Special Academic Opportunities

Montana State University offers numerous opportunities for unique and special academic opportunities through classroom learning, research experiences, study abroad, internships, interdisciplinary programs, and community engagement opportunities.

MSU students learn in the classroom, lab, studio and field through a hands-on student centered curriculum that integrates learning, discovery and engagement in and out of the classroom.

Innovative and significant research and creative activities are a recognized hallmark of MSU, where faculty, students, and staff all participate in the creation of knowledge and art.

Engagement is the collaboration between MSU and its local, state, national, and global communities for the mutually beneficial exchange of knowledge and resources in a context of partnership and reciprocity (Carnegie Foundation, 2006). Engagement, a form of scholarship that bridges teaching, research, and service brings the university intellectual resources to bear on societal needs. (Association of Public and Land Grant University’s Council on Engagement and Outreach, APLU CEO).

Learning

MSU students learn in the classroom, lab, studio and field through a hands-on student centered curriculum that integrates learning, discovery and engagement in and out of the classroom.

INTERLINK Language Center
http://www.montana.edu/international/admissions/language_instruction.htm

The INTERLINK Language Center on the campus of Montana State University provides intensive English language training, cultural orientation, and academic preparation for students whose native language is not English. Offering six proficiency levels, the program helps meet the English language admission requirements. Admission to the program is open to applicants who have completed secondary school with a C+ or higher average. The program is authorized to issue forms I-20 to students coming from outside the United States who wish to apply for an F-1 student visa and demonstrate that they can cover their educational and living expenses.

Working closely with the MSU Office of International Programs, INTERLINK also assists with conditional admission (https://interlink.edu/distinctions/conditional-admission) for academically qualified students. Students who satisfy all other admission requirements other than English language proficiency may qualify for full admission to the university, once they successfully complete the program and receive the Center Director’s recommendation.

For information, visit www.msu.interlink.edu (http://www.msu.interlink.edu) or contact the office at 1 (406) 994-3807.

Acoustic Atlas
http://www.acousticatlas.org

The Montana State University Library’s Acoustic Atlas is a free online archive of natural sounds of Montana and the American West. The Acoustic Atlas documents natural soundscapes that are increasingly impeded by human activity and connects people with the sounds of regional ecosystems and biodiversity. The collection and study of animal sounds informs research in the media arts, human health, education, engineering, philosophy, and the social sciences. Hear the rumbling snorts of bison, the murmurs of a Yellowstone mudpot, the eerie booming of a sage grouse and other amazing sounds.

Bob Miller Pavilion
http://animalrange.montana.edu/facilities/eqespav.html

The Bob Miller Pavilion provides indoor and outdoor equestrian facilities for MSU’s Equine program. The Pavilion is also home to the MSU Youth Horsemanship School each summer.

Bozeman Agricultural Research and Teaching Farm (BART Farm)
http://animalrange.montana.edu/facilities/

The Bozeman Agricultural Research and Teaching Farm is located west of the MSU campus, comprises 474 acres and includes: Towne’s Harvest Garden, The Oscar Thomas Nutrition Center, Miller Pavilion, Horseshoeing School and the MSU Horticulture Farm. BART also has a research feedlot, the Calan gate facility, a GrowSafe system, feedmill and an artificial insemination building. Surrounding pastures and hayfields help support the animals (beef cattle, sheep, horses) housed there. The farm is dedicated to the service and support of research, teaching and extension activities relating mainly to animals and animal management.

Bracken Center for Undergraduate Excellence
http://www.montana.edu/business/bracken/

The Bracken Center, in the Jake Jabs College of Business & Entrepreneurship (JJCBE) houses numerous programs that enable students to get the assistance they need to excel academically and professionally. The Center hosts many events focused on recruiting, networking and professional development such as:

- **Student Organization Events** - The Bracken Center supports six student clubs and organizations (Beta Alpha Psi/Accounting Club, Finance Club, International Business Club, LaunchCats - jointly with Blackstone LaunchPad, Management Club, and a new chapter of American Marketing Association at MSU). These groups host guest speakers, recruiting, and networking events.
- **Bracken Business Communications Clinic (BBCC)** - The clinic provides one-on-one written and oral communication support to students enrolled in any business course. Assistance includes basic grammar, punctuation, sentence structure, business themes, content and organization of material. These skills can be applied to writing resumes, executive summaries, memos, articles, papers and more.
- **Meet the Recruiters/Meet the Accounting Recruiters Fairs** - JJCBE hosts two recruiting fairs in the fall for all business students. These events provide a place to network with future employers and to secure interviews. Students dress professionally, network, and share resumes and business cards with prospective employers. More than 70 local and national companies, accounting firms and non-profit organizations are represented each year.

Cereal Quality Laboratory
http://plantsciences.montana.edu/cqlab/

The Montana State University Cereal Quality Laboratory (CQL) researches the end-use properties of cereal grains. Emphasis is on flour milling and bread-baking traits of hard red and hard white wheats. The CQL cooperates with wheat breeders, field technicians, research center scientists, and others to ensure that high-quality wheat is released and recommended by the Montana Agricultural Experiment Station.

The EMPower Minority Program
http://www.montana.edu/empower/
The Engineering Minority Program (EMPower) encourages the involvement of women and minorities in the field of engineering. EMPower provides services to groups underrepresented in engineering, including scholarships, tutoring, mentoring and seminars.

**Academic Technology and Outreach**  
http://ato.montana.edu

**Academic Technology and Outreach (ATO)** assists MSU in advancing excellence in teaching, learning, research and public engagement. ATO services are organized into three main categories:

- **Teaching and Learning Technologies** supports students, instructors, and administrators by creating and maintaining rich environments promoting active learning. It continually improves existing technologies and enhanced learning spaces while exploring educational innovations for the future of MSU’s teaching and learning ecosystem.
- **Continuing, Professional and Lifelong Learning** offers several graduate degrees and select undergraduate courses online and via video conferencing. Non-traditional programs are offered in partnership with Extended University and MSU academic departments. Program offerings include a variety, certificate, degree and professional development programs.
- **Office of Continuing Education** courses extend the educational resources of the University to the citizens of Montana and beyond. Credit and non-credit courses are offered at various locations across the state. Increasingly, instruction is provided through the use of distance learning technologies, such as video conferencing and web-based online courses.

**International Programs**  
http://www.montana.edu/international/

Responding to fundamental trends that further integrate the United States and Montana into the global marketplace and increase daily contact with other nations, Montana State University seeks to embed international education into the core of the university’s academic and cultural life. The Office of International Programs (OIP) offers a full range of programs and services for MSU students, faculty, and staff.

OIP is responsible for developing and maintaining a network of international partnerships that align with and advance MSU’s academic, research and outreach priorities. At present, MSU maintains active partnerships with over 100 universities throughout the world. These partnerships provide opportunities for study abroad and exchanges, collaborative research, and outreach and service learning opportunities around the globe. OIP provides high quality educational opportunities abroad for MSU students at 250 universities in more than 50 countries.

OIP facilitates programs and services that support the recruitment and retention of talented students from around the world. MSU encourages qualified students from other nations to enroll in its academic programs on a degree-seeking, non-degree, or exchange basis. International students enrich our campus by exposing MSU students, faculty and staff to the diverse cultures, traditions and ways of knowing of other nations. In order to enable international students to succeed at MSU, OIP offers advising on cultural adjustment, immigration regulations, and academic and personal matters; cultural-sharing programs designed to integrate international students with domestic students and the Bozeman community; and instruction in English as a second language through the INTERLINK Language Center.

OIP assists faculty to engage in the international and global dimensions of their academic discipline. OIP provides information and assistance to members of the faculty who wish to conduct research abroad, participate in a faculty exchange program, or develop international dimensions to their courses. OIP also provides employment-based immigration services to MSU’s academic and administrative units, enables MSU faculty to host international researchers, professors and scholars, and facilitates short-term training programs for international students and professionals. These programs serve to build and maintain long-lasting, cross-cultural relationships.

OIP reports to the Office of the Provost and works closely with the MSU International Programs Committee.

**Montana Dietetics Internship**  
http://www.montana.edu/ihd/nondegree/program.html

Food and Nutrition students who want to pursue a career in dietetics have the opportunity to complete a post-baccalaureate level dietetic internship in Montana, the only program of its kind in the state.

**MSU Library**  
http://www.lib.montana.edu

The MSU library is a hub for knowledge and resources including:

- **Library Workshops** - The library offers online and in-person workshops on library research, citation management, library databases, Microsoft Office, cloud computing, research impact and many other topics.
- **Tech Checkouts at the MSU Library**  
  http://guides.lib.montana.edu/techcheckouts - The MSU Library offers a variety of technologies available for checkout to support your academic and adventurous needs, from laptops and digital recorders to video cameras and tripods.
- **Library Research Assistance** - The library offers the Research Assistance Program (RAP) for research consultations with your subject librarian. Work with an expert reference librarian to talk about ideas, search options, strategies, databases, citations, search terms and any other research questions you have.
- **IT Services in the Library** - The IT Services Desk in the Library Commons offers a one-stop resource for help connecting to all campus network resources: secure wireless network, student email, printing, file shares, as well as general software support. IT Services also offers hardware repair (Apple and Dell certified) for laptops.
- **ScholarWorks**  
  http://scholarworks.montana.edu/xmlui/ - ScholarWorks is an open access institutional repository for the capture of the intellectual work of Montana State University in support of its teaching, research and service missions. MSU ScholarWorks is a central point of discovery for accessing, collecting, sharing, preserving, and distributing knowledge to the MSU community and the world.

**Indian Leadership Education and Development (I LEAD) Project**  
http://www.montana.edu/education/ilead/

The I LEAD project recruits, educates, certifies and place American Indian educators into administrative positions in schools with high populations of Native American students. The program culminates with a graduate degree in Educational Leadership and certification as a school principal or superintendent. The curriculum focuses on local school improvement initiatives through problem-based learning assignments. Each candidate will be assigned a mentor who is an experienced administrator in schools with high populations of Native American students. Classes will be delivered during the school year using computer-based instruction and summer classes held on the MSU campus at Bozeman, Montana. All participants must agree to serve as
administrators in schools serving Native American children for a period of time equal to the length of their education and training.

**Math Learning Center**
http://www.math.montana.edu/undergrad/mlc.html

The Math Learning Center, a tutoring center for students taking some 100 and 200 level classes, employs qualified undergraduates as math tutors. The department also maintains a computer lab for student to use and employ undergraduates as staff for the lab.

**National Student Exchange**
http://www.montana.edu/universitystudies/nse/

The National Student Exchange (NSE), a consortium of nearly 200 universities, offers students the opportunity to study at another university for up to one year. By bringing together students from different areas of the country, the NSE encourages participants to broaden their academic, social and cultural awareness. Through a simplified admissions process, students are able to enroll at a host institution with the same financial benefits enjoyed by in-state residents. Credits and grades are recorded at Montana State University as a part of the student’s permanent transcript.

**Nursing Facilities and Equipment**
http://www.montana.edu/nursing/

The College of Nursing offers state of the art simulation technology such as a 3G Simulation Mannequin at all campus sites in addition to extensive clinical experience in local hospitals and rural/under-served settings like the Fort Peck Reservation in northeast Montana.

**Plant Growth Center**
http://ag.montana.edu/pgc/index.html

The Plant Growth Center comprises 60,000 square feet with 29 glasshouse rooms that are light and temperature controlled. The center also houses the only bio-containment facility west of the Mississippi River for quarantining and testing insects and plant pathogens.

**Summer Session**
http://www.montana.edu/summer/

The MSU Summer Session program provides a variety of classroom, outdoor, and online opportunities for students to advance or complete their educational goals. Offerings include undergraduate core classes, science and mathematics courses designed to meet the academic needs of pre-med students, summer master’s degree programs and outdoor courses in photography and wildlife.

**TEAL Classrooms**
http://www.montana.edu/aus/pdc/projects/allPrjs/TECHEnhancedActiveLearningClassrooms/

The Technology Enhanced Active Learning (TEAL) classrooms enable undergraduate and graduate students from all eight of MSU’s colleges to collaborate on assignments during class hours in a high-tech space equipped with flat screens and data ports for laptop computers. A key feature of a TEAL classroom is the “flipped” structure of the course so students read or view lecture materials outside of class and actively solve problems in class. This innovative new teaching method and incorporation of technology helps students actively engage in their learning.

**The Writing Center’s Peer Tutoring Program**
http://www.montana.edu/writingcenter/

The Writing Center’s Peer Tutoring Program offers undergraduate students the opportunity to build their writing skills. In addition to working directly with student writers from across the university, peer tutors also collaborate with faculty, fellow tutors and Writing Center staff to develop resources for writers, provide course-specific writing support, participate in outreach projects and conduct original research. Tutors do intensive, ongoing training and development, and have the chance to engage in Writing Center scholarship, and travel to regional and national conferences.

**Discovery**

Innovative and significant research and creative activities are a recognized hallmark of MSU, where faculty, students, and staff all participate in the creation of knowledge and art.

**American Indian Research Opportunities (AIRO)**
http://www.montana.edu/wwwai/

AIRO is a consortium of Montana’s seven tribal colleges and Montana State University dedicated to increasing the number of Native Americans entering higher education and career fields where they are significantly underrepresented. AIRO provides Native students the opportunity to excel and serve as role models for their peers through two summer research experiences:

- **The Bridges** program builds a seamless educational experience between Montana’s seven reservation-based colleges and MSU and seeks to increase the number of Native American students successfully transferring from two-year tribal colleges to MSU and pursuing academic studies in biomedical and other health related sciences.

- **The Montana Apprenticeship Program (MAP)** is a six-week summer immersion for underrepresented minority high school students that provides rising sophomores, juniors and seniors their first taste of college life and hands-on science research experience with MSU faculty mentors. The goal of MAP is to inspire young people to pursue college degrees and increase the number of Native American and other underrepresented high school students entering the fields of science, technology, engineering, and math (STEM).

**Architecture Fabrication Laboratory**
http://arch.montana.edu/students/facilities.html

The School of Architecture has a wide array of digital fabrication equipment including two computer numerically controlled (CNC) milling machines, laser cutting machines, 3D printers, large format scanner and plotter as well as a fully equipped wood lab, welding space, glass kiln and plasma cutter.

**The Center for Biofilm Engineering**
http://www.biofilm.montana.edu/

The Center for Biofilm Engineering (CBE) has been a world leader in biofilm research for more than 20 years. The center’s emphasis on research, education, and industry continues to produce results and provides exciting opportunities for students, staff, and faculty—as well as industrial partners. Multidisciplinary research teams develop beneficial uses for microbial biofilms and find solutions to industrial problems—think dental plaque or gunk in pipes. In the CBE, students get a head start on their careers by working on research teams led by world-recognized biofilm experts.

**The Experimental Program to Stimulate Competitive Research (EPSCoR)**
http://mtnsfepskor.org/index.php
EPSCoR is a federally-funded program to promote the development of science and technology capacity in the United States. Funded by the National Science Foundation (NSF), Montana NSF EPSCoR supports capacity building by investing in researchers and institutions to better position them to compete for federal research funds. Students and faculty work together to build infrastructure and capacity for research programs that enhance learning and build the economy.

**Health and Human Development**
http://www.montana.edu/www/hhd/

Health and Human Development has numerous unique equipment and facilities for student research projects:

- **Exercise Science** students work with professors to conduct ski research at Bridger Bowl Ski Resort and also help conduct fitness testing for alpine and cross-country ski teams.
- **The Bod Pod**, a piece of equipment that looks like a giant egg, is enabling professors and students in nutrition and exercise science to gather body composition data that may help people fight chronic diseases such as heart disease and diabetes.
- **The Movement Science Human Performance Lab** houses a giant treadmill, the largest in the northwest, capable of measuring Nordic ski performance.

**Image and Chemical Analysis Lab - iCAL**
http://www.physics.montana.edu/icall/

iCAL is a user oriented facility that supports basic and applied research and education in all science and engineering disciplines at MSU. The laboratory provides access to state of the art equipment, professional expertise and individual training to government and academic institutions and the private sector. Laboratory instrumentation is dedicated to the characterization of materials through high resolution imaging and spectroscopy. ICAL promotes interdisciplinary collaboration between the research, educational and industrial fields.

**Montana INBRE (IDEA Network for Biomedical Research Excellence)**
http://brin.montana.edu

Montana INBRE is funded by the National Institutes of Health (NIH) and supports students’ biomedical research and student success through a statewide network. Montana INBRE focuses on increasing the biomedical research capacity of Montana by building research infrastructure, supporting faculty and student research, and fostering a state-wide collaboration.

**Montana Institute on Ecosystems**
http://www.montanaioe.org/

The Institute on Ecosystems (IoE) is a multi-institutional community dedicated to understanding complex ecosystems and the interconnectedness of people and nature. IoE researchers study the vulnerability of landscapes and livelihoods to the effects of climate change, and the IoE supports students who explore the effects of climate change in sustaining healthy ecosystems and economic growth. The IoE has hubs at MSU and the University of Montana and collaborates with other Montana institutions and partners.

**Montana Space Grant Consortium (MSGC)**
http://spacegrant.montana.edu/

The Montana Space Grant Consortium (MSGC) was established in 1991 as a component of NASA’s National Space Grant College and Fellowship Program. The Montana program is one of a national network of 52 consortia, working to strengthen aerospace research and education in the United States. Montana State University is the lead Institution of MSGC, which has eighteen additional academic affiliates across Montana, as well as other educational and industrial members. MSGC offers a variety of programs to support students and faculty wanting to pursue activities consistent with NASA’s interests.

**Museum of the Rockies**
http://www.museumoftherockies.org/

The Museum of the Rockies seeks to understand, preserve and interpret the natural and cultural history of the Northern Rocky Mountain Region. Known for its vast collection of dinosaur fossils, the Museum houses some of the most famous dinosaur specimens in the world including Tyrannosaurus rex and Triceratops. The Museum of the Rockies is both a college-level division of Montana State University (http://www.montana.edu) and an independent 501(c)(3) nonprofit institution. Accredited by the American Association of Museums (http://www.aam-us.org), MOR is one of just 776 museums to hold this distinction from the more than 17,500 museums nationwide. The Museum is a Smithsonian Affiliate and a Federal Repository for fossils.

**Robotics Lab**
http://www.coe.montana.edu/ee/rmaher/ee101/ecebot/

Students interested in robotics have many exciting opportunities, whether they major in computer science or engineering. MSU students have won top awards in various competitions including, NASA’s Lunabotics competition and the Robo Olympics.

**The Space Science and Engineering Laboratory (SSEL)**
https://ssel.montana.edu/

The Space Science and Engineering Laboratory (SSEL) enables students and faculty to design and build equipment that NASA has launched into space. Data has been collected from an MSU satellite in orbit since 2011 and from two launched in 2013. SSEL strengthens MSU’s solar-terrestrial physics, microelectronics, optics, composite and ultra-light structures, biofilms and remote sensing programs.

**The Spectrum Lab**
http://www.spectrum.montana.edu/

The Spectrum Lab advances the opto-electronic technologies emerging from the research laboratories of Montana State University and fosters their transition to Montana companies and in the process provides enhanced educational opportunities for undergraduate and graduate students. The Spectrum Lab:

- Performs advanced research and development on MSU grown photonic technologies.
- Establishes and maintains university-corporate partnerships to effect the transfer of these technologies into Montana companies.
- Provides enhanced educational and employment opportunities for Montana undergraduate and graduate students, enabling students to perform team-oriented, goal-driven, time-critical research and development.

**The Subzero Science and Engineering Research Facility**
http://www.coe.montana.edu/ee/subzero/

The Subzero Science and Engineering Research Facility is a unique, state-of-the-art suite of labs used to study the effects of the cold on projects across many scientific disciplines. MSU is known worldwide for avalanche research, and this lab expands the study of how cold affects athletes, agriculture, transportation and rare life forms.

**Thermal Biology Institute (TBI)**
The Jake Jabs College of Business and Entrepreneurship
http://www.montana.edu/cob/

The Jake Jabs College of Business and Entrepreneurship offers additional hands on learning programs and professional development opportunities such as:

- **Student Clubs** - Students can join a variety of student clubs where they can build their professional skills and learn from experts in their fields, perform community service, collaborate on projects and compete at regional competitions. The Student Entrepreneurs...
in Action club gives back by helping link students with internship opportunities.

- **Service Learning Courses** – Students are paired with local businesses and community to gain real world experience. Courses such as Volunteer Income Tax Assistance (VITA) program enable students to become trained to assist lower income individuals file their tax returns.

- **Seminars** - Engage with local business experts and entrepreneurs through one-of-a-kind mentoring and face-to-face interactions with veteran business people and entrepreneurs.

- **Speaker Series** – Experts in business present at the Orser lecture each year.

**Music Concert Tours**
http://www.montana.edu/music/ensembles/

The School of Music offers concert tours, both foreign and domestic where students can perform music and see the world. The School of Music offers numerous opportunities for students interested in music such as choral performances in Venice, performing in a jazz band in Prague, or doing a half-time show with the Spirit of the West Marching Band in front of 20,000 fans.

**Nursing Students** have a variety of engagement opportunities such as:

- **International Opportunities**: Nursing students have the opportunity to travel nearly every semester to places like the Dominican Republic, Ecuador and Honduras. The College of Nursing partners with Timmy Global Health to provide global opportunities designed specifically for nursing students. Student nurses typically see up to 120 patients each day and provide basic health assessments, HIV screenings, wound care, dental screenings, health education and pre-natal care. http://www.montana.edu/nursing/undergraduate/international.html

- **Research and Creative Opportunities** - Students are able to join their professors in research and service projects across Montana and in partnership with Montana’s seven tribal nations. Some of the research interests within the college include end-of-life decision-making, health disparities, environmental health, oral health, and gerontology.

**Service Learning**

Students learn best when they engage with not only the material but also the broader community.

- **Domestic** - Students actively enhance their class and field experiences by getting involved in a variety of community organizations. Service learning opportunities exist with a number of local organizations including: Arts Without Boundaries, Big Brothers/Big Sisters, Heart of the Valley Animal Shelter, Gallatin Valley Food Bank, Montana Outdoor Science School and Cancer Support Community.

- **International Opportunities** - Service learning opportunities abound and many include international travel. Whether it is through a student organization, part of a class or a customized experience that meets your interests, service learning entails applying information from a class in authentic settings while addressing real community-identified needs.
  - Nursing Students provide basic health screenings in remote areas of South America
  - Engineering students construct wells for clean drinking water in Kenya
  - Architecture students build straw bale houses in Morocco.

**Study Abroad**

MSU encourages students to study abroad, both to build the international skills that are increasingly needed in all professions, and for the intrinsic educational value of studying outside one's home country.

In addition to hundreds of study abroad options for individual students, numerous special programs are developed by MSU faculty members which allow groups of MSU students to travel and study abroad. Students earn full credit while participating in MSU-sponsored study abroad programs, and in most cases can maintain regular progress toward their MSU degree while studying abroad. Some MSU-approved study abroad experiences also satisfy the University Core Curriculum Multicultural/Global or Diversity requirement. These decisions will be made on a case-by-case basis.

Fees for many study abroad programs are based on MSU tuition rates, enabling students to study abroad for little additional cost than remaining on the Bozeman campus. In addition, students eligible for financial assistance may apply their aid package to meet study abroad costs.

**Towne’s Harvest Garden**
http://townesharvest.montana.edu/

Students in sustainable food and bioenergy systems and food and nutrition gain hands-on experience at Towne’s Harvest Garden, the university’s teaching and research garden, growing local and sustainable produce for the community, the local food bank, and the community food truck.

**Women in Engineering**

The Women in Engineering (WIE) program provides female undergraduate and graduate students a supportive, vibrant community in which to learn and thrive, as professionals and individuals. WIE includes faculty and students from all engineering disciplines who share a passion for helping women engineers succeed at MSU and in their careers. Program benefits include scholarships, mentorship and opportunities to collaborate with role models in industry and academia.
Font Notice

This document should contain certain fonts with restrictive licenses. For this draft, substitutions were made using less legally restrictive fonts. Specifically:

Times was used instead of Adobe Garamond Pro.

The editor may contact Leepfrog for a draft with the correct fonts in place.