



NASA MUREP MSI Exchange

Capability Statement

Institution: **Oakton Community College**

DUNS No: **969781769**

Cage Code: **1WCF9**

NAICS ID(s): **611210**

SIC: **8222**

Federal EIN No: **36-2917302**

Certificates, Registrations, Accreditations: **Participant of [Illinois Articulation Agreement](#)**

POC Information: **Gloria Liu, coordinator and co-director of Center for Promoting STEM**

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Overview

Located in Chicago's northern suburbs, Oakton Community College offers over 2,500 courses each term in 80 areas of study including sciences, technologies, engineering, technologies as well as health careers, business, and liberal arts. In addition to its campuses in Des Plaines and Skokie, Oakton offers courses and programs at some 240 off-site locations throughout the community. Offering distance-learning for approximately 25 years before pivoting 100% online during the height of the pandemic, Oakton continues to offer many online course options in nearly every subject.

Since the late 1990s, Oakton has engaged in various diversity, equity, and inclusion efforts including, most notably, the Anti-Racism Team (est. 2009), the Office of Access, Equity, and Inclusion (est. 2010), and the Diversity Council (est. 2011). Since the early 2010s, Oakton has been a member of Achieving the Dream, committed to transform community college institutions to promote the academic success of all students. More recently, Oakton established the Advancing Racial Justice in Student Learning and Success Team to further advocate for specific changes to processes, curriculum, and structures to restore students' racial justice.

Oakton's Internship Program connects students with internship opportunities and assists employers with identifying best fit interns for their internship positions. Oakton's Center for Promoting STEM collaborates with internal and external entities to increase STEM majors.

Facilities

In Oakton's engineering and manufacturing shared spaces, the first year engineering students design using Solidworks parametric software and build prototypes using additive fabrication and other tools in the model shop. In addition, the approximately 200 students in the pipeline pursuing an engineering major take the equivalent of the first two years of an engineering transfer program (mechanical, electrical, computer, civil, etc.). At the Des Plaines campus, the Lee Center houses classrooms and labs for biology, anatomy & physiology, chemistry, and physics as well as for physical therapy, phlebotomy, and nursing which includes a simulation hospital. Chemistry equipments include two Hitachi tabletop scanning electron microscope, multiple UV-vis spectrometers, analytical balances, three infrared spectrometers, research-grade polarimeter, two Vernier polarimeters, gas chromatograph, HPLC with UV-vis detector and autosampler, and fluorescence microscope.



Research Capabilities

Highlights of a few of Oakton STEM faculty include Joe Kotowski, chair of engineering, teaching interests include mechanical design with additive manufacturing, mechanics and computer aided design and manufacturing. Jeff Cabay specializes in plastics design and manufacturing. As Oakton's lead computer science faculty, Ivan Temesvari has an extensive background in programming and cyber security. Overseeing the environmental science program is Dr. Paul Gulezian who studies native area plants. Dr. Suzi Ziegenhorn, Dr. Gary Mines, and Melodie Graber co-lead the BIO/CHM240 undergraduate research course. Kristie Zenchek runs the lab assistant internship program. Dr. Kalpa Patel previously conducted cancer research. Dr. Chad Landrie led a student research project on biofuel.

Past Performance

As a recipient of multiple public and private grants, Oakton collaborated with many entities including area high schools, colleges, and universities, area companies and businesses, professional organizations, as well as out-of-state entities. Of note, Oakton received a number of National Science Foundation (NSF) awards including the STEP grants (DUE-0230682 and DUE-0622329) to increase the number of students pursuing a STEM degree, S-STEM grants (DUE-0728432, DUE-1833924) to provide financial and academic support of STEM students, as well as other NSF grants totaling over \$4.1 million. Oakton received ATE grants (DUE-1800186) to improve supply chain education and (DUE-1304016) to develop remote technology to support nanotechnology education and training. Oakton also collaborated with Riverside Community College in ATE grants (DUE-1104176 and 1601452) for The National Center for Supply Chain Technology Education.

Since the late 1990s Oakton offered research and project based courses starting with the biology and chemistry Undergraduate Research (BIO240 and CHM240) courses in which students learn to read research papers, develop their own research questions, design and conduct experiments based on their hypotheses, and form conclusions from the gathered research and results. In BIO/CHM240 courses, students explored various topics including examining the efficacy of ginger extract on reducing/eliminating biofilm and determining the conditions that fosters/inhibits the growth of the invasive buckthorn plant. In the early 2010s, with support from NSF STEP grant DUE-0622329, Oakton offered independent study project courses exploring topics such as fine-tuning the process of growing cancer cells in a lab setting, reducing environmental hazards of plant-based fuel manufacturing, and the mutation of the swamp white oak in Oakton's surrounding forest preserve. Another independent study project courses established the Oakton Robotics Team which competes annually in the NASA Robotics Mining Competition against predominantly four-year colleges and universities. In 2016, the Oakton Robotics Team was awarded 2nd place in the competition out of over 40 teams. Former members of the robotics team established a robotics team at University of Illinois at Chicago and Illinois Institute of Technology to participate in the same competition. For a heat exchange project, Oakton was a finalist in 2017 and awarded second place in 2018 in the Community College Innovation Challenge sponsored by the NSF and American Association of Community Colleges.



Oakton Robotics Team
NASA Robotics Mining Competition, 2017