a \$9,300 annual scholarship; extended orientation; and a faculty, staff and peer mentoring one-credit seminar course each semester focusing on academic and career development topics.



Lois Cooper (1931–2014) was a true pioneer, blazing many trails and accomplishing many "firsts" during her lifetime. It is for her enduring spirit, perseverance, positive example, and service to others that UW-Platteville honors her with the naming of the Lois Cooper Scholars Program. Among her accomplishments was helping to found the National Society of Black Engineers.

- ▶ **Undergraduate Research Support:**

- **Earth Sciences Laboratory:**

The UW-Platteville Earth Sciences Laboratory is a **National Science Foundation Research Experience for Undergraduate (REU)** site and conducts research across Wisconsin, the Great Lakes Region, and the United States. The undergraduate research focuses on reconstructing past environments to better understand current and future environmental change.



- **TREES Laboratory:**

The Tree-Ring, Earth, and Environmental Sciences Laboratory (TREES Lab) integrates teaching and research to provide UW-Platteville students opportunities to gain meaningful experience in research and inspire rigorous academic activity. Our facilities are equipped for tree-ring, sediment, and charcoal analysis research. The TREES Lab received grant funding from the **National Science Foundation (NSF)** and a collaborative research partner with the College of Menominee Nation.

UW-PLATTEVILLE QUICK FACTS

FOUNDED: 1866

CHANCELLOR: Dennis J. Shields

CAMPUS: 821 acres

- 400-acre education and research farm
- 20 academic and student services buildings
- 12 residence halls

UNDERGRADUATE COLLEGES:

- BILSA (Business, Industry, Life Science and Agriculture)
- EMS (Engineering, Mathematics and Science)
- LAE (Liberal Arts and Education)

ACADEMIC PROGRAMS:

- 41 majors
- 77 minors

TOP PROGRAMS:

- Agriculture
- Biology
- Criminal Justice
- Education
- Engineering
- Industrial Technology

TOTAL ENROLLMENT: 8,901 (includes Distance Education)

- Undergraduate: 8,047
- Graduate: 854

STUDENT/FACULTY RATIO: 23:1

AVERAGE CLASS SIZE: 25

STUDENT CLUBS AND ORGANIZATIONS: 200+

NCAA DIVISION III: WIAC

(Wisconsin Intercollegiate Athletic Conference)