NDSU | COLLEGE OF
SCIENCE AND MATHEMATICS

2022-2027

STRATEGIC INITIATIVES

NORTH DAKOTA STATE UNIVERSITY

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The College of Science and Mathematics strategic initiatives are organized around the five goals of the NDSU Strategic Plan for 2021-26: "Our Future: Innovation, Outreach and Education."

1. Diversity, inclusivity and respect
2. Student success and achievement
3. Research and creative activities
4. Education, extension and outreach
5. Resource planning and development

Purpose of 2022-27 Strategic Initiatives Plan
The CSM Strategic Initiatives Plan is a living document, which will be reviewed and updated annually. The purpose of the plan is to guide departmental initiatives that may promote and strengthen the college and the university and to encourage and facilitate engagement and collaboration among departments. Based on outcomes and evidence, the action items will be regularly evaluated and adjusted to best address and achieve the goals.

CSM Mission
The mission of the College of Science and Mathematics is to provide support for the land-grant mission of North Dakota State University by promoting learning through innovative pedagogies, supporting research that advances the sciences and building partnerships and programs to improve society.

CSM Vision
The college will achieve the mission through innovative research, teaching, outreach and programs that are open and welcoming to all, and through building pathways that empower people to pursue their passions and contribute to a positive future.

CSM Commitments
- Excellence – designing and supporting basic and applied research and teaching activities and programs that advance knowledge and prepare students to become critical thinkers and global citizen leaders in the STEM fields.
- Making a difference – developing and applying innovative teaching practices that integrate research to promote the common good and to create a learning community that is reflective of our diverse, interdependent world.
- Inclusivity and equity – nurturing awareness that mobilizes collegewide efforts to foster meaningful relationships, reducing inequities across differences, including diverse cultural communities, identities and competencies.
- Relevance – leading research for scientific advancement, discovery and understanding for the common good.
- Respect and integrity – respecting, engaging and listening to faculty, staff, students and stakeholders; holding to our principles and ideals and fulfilling our commitments.

ACTION ITEMS

Action items are in priority order based on feedback from faculty, staff and students.

1 Diversity, Inclusivity, Equity, Respect

Maximizing representation, having a diverse student body, faculty and staff, and promoting belonging are critical to the missions of the college and NDSU and to the core mission of exploration and discovery in a connected world. We are committed to identifying and removing barriers for a just academic experience and a healthy research community. This commitment is at the forefront of each goal for the college.

Improve workplace culture and transparency.
1. Assess existing data from NDSU surveys and collect demographic data to improve workplace culture, infrastructure and program needs in the college.
2. Review and develop all departmental and college policies to uphold and strengthen principles of inclusivity, equity, respect and transparency.
3. Conduct listening events to improve transparency and facilitate communication.

Cultivate an active recruiting plan that includes students, faculty and staff from all groups.
1. Identify reciprocal relationships among high schools to recruit students from all groups, including those historically marginalized in STEM.
2. Facilitate and reward involvement with the Nurturing American Tribal Undergraduate Research and Education (NATURE) program.
3. Promote and incentivize engagement of faculty and staff in campuswide trainings and workshops that address issues of diversity, equity, inclusivity and respect.

Cultivate a climate of respect, value and support for all researchers.
1. Develop collegewide professional development and mentoring programs to advance and retain faculty, graduate students, post-docs and research staff.
2. Support diverse research approaches and value them in PTE processes (e.g., multi-PI collaborations, interdisciplinary teams, etc.).
3. Establish competitive, sustainable graduate research and teaching assistantships.

2 Student Success and Achievement

Enhance student success through innovative and effective instruction and through enriching educational and research opportunities, both inside and outside the classroom.

Identify and eliminate barriers to student success and achievement inside and outside the classroom.

1. Develop and implement college best practices undergraduate advising model.
2. Develop, implement and promote "CSM: Science and Mathematics Investigative Learning Experiences (SMILE)," e.g., intentional programs that build with student development, undergraduate research, internships, professional exploration, research honors program.
3. Establish collegewide opportunities and experiences for underrepresented groups.

Improve our students' academic success and career preparedness with essential benefits, outcome-based, experiential learning opportunities and vital student-support services.

1. Seek funding for graduate student health insurance from Graduate School and CSM.
2. Develop a college Undergraduate Research Honors Program.
3. Expand and improve online and HyFlex general education course offerings, certificate programs, 4+1 MS degree programs and non-degree-seeking offerings.

3 Research, Scholarship and Creative Activities

Engage in basic and translational research and increase the quality and quantity of scholarly activities to generate new insights and knowledge that will benefit society and address central challenges of our global future.

Provide support for the full life-cycle of proposals, grants and contracts.
1. Continue to improve pre-award proposal support to reduce barriers to submission.
2. Expand support for post-award activities.
3. Open forums and continued discussions with VPRCAT and Grants Office about how we can make the application and spending a more copacetic process.

Support faculty to establish and grow successful and transformative research programs.
1. Better support and encourage faculty development (sabbaticals, workshops, panels).
2. Encourage, evaluate and reward collaborative research proposals.
3. Support and grow high-impact research programs, including discipline-based education research.

4+5 Education, Extension, Community Outreach and Resource Planning

Provide innovative, student-centered, high-quality education and conduct transformative research that impacts the state through meaningful outreach.

Raise college visibility and involvement in the broader scientific community.
1. Support and build relationships with industry, national labs and governmental agencies to provide internships and create opportunities for students.
2. Invest in more focused outreach, targeting entities such as state decision makers, statewide business partners and identify NDSU/state research connections.
3. Assess the effectiveness of current outreach activities and programs.

Develop College of Science and Mathematics unique identity.
1. Showcase major research accomplishments of college faculty, staff and students.
2. Advertise achievements of college faculty, staff, and students through NDSU communication channels and track engagement on social media.
3. Profile college student and faculty researchers and historical figures from underrepresented groups during each semester.

Attract new students by promoting student success prior to admission to NDSU.
1. Identify reciprocal relationships among school districts, teachers, Office of Teaching and Learning, TRIO, college faculty, such as dual degree high school credits.
2. Substitute ACT and SAT scores with grades and more meaningful metrics for admission.
3. Support and assess the effectiveness of current next generation programs.

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