



Biennial Review

2019-2021



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Top: BSC’s 2- and 4-yr Cybersecurity programs combine in-depth study with practical, technology-based skills training. This experiential learning approach is a unique characteristic of BSC as a polytechnic institution. The ongoing education partnership with global cybersecurity leader Palo Alto Networks is a key component of applied learning in cyber education. In Spring 2020, BSC Cyber programs saw a 43% enrollment increase and another 63% increase in Fall 2020.

Back Cover: Among Dakota College at Bottineau’s many programs, photography has also been popular ever since its inception seven years ago. The unique career and technical program combines classroom instruction with hands-on experience to train students, such as outings like that pictured to Theodore Roosevelt National Park.

State Board of Higher Education

The State Board of Higher Education is the policy-setting and advocacy body for the NDUS and the governing body for its 11 colleges and universities. It also oversees the NDSU Extension Service and Agricultural Research Stations, Northern Crops Institute, State Forest Service and the Upper Great Plains Transportation Institute. The SBHE is made up of seven citizen members appointed to four-year terms by the governor and one student appointed by the governor to serve a one-year term. The Council of College Faculties selects the board's non-voting faculty advisor, and the NDUS Staff Senate selects the board's non-voting staff advisor.



Nick Hacker
Chair, SBHE



Dr. Casey Ryan
Vice Chair, SBHE



Kathy Neset
Member



Jill Louters, Ed.D.
Member



Danita Bye
Member



Tim Mihalick
Member



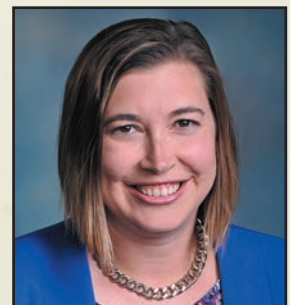
Dr. John Warford
Member



Emily Solberg
Student Member



Liz Legerski, Ph.D.
Faculty Advisor



Retha Mattern
Staff Advisor



“Higher education is at the center of a major challenge, and we need professors, staff, and financial resources combined in innovative ways to meet the changes of our times.”

Mark R. Hagerott, Ph.D.
Chancellor
North Dakota University System

Rising through challenges

Thank you for taking time to read about the North Dakota University System (NDUS) and your State Board of Higher Education (SBHE) goals and plans for today and the future. As recent trends have shown both here in North Dakota and across the nation, higher education has never been so important and essential to creating new knowledge, improving the welfare of our students and citizenry, and in transforming our business workforce.

Our state’s unified university system continues to respond at speed and scale to the needs of the state, while at the same time allowing remarkable latitude for campus-level innovation. That was true before the pandemic and it remains true through these challenges which one year ago were unprecedented. A monumental push was done to keep our students active in their programs at the beginning of the pandemic. Thanks to the tremendous work of our faculty and staff, more than 11,000 courses were taken online to ensure our students remained safe and with access to their programs of choice.

Thanks to CARES Act funding, the NDUS’ total Coronavirus Relief Fund allocation was \$61.4 million. Dollars were approved in the following categories: Compliance with Public Health Measures and Public Health and Safety Expenses. The former included \$47.7 million for adopting new technologies to facilitate distance learning and telework; adapting a Hybrid Flex instructional model; expanding instructional design resources to develop high quality online courses; expanding behavioral health services available to students; and other necessary physical distancing measures. The latter included \$13.7 million for medical and protective supplies and for staff, faculty and students; expanded cleaning and disinfection of public areas & facilities; COVID testing expenses; and housing and dining costs for individuals in quarantine or isolation.

Without that support our students, faculty and staff would have been facing a dire situation. Thanks to that funding, we were able to adapt to a new normal that



Each of the 11 public colleges and universities within NDUS operates as part of a team — a system of higher education devoted to giving students of all kinds the education they want, where and when they want it, from trades to two-year degrees to four-year and doctoral programs, NDUS has what you're looking for.

will likely continue until widespread vaccination has occurred for all those who want it.

We thank all our supporters, our Governor, and especially our legislators who have provided the means to build and maintain our system of colleges and universities. But make no mistake, while there is much good going on, the need to continue to adapt and innovate is urgent and relentless, and your State Board of Higher Education has begun reviewing its five-year strategic outlook to better understand this need.

As always, the SBHE puts student learning first, and appreciates the faculty as they continuously improve and adapt to students in the classroom. What are a couple of the most important of these new developments?

Responsiveness was one of the main highlights of the past two years. Bismarck State College and Dickinson State University both took major strides forward with their respective Polytechnic and Dual Mission models. BSC is actively integrating educational and workforce experience for students across campus into multiple disciplines that will diversify the economy and retain workforce thanks to inputs received from ongoing public-private partnerships. DSU worked with local and educational partners to bring new opportunities to the southwest region, including welding and CNA training. Building upon this, the first commercial

truck driver training class was held this fall. The university also expanded certificate, associate, and graduate program offerings.

Digitally, our campuses have also been a bright shining light looking toward the future. Both BSC and North Dakota State University received certifications from the National Security Agency during April 2020 for their expanded cyber-related curriculum. They were respectively named as a National Center of Academic Excellence in Cyber Defense Education, and in Cyber Defense. University of North Dakota continues to lead the state in online education, with more than 125 online degree and certificate programs, with students from every single North Dakota county and all 50 states.

In the realm of workforce training, Lake Region State College continues to work on apprenticeships, including with Northrup Grumman in New Town, and another coming to at their Grand Sky facility at the GFAFB in January. The college has also been working with CTE on a Dept. of Labor grant to increase such opportunities in the state and to develop a statewide system to track them. Additionally, the college has been sending Simulator Tech students to internship and apprenticeship opportunities in

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Minnesota, Texas, Arizona, and North Carolina. LRSC has also expanded its Wind Energy Tech training to Tioga to train oilfield workers to work on wind farms.

As evidenced by the pandemic response, our state's medical workers were among the best responders in the nation. That's thanks in part to our outstanding programs, starting with UND's School of Medicine and Health Sciences and the Dakota Nursing Program, both of which are needed now more than ever.

Finally, higher education wouldn't be much without the spirit of discovery. To that end, the NDUS is among those proposed as a national leader in space operations, training and research. That potential to expand space sciences in the state was ultimately what brought four high-ranking members of the federal government to UND in the past 13 months.

Higher education is at the center of a major challenge, and we need professors, staff, and financial resources combined in innovative ways to meet the changes of our times.

What do I mean by uncertainty in the context of North Dakota higher education? Financial uncertainty. While our 11 public colleges and universities have more successes than I have the space to list here, funding cutbacks place a question mark in the minds of faculty, staff, and students about the future. They have faced years of cutbacks, and fear more may be on the way. How significant have been the cutbacks?

In the past five years, budget shortfalls have compelled campuses to reduce staff and faculty positions by almost 700. These are historic reductions, unparalleled since the Great Depression. In order to protect students and graduate them on time, campus leaders had to place substantially greater burdens on staff and faculty. Additional cuts could mean as many as 200 additional personnel lose their jobs. In a recent survey conducted as part of the SBHE's strategic planning



Each of the 11 colleges and universities offer programs sought by students and workforce alike. From welding certificates to degrees in manufacturing engineering and more, the university system likely has what you, or your future bosses, are looking for.

effort, students overwhelmingly responded that the top priority needed to be keeping talented faculty and staff in place – a focus that placed their respect for faculty and staff before even their own academic and mental health needs.

While faculty and staff have shielded students from the most negative consequences, future students and their parents are informed consumers and may increasingly choose programs out-of-state, where there is more financial stability and certainty, with the result that our workforce will face even greater shortages.

Not only might our state lose prospective students, but it is difficult to recruit and retain quality faculty, staff, and new students who have read of the volatility that arises from a commodity-based economy, let alone during times of global pandemic and national economic-based uncertainty.

Most urgently, the Board is asking for stable funding in this upcoming Biennium combined with a modest pay raise and financial incentives for innovation. Researchers, teachers, and staff who are especially

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talented in areas of emerging technology and knowledge need to know that we value them as transformative agents, and that the SBHE will make additional funding available for such innovators.

But, we have also come to realize the need to assure faculty, staff, parents, students, (and businesses that require skilled workforce) that this roller-coaster of higher education funding will eventually smooth out.

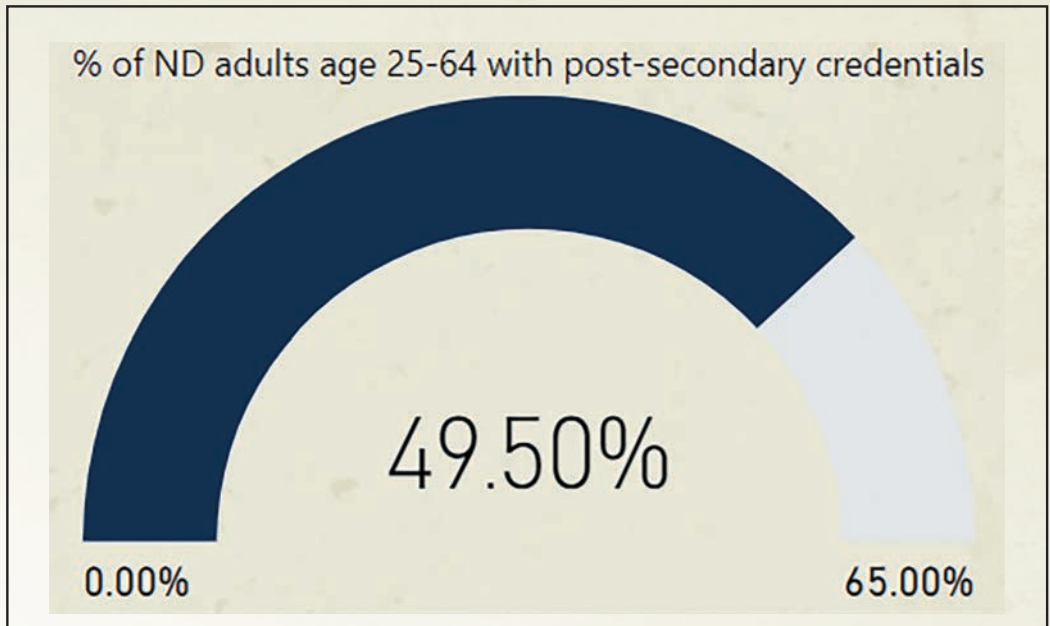
Long-term funding stability is a necessity and would serve as protection against the winds of change compelling out-migration of our most valuable resources:

our people. Technology and personal protective equipment may have helped us through the pandemic, but it was the people who implemented it, made it work and got back to the service of education. Those same people shouldn't have to worry about their professional futures here in the state.

In closing, I want to thank the people of North Dakota for building a highly effective system of education

in our state. I want to assure North Dakotans that the campuses and Board and system staff continue to adapt, but to be clear that reduced funding could negatively impact our students, our work force, and the creation of an advanced, diversified economy.

For the reader who wants to learn more about the SBHE goals for your university system, the following sections can provide additional information.



Post-secondary attainment - or, the number of individuals who have some type of education beyond high school - is on the rise. Numerous reports note that the future will see an increase in demand from business and industry for more highly-trained employees — up to 60 percent by 2025. The State Board of Higher Education is aiming for an aspirational goal of 65 percent attainment here in N.D. in that same timeframe.



ACCESS. INNOVATION. EXCELLENCE.

Deliver degrees that are the best value in the nation

The Board's plan for ensuring that NDUS degrees are the best value in the nation includes the following strategies:

- Implement an easy-to-understand tuition model
- Ensure affordability of tuition and fees for all North Dakota families
- Standardize categories of fees and strengthen fee policies relative to charge, use, approval and oversight

In determining the priorities of the strategic plan, affordability is at the top. Discussions have involved price, as well as quality. We want to ensure that students throughout the university system's 11 public

colleges and universities receive the largest possible return on investment.

The cost of obtaining an education in North Dakota is already favorable when compared to regional and national rates. Tuition and fee averages for doctoral universities in NDUS is \$10,155, compared to the regional average of \$10,006 per year. Our master's degree is \$7,896, below the regional average of \$8,317. An average bachelor's degree here is \$7,914, compared to the regional rate of \$8,020. The exception is the NDUS community colleges, where the regional average is \$4,382 and ours is slightly higher at \$5,255.

Affordability strategies have been implemented throughout the system, and they're bringing the Board's commitment to financial responsibility to fruition. One strategy, which involves Open Educational Resources, has saved students millions of dollars in textbook costs. Training opportunities were conducted through the system office through grants funded by the N.D. Legislative Assembly. Those activities have resulted in savings opportunities for students.



Dickinson State's dual mission designation allows the university to offer needed programs to prepare a workforce for the growing region. This designation expands course offerings beyond the bachelor's degree and now includes continuing education, certification, associate degrees, and graduate degrees.

In order to meet the “best value” goal, the SBHE directed itself toward the following.

Standardize categories of mandatory fees and strengthen fee policies relative to charge, use, approval and oversight.

To that end, the Board:

Developed a plan for fee mergers, common naming and fee structures;
Approved standardized tuition model principles;
Approved implementation plans for all 11 public colleges and universities.

“Our institutions offer programs that are necessary for the modern workforce and meet the future needs of the state and region”

– Staff survey response



Hands-on experience is a central component to the Lake Region State College Precision Ag program. Here students learn about soil science and plant health. With a degree in Precision Agriculture from LRSC, graduates are prepared to work in production agriculture back at his/her farming operation; join a variety of agri-businesses that work with various aspects of production agriculture; create a company/ service; or continue on for further degrees.

Provide programs people want, where and when they want them

With students' expectations for education shifting along with needs from business and industry, it's vital for the university system to be as anticipatory and responsive as possible. Part of how the system moves toward that goal is to ensure programs are relevant, valuable and timely. It also means that the campuses have autonomy to recruit students into its programs from in-state and out-of-state to meet workforce needs. It also means maintaining a high standard of program accessibility for those times when students cannot meet face-to-face.

Campuses are also free to explore dynamic models of education that aid their students' needs and match

the expectations coming from their respective partnerships with business and industry. At Bismarck State College, a polytechnic model has been put in place that expands on existing program offerings.

At Dickinson State University, a dual mission model has likewise been implemented to utilize existing resources while expanding potential offerings.

To further address the goal of providing programs people want, the SBHE named accessibility and availability to be among high priorities. For geographically locked students and those who are returning to school while in the workforce — or those experiencing social distancing from a pandemic

Program takeaways:

- Expanded Bachelor of Applied Sciences offerings
- New master's offerings across the system
- More than 100 new certificates
- Increased accessibility through distance and online options

— accessibility and availability were high priorities as well.

Our institutions have a history of working closely with partners in business and industry to provide a curriculum to our students that provides as much background and theory in our many programs as it does in providing practical skills. Relationships have been fostered over time between our institutions and companies throughout the state that continues to enable student success. When they graduate, our students find themselves with opportunity to succeed wherever they may go, and with an education that directly translates to new careers.

Working collaboratively with business, industry, and other campuses enables our institutions to seamlessly meet students' needs as a team, while at the very same



Students take a moment to study in the library at Mayville State University. Like the other institutions within NDUS, Mayville focused on getting students back to class as safely as possible with its smart restart task force.

Minot State students use internship experiences and practicums to gain a hands-on experience within the exercise science and rehabilitation degree. Following seven option tracks including professional certification, pre-athletic training, pre-physical therapy, pre-occupational therapy, pre-physician assistant, pre-chiropractic, or pre-med, students will focus on rehabilitation for all ages and develop thoughtful graduates who engage in the science, theory, and practice of enhancing the quality of life for individuals. Valuable research collaboration with other departments on campus and institutions in the community ensure students will put learning into action, starting day one.



time fulfilling their own unique missions.

The 2020 fall enrollment report showed that 56 percent of NDUS undergraduates listed their home state as North Dakota, 28 percent listed Minnesota, Montana and South Dakota, and the remaining students were from other states and international locations. Needs identified in the NDUS facilities master plan and in Job Service North Dakota's 10-year job projections indicate that student recruitment is essential to fulfill the needs of our state. Research shows students who are educated in the state are more likely to seek

employment here, and businesses are aggressively recruiting our students.

Business leaders highlight being "fast and flexible in the delivery of educational offerings" as vital for students and the workforce, and that well-rounded students make flexible employees. A flexible system can move quickly toward meeting the needs of students. It can also help members of the workforce to quickly retool their skillset to meet the demands of an evolving economy.

One example exists at BSC, which has already added two new Bachelor of Applied

Science programs in energy and cybersecurity, with more programs planned in the near future. New master's degree offerings have begun throughout the system, and more than 100 new certificates have been offered in the past two years.

In the past several years, enrollment in online and Interactive Video Network-delivered courses has increased steadily, by nearly 10 percent, pre-pandemic. With more collaborative efforts on the horizon, that number is sure to allow more people to access our academic programs than ever before.

“We’ve heard loudly and clearly that classes need to be taught when students can take them. Students try to work full-time and go to school full-time; they need flexibility rather than 9 a.m. to 3 p.m.”

-Business Leader interview

Equip students for success

“Retention of faculty as a strategy for growth — keeping the right people is critical to growing programs and attracting students.”

- Staff survey response

Through the past few years, the Board has focused on the following strategies:

- Improve admissions standards.
- Increase students’ overall attainment rates.
- Streamline registering and advising transfer students.
- Increase access for behavioral and mental health services.

While admissions standards, retention and graduation rates have historically been among the topics most studied in regard to student success, additional work has gone into recognizing that student life might be centered on more than the sole factor of academics. Collaboration continues between the university system and the Department of Public Instruction to work toward a future where the transition between high school graduation and the first day of a student’s freshman year of college are as seamless as can be.

Additionally, new tools and methodologies have been implemented throughout the system that aid advisors and counselors intervene on a student’s behalf more quickly than

ever. These tools, combined with strengthened systemwide access to mental and behavioral health programs, help ensure that the whole of our students’ needs is met, thus ensuring a clear path to success.

Other measures were implemented in recent years that helped track progress in a number of areas, including improved retention rates for first-time, full-time students; improved four-year and six-year graduation rates; and the number

of degrees awarded to Pell Grant recipients.

While those numbers are useful for measuring outcomes and progress over time, student success is bolstered by much more.

Student-to-faculty ratios, classroom sizes, and course delivery methods are vital to today’s student. Thanks to our three-tiered system of colleges and universities, our students have a diverse range of options from which to choose.

Opposite page, top: The Williston State Massage Therapy program prepares students to become practicing entry-level massage therapists. Students in the Massage Therapy program learn about the human body, how it functions, the effects of injury or disease, and the benefits of massage to improve overall body function. The Massage Therapy Program is housed in the Western Star building at WSC. The professional student clinic features 8 private stations where students practice skills on clients and on each other. Students apply techniques learned in the classroom including hot stone, Myofascial release, reflexology, aromatherapy, Swedish and cupping. Williston State College offers two degree options for massage therapy. There is a 2-semester Certificate and a 4-semester Associate in Applied Science degree. Both degrees exceed the educational requirements to become a licensed massage therapist in North Dakota. Most states require 500 hours of education and Williston State’s program has a minimum of 800 hours. Our graduates can qualify for licensure in almost every state.



NDSU is recognized globally as a dynamic contributor to the development and dissemination of advanced knowledge in the diverse field of industrial and manufacturing engineering. Industrial engineers find ways to eliminate wastefulness in production processes. Manufacturing engineers create the stages of a manufacturing system that creates a product in the most time-efficient and cost-effective way possible while maintaining safety and product quality.



Maximize the strengths of our unified system

Included in the Board's long-term strategic outlook are numerous focal points aimed at ensuring our resources, programs and services have the maximum impact, systemwide. That includes:

- Strengthen academic collaboration among the institutions.
- Create efficiencies through shared programs and services where cost-savings and/or performance enhancements are achievable.
- Strengthen the system's ability to respond quickly to changing needs.
- Enhance the research reputation of the research institutions.

“By ensuring a diversity of program offerings, including the liberal arts, NDUS will diversify ND’s economy.”

- Faculty survey response

- Encourage open educational resources.
- Enhance the research reputation of the research institutions.

Each campus within the North Dakota University System has its own mission and its own unique set of programs. Those characteristics

can be advantageous for the campuses and their communities, but especially the students for choose them.

The system exists to function as a team, where shared resources are made available whenever possible, so each campus doesn't have to



The University of North Dakota was one of only a select few institutions recently hand-picked by the FAA for its new Collegiate Training Initiative for UAS. UND and its students have long drove industry-changing developments in UAS, and the University was the first in the nation to establish a degree program in UAS operations.



As one of the state's first colleges, Valley City State University continues its 130-year tradition of preparing North Dakota teachers with robust bachelor's programs in elementary education and secondary education, including art, music, and career and technical education, with online offerings in several disciplines. With a campus and classrooms utilizing the latest technology, VCSU is equipping the next generation of teachers with skills to educate in today's changing world.

strike out on its own. That team became even more unified in the past several years as certain standardization projects came to fruition, enabling system-level work to be done by the university system office and Core Technology Services, thereby freeing campuses from having to do that work while still giving them all equal access to it. One such examples includes collaborative research efforts have moved forward significantly in Unmanned Aerial Systems, with staff and faculty at NDSU and UND focused on new technology and its many applications.

Academic collaboration and administrative shared services are a constant focus across the system. The implementation of Strategic Planning Online continues to offer instantaneous access to systemwide data. Numerous memoranda-of-understandings have formalized collaboration in many areas.

For instance, Dickinson State University and Minot State

University each provide bachelor degree opportunities on the BSC campus. Similar agreements exist between North Dakota State College of Science and North Dakota State University, and between Mayville State

University and University of North Dakota. Other offerings, like the Dakota Nursing Program, create a statewide academic training consortium where nursing faculty at one institution can help train nursing students at another. The newly-minted Dakota Digital Academy strives to do the same for all things digital.

New collaborative programs are announced each semester, all with one common goal in mind – to deliver the programs that students need, when and where they need them, and do so as a unified system.

Core Technology Services, the organization within university system that provides IT services, elevated collaboration to a technical art form in the creation

of efficiencies of process and standardized data systems throughout the 11 colleges and universities. Thanks to that work, CTS and our 11 institutions were able to react at lightning speed at the beginning of the COVID-19 pandemic, taking 11,000 courses online to ensure that students could remain taking coursework even during a global viral outbreak.

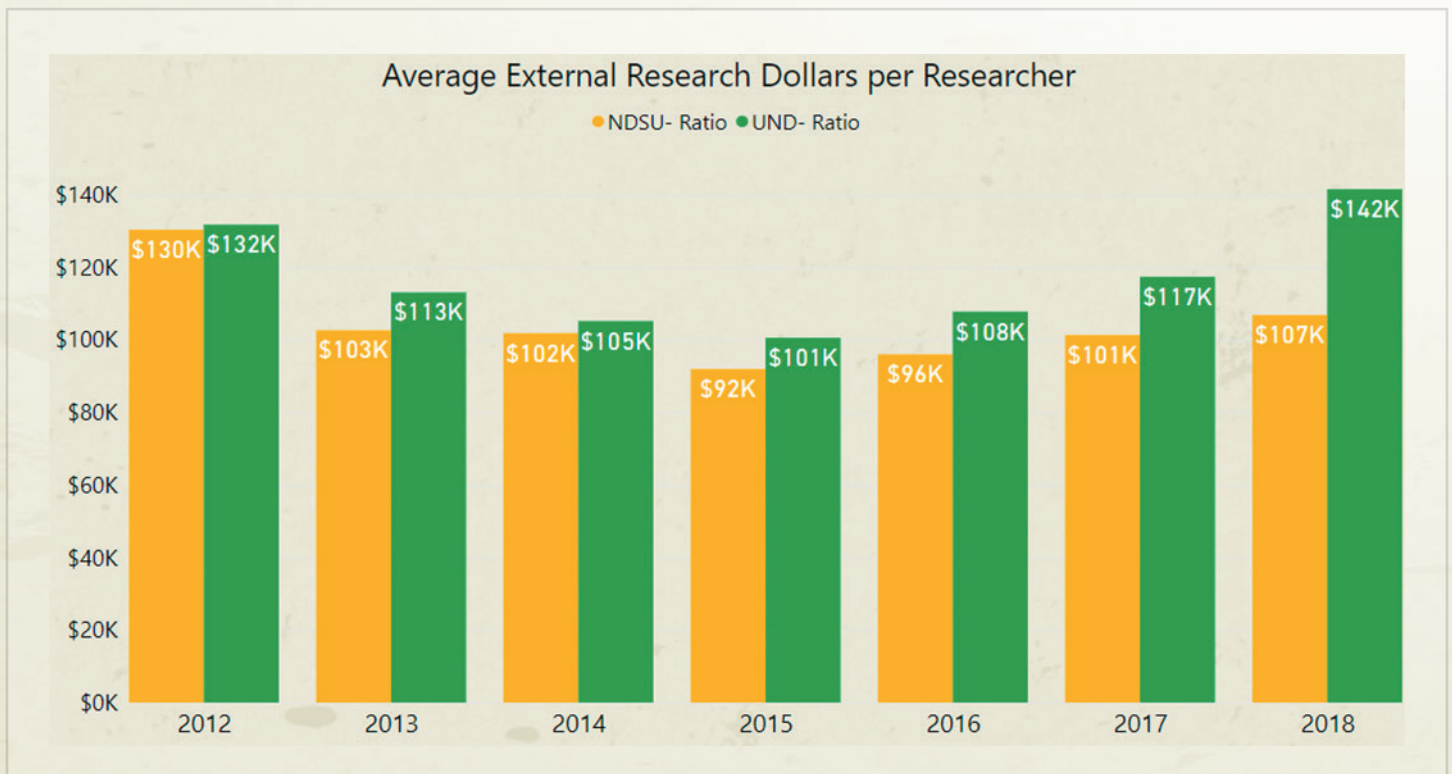
As part of NDUS's effort to streamline workflow, more than 150 policies and procedures have been standardized since 2014. That widespread standardization allows for our institutions to be more nimble, while still operating within an effective statewide framework.

Research Excellence and Innovation

As funding for university research has decreased on a national scale, it was clear to the SBHE that renewed support was needed for research activity within the university system. To that end, Research Excellence and Innovation has been a major SBHE goal since 2017 to encourage the research environment in the state, not only at the two major research universities, but also toward applied research at our regional and community institutions. This goal aims to further cross-sector collaborations in the research space at all 11 institutions as opportunities arise. Not only will this effort provide economic benefit to the institutions and their local communities, but to the entire state of North Dakota.

“There is exceptional research infrastructure in place; new partnerships underway; and world-class opportunities available for undergraduate, graduate, faculty and staff researchers and those engaged in creative pursuits.”

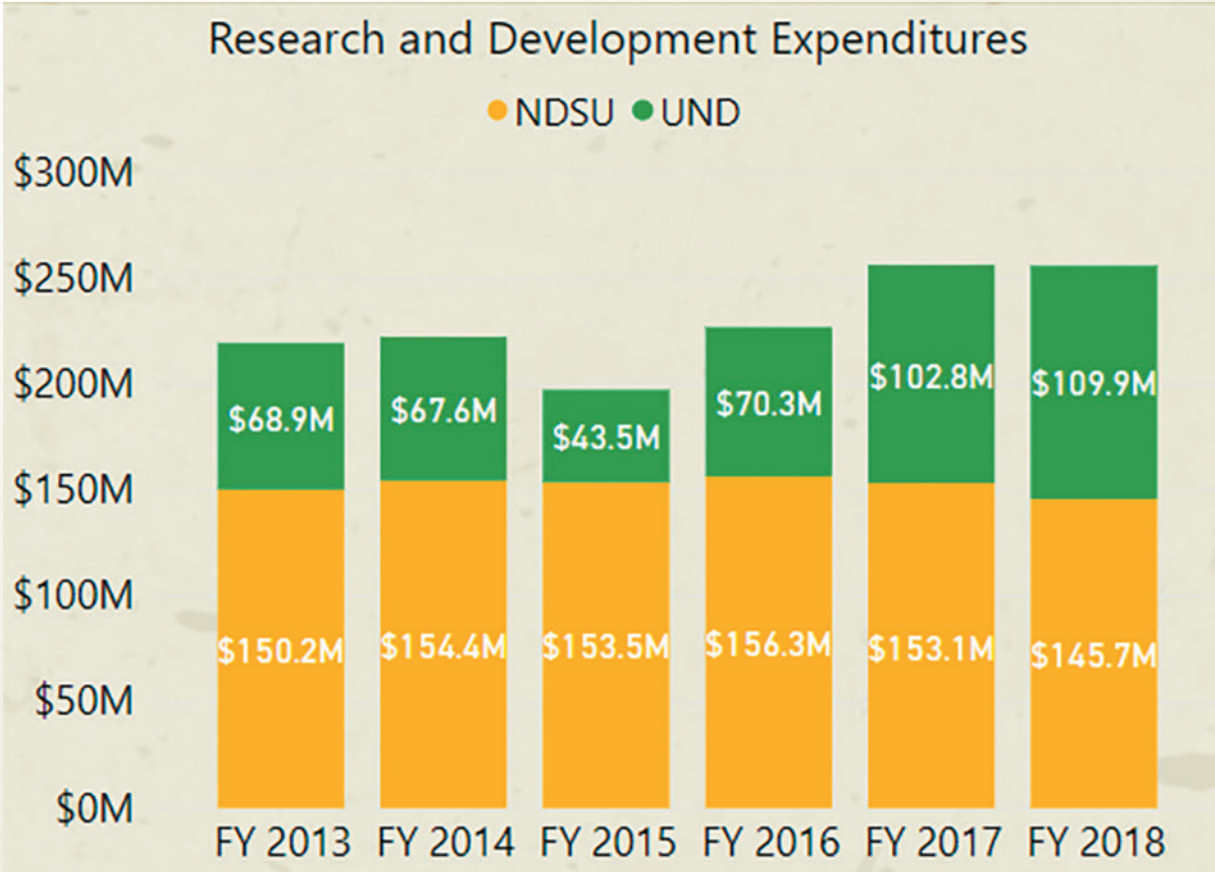
-Research survey



Data for the graphs was sourced from NDUS Dashboards Dec. 2020.



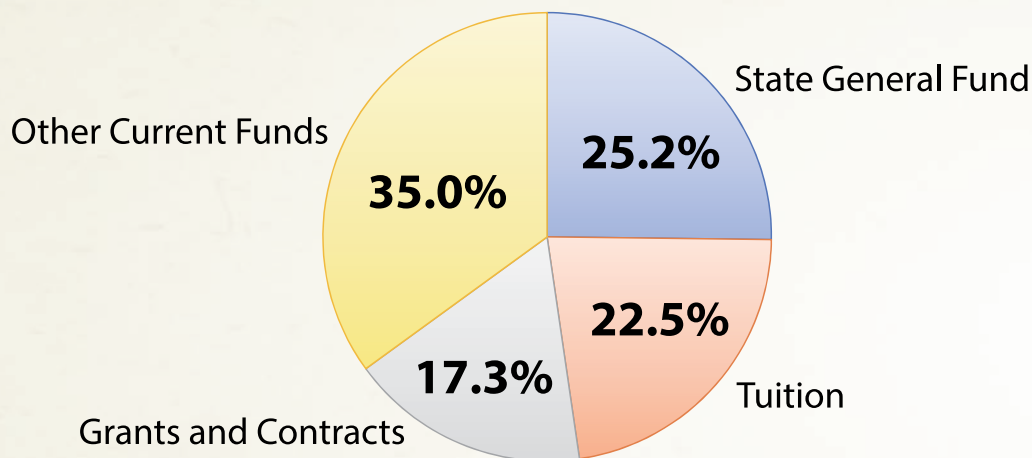
Research takeaways:
 More than 2,100 articles written in peer-reviewed publications;
 More than 500 grants awarded;
 More than 200 honors/awards received;
 Major progress is underway on the subjects of cybersecurity, high performance computing, and unmanned aerial systems thanks to innovative work by researchers, and public/private partnerships.



Data for the graphs was sourced from NDUS Dashboards Dec. 2020.

Financial Snapshot

2020-2021 Annual Budget

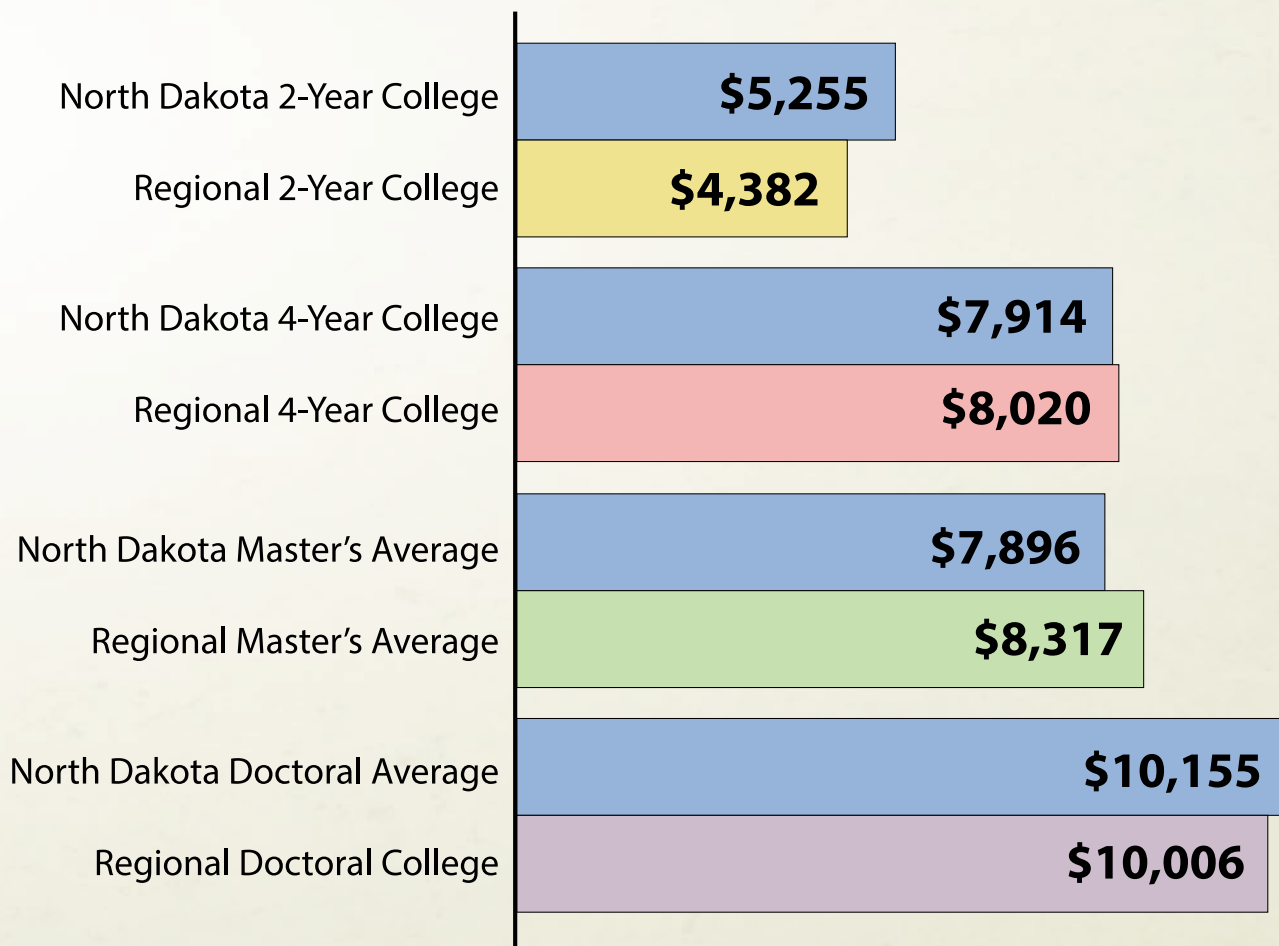


In 2019, the American Welding Society (AWS) certified the North Dakota State College of Science as an Accredited Test Facility. This enables designated NDSCS Welding Technology faculty to test and certify qualified welders to the nationally recognized AWS standards. This certification is recognized nationally and even worldwide. Through the Accredited Test Facility, NDSCS is able to provide certification for NDSCS students as well as through customized training for the current workforce, and to partner with high schools to offer certification for their instructors and students.



Tuition Snapshot

2020-2021 Academic Year North Dakota Tuition and Fees vs. Regional Averages



Data Sources: "Tuition and Fees in Public Higher Education in the WEST" "2020-21 detailed data tables" WICHE report. (4-year Institutions used average rates table 4a; 2-year colleges used state averages table 7a.) (All states except North Dakota and Minnesota); Minnesota rates from Campus webpages at: <http://www.ohe.state.mn.us/sPages/TuitionChart.cfm?State=MN&pageID=651>; North Dakota rates from 2020-21 Institutional Charges Schedule; U.S. Census Bureau, 2019 American Community Survey (ACS) One-Year Public Use Microdata Sample (PUMS) File (Provided by NCHEMS)



NORTH DAKOTA
UNIVERSITY SYSTEM

