

Presentation to the ND House Appropriations – Education and Environment Division

March 8, 2021

Andy Armacost, UND President

- Introduction: Andy Armacost, president of the University of North Dakota
- Thank you for the opportunity to testify before the North Dakota Legislature

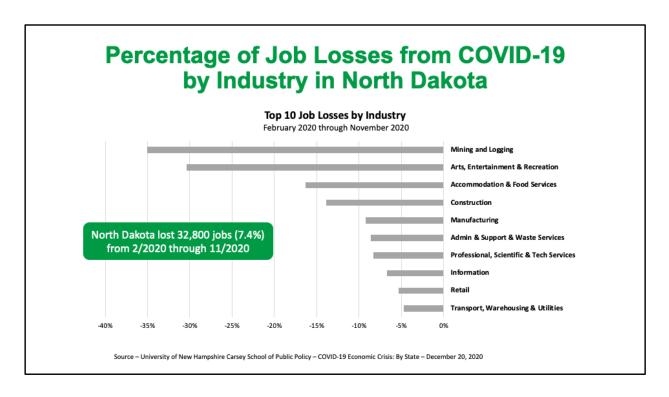
Investment in Higher Education

How UND impacts every family, every town, and every industry in the State of North Dakota.

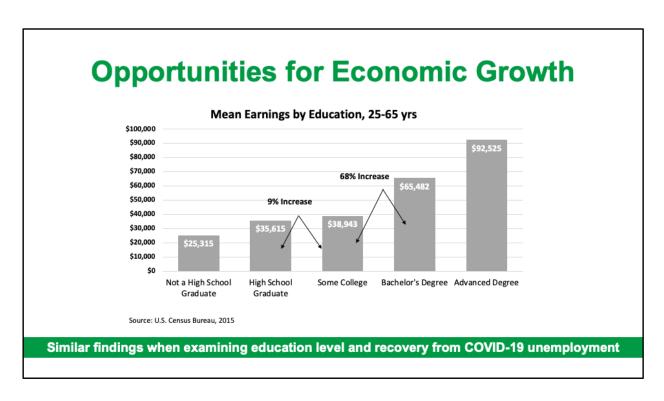
- Looking to the future economic landscape, universities are facing important decisions on strategic direction
 - Adjusting enrollment and staffing
 - Blending online and on-campus education
- Molding leaders in action who will change the state and the world
 - Example: Successful UAS BVLOS operations is the result of years of work by UND researchers and students
 - Example: UND Engineering's Institute of Energy Studies research work for Wellspring Hydro to build facility that extracts valuable lithium from oil and gas industry wastewater

Conscientious Stewardship

- Routine use of matching fund programs
 - · Scholarships through Challenge Grants
 - · Capital projects and campus modernization
- Partnerships with ND colleges and industry
- Rich history of online education to better support ND citizens
- Careful attention to deferred maintenance
- Robust campus response to pandemic
- · Continually identifying areas for self-sustained growth
- Stewardship is making smart decisions for the state
 - Routine use of matching fund programs
 - Scholarships (e.g. Challenge Fund leveraged with philanthropic donations)
 - Capital projects and campus modernization (e.g. Nistler College)
 - Active partnership with NDUS colleges
 - Partnerships with North Dakota's five tribal colleges
 - · Early adoption of online education to better support citizens
 - Right-sizing the physical campus a long-term effort
 - · Adoption of cost model for better planning and execution
 - · Allocation of tuition dollars for deferred maintenance
 - Stunning campus response to pandemic to keep communities safe
 - Adjustments to our faculty and staff amplified by COVID-19
 - CARES Act distribution support to students and institution



- Workers with some college, an associate degree, bachelor's degree or higher have lower unemployment rates overall and are less likely to be unemployed during the COVID-19 crisis
- With the exception of the gas industry, those experiencing the highest COVID-19 job loss in North Dakota were workers in the leisure and hospitality industry, jobs that typically require no higher education
- · Higher education provides an opportunity for those who have experienced losses to re-skill



 UND has a role to play in helping North Dakotans out of the economic situation created by the pandemic

NIN Preparing for Careers and Leadership

- · Learning experiences to meet every learner's needs
 - On-campus
 - Online
 - Combination
- · Essential skills that employers demand
- Programs meet growing interest and need in high-demand areas
 - Data science, cybersecurity, counseling, biomedical engineering, nursing

- UND provides important skills for democracy, citizen leadership, and employment
- UND offers flexibility in courses and programs with on-campus, online or a combination. In the past three years, UND has provided:
 - 34 new certificate opportunities
 - 12 new undergraduate program opportunities
 - 14 new master's program opportunities
 - 3 new doctoral program opportunities
- Essential skills that employers demand
 - Employer survey reveals a need for essential skills for all jobs <u>Data source</u>
 - As a liberal arts university, UND provides skills such as creativity, communication, teamwork, problem solving, critical thinking, etc.
- UND offer programs in high-demand areas: Biomedical engineering, cybersecurity, special education, nursing, engineering, social work, behavioral health, etc.

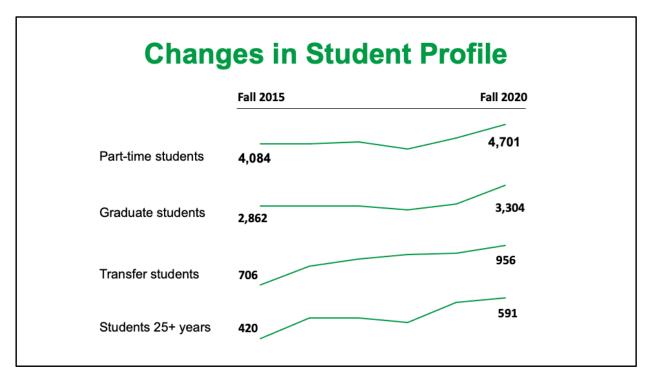
On-Campus and Online Students

Und	dergraduate Stud	lents
	On-Campus	Online
Fall 2019	8,487	1,676
Fall 2020	8,008	1,788

	Graduate Studen	ts
	On-Campus	Online
Fall 2019	1,925	1,493
Fall 2020	1,903	1,916

University of North Dakota University Analytics & Planning (2019). Enrollment Profile - Demographics, Academics, and Residency. [PowerBI Report]. Retrieved from UAP Enrollment Profile - Launch on 11/20/2020.

- Uncertain as to how these trends will be affected in a post-COVID-19 recovery
- UND's Long-term investment in online education
 - UND serves largest number of exclusively online students in 8-State region (Nonprofit, Flagship Universities)
 - Enabled UND to have a smooth transition during the COVID-19 pandemic
 - Summer 2020, 175 faculty found creative uses of online education
 - Online education training conducted by UND TTaDA
 - Range of online offerings: UND offers over 120 fully online programs
 - Of nearly \$21M UND received from CARES Act funding, \$1.5M went to meeting technology needs, \$2.3M for instructional design resources, and \$5.4M for academic technology and software to develop the hybrid education model
- Year-over-year comparison, on-campus and online totals
 - Fall 2019 on campus: 10,412; online: 3,169
 - Fall 2020 on campus: 9,911; online: 3,704
- On-campus experience, even during a pandemic, remains popular, while at same time, utility of online learning continues to grow
 - Pre-COVID-19, about a third of U.S. college students had taken an online class
 - On-campus and online learning will continue to complement each other
- UND's Distance Engineering program celebrated 30th anniversary in 2019
 - Electrical Engineering <u>Professor Arnie Johnson</u> got the nickname "Fuzzy Arnie" in 1989 because he lectured to video cameras on campus, and the blurry-imaged cassettes were mailed to students nationwide



- UND is responsive to changing demographic needs and interest in higher education and new career opportunities and upskilling
 - These numbers have been influenced by the COVID-19 pandemic
 - In the past few years, we have been seeing more:
 - Part-time students (15% increase since 2015)
 - Graduate students, includes med and law (15% increase since 2015)
 - Transfer students (35% increase since 2015)
 - Older students (41% increase since 2015)
- Task Force on the Future of Education at UND
 - 23 members comprised of faculty, staff and students from across campus with faculty co-chairs
 - Tackling big questions
 - Future students
 - Programs
 - Funding models
 - Delivery methods
 - Role of partnerships
 - Open educational resources



Fall 2018	Fall 2019	Fall 2020
		3.304
2,785	2,909	+13.6% from 2019

- 4+1 programs
 - 22 programs combining bachelor's and master's degrees in accelerated format
- Preparing graduate students for employment
 - Accelerate to Industry internships
 - · Professional Development Workshops
- High Growth Areas
 - Business (43%); Engineering (22%); Nursing (33%)



- Fall 2020 graduate enrollment was a record with 3,304 students, up nearly 400 students from the Fall 2019 graduate enrollment
- Includes law school and medical school graduates
- 4+1 programs (e.g. Accountancy, Biology, Chemistry, Computer Science, Dietetics (Nutrition), Early Childhood Education, Applied Economics and Predictive Analytics, Kinesiology, Mathematics, Physics, Psychology, Public Administration, Public Health, Reading Education, Special Education)
- Preparing for Employment
 - Accelerate to Industry: Industry workforce readiness program provides graduate and postgraduate trainees with a competitive edge
 - Professional development workshop series for graduate students
- High growth areas
 - Business: Accounting, the M.B.A, and Applied Economics & Predictive Analytics
 - Engineering: Biomedical, Environmental, and Petroleum
 - Nursing: Master's of Science
- UND launched a <u>Doctoral program in Indigenous Health</u>; the first of its kind in the U.S. or Canada

NIN Partnerships Across NDUS





Early Childhood Education Elementary Education Entrepreneurship Nursing Petroleum Engineering



Undergraduate Engineering

Next collaborations with:







- Partnerships across NDUS
 - Witnessing growth in transfer students from two-year schools
 - Enables students to earn UND degree without leaving their community
 - We will be signing a 2+2 agreement with Bismarck State College involving undergraduate engineering
 - Nationally, students transferring from two-year institutions to four-year institutions have increased by 2.6% over last year (Source: National Student Clearinghouse Research Center)
 - UND is seeing growth in our transfer population (35% increase since 2015 and 5.5% just in the past year 2019 to 2020) because of the actions we've taken
- Other points:
 - UND regularly updates articulation agreements
 - We have a dedicated transfer advisor to assist students even before they are accepted into UND
 - UND departments respond to transfer articulation requests in five days or less (which classes will transfer over for a major)
 - Proud of our 2+2 programs specific pathways for students to start at a twoyear NDUS institution and transfer seamlessly into UND

MM Academic Innovations and Partnerships

















- Pursuing new marketing avenues to build bigger funnel of prospective student
- Industry relationships to provide educational benefits to employees
- Provide students opportunity to engage with industry and nonprofits
- Being engaged in online education for 30 years leads to partnerships with organizations such as the U.S. Air Force and LCMC
- Riipen: Virtual project-based learning platform empowering every student with employable skills
- Accelerate to Industry: Collaboration with industry to enhance student employment readiness and build employment pipelines
- Rize Education, the LCMC, and Engineering: Agreement with 66 independent, liberal arts colleges across the nation to provide access to online UND engineering degrees
- Digi-Key and Electrical Engineering: Workforce development and electrical engineering online at the worksite specifically designed for Digi-Key
- Boeing and Systems Engineering: Workforce-responsive online systems engineering program designed with academic and industry cooperation
- Lumerit Education, Pearson Accelerated Pathways, and Engineering: Partnership permitting employees from almost 50 companies to use their educational benefits to enroll in UND online engineering certificate and degree programs

IIIII Graduation & Completion

Undergraduate Students

Retention Rates

UND Fall 2019 cohort: 81% National average: 75%

Graduation Rates

4-year: 26% Average over 10 years: 23%

6-year: 61%

Average over 10 years: 54%

Graduate Students

Continuation Rates - 2018 Cohort

Master's: 87% Doctoral: 89%

Completion Rates - 2011 Cohort

Master's: 74% Doctoral: 67%

- UND retention rate has consistently remained above the national average of 75%
- UND's continuation rate for incoming doctoral and master's students (analogous to the IPEDS retention rate) for the 2018 cohort

Master's: 87.32%

• Doctoral: 89.14%

- UND has steadily increased the 4-year, 5-year, and 6-year graduation rates
 - 4-year graduation rate: 32% (Fall 2013 cohort), increase from 26% (Fall 2010 cohort)
 - 5-year graduation rate: 56% (Fall 2013 cohort); increase from 48% (Fall 2010 cohort)
 - 6-year graduation rate: 61% (Fall 2013 cohort); increase from 54.6% (Fall 2012 cohort)
- UND's 8-year completion rates for incoming doctoral and master's students 2011 cohort (analogous to the IPEDS graduation rates):

Master's: 74%

• Doctoral: 67.09%

MINIMIA Access to Learning My Way

Expanding opportunities for finishing degrees, new occupations, changing careers, or enhancing work skills

- Noncredit opportunities, digital credentials, micro-credentials, certificate programs, and traditional degrees
- Career development in high-demand areas, such as cybersecurity, data analytics, specialized medical training, and project management
- On-demand, flexible, self-paced courses and degree programs enable working adults to complete degrees



- We have other ways of educating beyond four-year degrees
 - Example: Altru employee <u>Amy Joshua</u> is a mother, cancer survivor, and online R.N to B.S.N student at UND
 - Example: Colin Sabie started as UND undergraduate and then, after six years in the Army, came back to pursue mechanical engineering
- The Teaching Transformation and Development Academy (TTaDA) provides a variety
 of noncredit learning opportunities and supports the colleges' self-paced enroll anytime
 (SPEA) offerings. They are working with the Provost and colleges to expand these
 opportunities and to integrate them with certificates and degrees to form coordinated,
 seamless learning pathways that cater to working adults, career changers, and those
 interested in job skill enhancement

Research & Development

- High-impact educational practice for students
- Development of faculty as authorities in their field and as educators
- Benefits realized directly by citizens of North Dakota
- Positive impact to statewide economy



- Research is not just about economic development, it's also part of how universities educate
- The depth of UND's research extends across campus from traditional laboratory settings into such diverse areas as the arts and education.
 Examples: <u>Virginia Clinton's</u> research on reading comprehension and <u>Donovan Widmer's</u> research on skin conditions as art
- · Experiential, hands-on learning in the lab and in the field
- Example: Fargo native <u>Nicholas Gapp</u> turned a summer weather research internship into a senior project, a thesis for his master's degree, a published research paper and a job opportunity with the Naval Research Laboratory

WW UND's Research

- · Individual faculty scholarship is essential
- Grand Challenges
 - Human Health, Rural Health, Big Data, Autonomy & Unmanned Aircraft Systems, Energy







Creates economic diversification opportunities for the state of North Dakota

- UND's human health and rural health research assisted state during pandemic
- The EERC's research success across the state is replicated in our outreach work to rural health, telemental health and other delivery platforms
- UND is a leader in integrating UAS into the national airspace system, especially in operating beyond visual line of sight
- At UND we value not only the Grand Challenges but also the people and the scholarship involved

NIN Building Relationships in Space

- Educational programs to support workforce development
- · Research activities
 - · Human spaceflight and deep space exploration
 - · Satellite design, experimentation, and control
 - UAS ←→ Satellite interface
 - · Space policy, law, and ethics









- One of the greatest research opportunities for UND is the University Affiliated Research Center program through the U.S. Space Force
- UARC has research potential for aerospace sciences, autonomous systems, engineering, computer science, chemistry, and energy and environmental technologies
- UARC also focuses on workforce development to educate and train military and civilian personnel for jobs needed within the U.S. Space Force
- Satellites: UND will design them, build them, test them, and fly them
- \$4M in infrastructure bill to support space activities at UND
- Gen. Raymond, U.S. Space Force
- Gen. Dickinson, U.S. Space Command
- Derek Tournear, Space Development Agency
- Jim Bridenstine, NASA
- UND Space Studies NASA-sponsored Inflatable Lunar/Mars Habitat

|||||| State Investment in Research & Development

- Current Biennium
 - Designated EERC as the State Energy Research Center (SERC)
 - · Funded the Northern Plains UAS Test Site & Vantis
 - · Sustained high-speed computing network infrastructure
- Next Biennium
 - · Continue support for these efforts
 - · R&D>ND proposal
 - · State investment in basic and applied research infrastructure across NDUS
 - · Catalyst for future federal funding and industry support
 - · Economic diversification for State of North Dakota
 - · Proposes the use of Legacy Fund earnings
 - SB 2014 Continues SERC funding for EERC and salt cavern storage research
 - HB 1452 Creates a Clean Sustainable Energy Authority and Fund
- Example: Legislative funding for SERC creates exploratory <u>research opportunities</u> and invention disclosures through the EERC



- · Commercialization of UND inventions
- UND Center for Innovation
 - · 43 active tenants
 - 78% of tenants since 2014 are still in business
- Commerce programs add value
 - LIFT
 - InnovateND













- UND is involved in many different economic development activities that benefit North Dakota through research commercialization and new technologies
- The Center for Innovation provides tenants with office space and offers assistance to entrepreneurs and startup businesses

State Investment in Physical Infrastructure







Steam Plant Public-Private Partnership (P3)

- Campus master plan key findings
 - · More than enough space
 - · Quality of space is poor and inadequate
 - Improving work-study environments will positively impact our mission of teaching and learning
 - Over past four years, UND has reallocated \$4M from operations to deferred maintenance (1% of student tuition)
 - Our goal is to continue 1% of tuition to create a stable deferred maintenance fund
 - This biennium, UND took out a \$30M bond for deferred maintenance only
 - We're also taking down old buildings, using spaces more efficiently and remodeling or renovating for easier-to-maintain spaces
- UND's goal: Reduce square footage, improve the space we retain, and strategically utilize diverse funding sources
 - Nistler College construction catalyzed donations for academic programs
 - Testimony outlines positive outcomes of the Steam Plant P3



Priority #1: Merrifield and Twamley Hall renovations

- Leverages the Nistler College of Business & Public Administration by making further investments into an academic "Four Building Ecosystem" (Chester Fritz Library, Nistler Hall, Merrifield Hall and Twamley Hall)
- Will create modern instructional space and allow for faculty/staff relocation to decommission Columbia and Gamble Halls
- \$5M state appropriations request to fund the design work
- Fully complete project: \$56M + \$23M local funds
 - Eliminates \$132.1M in deferred maintenance

Priority #2: John D. Odegard School of Aerospace Sciences Health and Safety Projects

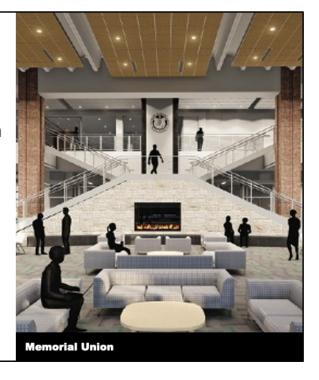
- Targets deferred health and safety maintenance associated with the John D. Odegard School of Aerospace Sciences
- Complete Phase 2 to replace deteriorated flight apron, repair excessive water infiltration/ air quality risks
- During 2015 biennium, Legislature provided \$6M to partially complete this project
- Flight training program's success depends on sturdy ramps, runways and facilities
- \$5M state appropriations request for the flight apron
- Fully complete health and safety projects: \$15M
 - Eliminates \$28.8M in deferred maintenance



Matthew Ternus, UND Student Body President

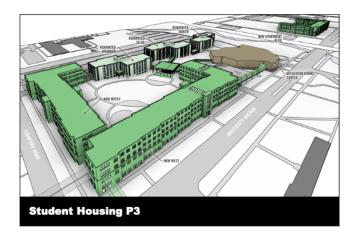
Student Life

- Mental health, shelter, and food
- COVID-19 support and outreach
- Merrifield Hall renovation perspective
- Memorial Union
 - Opening summer 2021
 - Partnership with student body



Student Life

- Challenge Grant
- Open Door Scholarship
 - \$677,000+ committed
- Angel Fund
 - \$220,000+ committed
 - 303 requests funded
- Student housing modernization



Use of Philanthropy to sustain enrollment

- Challenge Grant has been an incentive for increasing amount donated for scholarships
- Open Door Scholarship:
 - \$677,729
- Angel Fund as of Dec. 31, 2020
 - 638 requests for support have been received from 610 unique students
 - \$206,675 has been awarded to date (\$682.10 = average award)
 - 303 requests have been funded; 294 requests have not been funded for a variety of reasons; 13 requests are in review
 - \$220,000+ has been raised in gifts and pledges
 - 451 unique donors have given 526 gifts to the Angel Fund



Jed Shivers, VP Finance & Operations / COO Karla Mongeon-Stewart, Associate VP for Finance

Key Budgetary Aspects

- The concept of a needs-based budget as proposed by the SBHE
- Initial funding for the Merrifield-Twamley project planning
- Support funds for finishing deferred maintenance for the airport apron project (SB2006)
- Funds to invest in research across the NDUS to diversify the economy

- A needs-based budget as proposed by the SBHE to maintain forward momentum in growing enrollment, improving retention, and retaining its high-quality faculty and staff (operational and financial predictability yields stability)
- · Initial funding to complete design work for the Merrifield-Twamley project
- Funding to complete repairs on the airport flight apron project
- Use of the Legacy Fund or other funds to invest in research across the NDUS to diversify the economy and reduce the effects of the boom/bust cycle

NDUS Institutions Comparison of SBHE	University of North Dakota		
General and Special Funds Budget Request Engrossed SB2003	SBHE 2021-23 GF Budget Request	Engrossed SB2003	Engrossed SB2003 Over (Under) Budget Request
2019-21 Adjusted General Fund Appropriation	\$ 158,139,947	\$ 158,139,947	\$ -
3%/3% Salary Increases	4,006,364 (9,807,792) (1,730,595)		
Remove one-time, carryover & payroll adj. Base Adjustments			
base Aujusuments	(1,730,393)	(1,730,595)	-
2019-21 Adjusted General Fund Appropriation, Net of Base Adjustments	150,607,924	146,601,560	(4,006,364
Executive Recommendation Base Increases (Decreases):			
2021-23 Adjustments:			-
2%/2% salary/benefit increase			-
Health insurance increases	-		-
Funding formula 7.5% reduction	-		-
Funding Formula Changes			-
Engrossed SB2003 Adjustments			-
2%/2% salary/benefit increase		2,153,457	2,153,457
2021-23 Health insurance increases		19,824	19,824
Funding formula changes		2,253,590	2,253,590
Other Adjustments			-
			-
Funding formula - minimum amount payable	-		-
Total Adjustments	-	4,426,871	4,426,871
Total Base General Fund Request & Recommendation	\$ 150,607,924	\$ 151,028,431	\$ 420,507

Impact of 2021-23 Needs-Based Budget

- Needs-based budget submitted by the SBHE for legislative consideration has base funding of \$150,607,924 for UND
 - Base funding in 2021-23 of \$148,332,155
 - Decrease of \$1,730,595 based on reduced total credit hours in funding formula (1.2% budget decrease)
 - Increase by \$4,006,364 for state's share of 3% / 3% salary increase on appropriated salaries
 - Does not include the fringe benefits cost associated with the increase
 - SBHE assumes an annual tuition increase (estimated at 2% for UND) for tuition portion of 3% salary increase
- UND's base funding at the end of the 19-21 Biennium was \$150,607,924. Due to a reduction
 of 28,428 weighted credit hours, UND's funding from the funding formula is reduced by
 \$1,730,595
 - This reduction represents a 1.2% budget reduction for the biennium
- UND's needs-based budget also include an increase of \$4,006,364 to fund the state's share
 of a 3%/3% merit pool. The state's share currently funds approximately 48% of the
 appropriated salary increase with the remaining 52% coming from an estimated 2% tuition
 increase. The tuition increase for UND to fund the student share is approximately a 2%
 increase
- UND is committed to recruiting and retaining the best faculty and staff and the merit pool enables UND to compete in the market

Impact of 2021-23 Needs-Based Budget

- Optional budget request submitted by the SBHE for legislative consideration includes the following:
 - The tuition portion of the salary increase for UND: \$4,350,356
 - Funding formula rate increase of 2.5% for student services, workforce initiatives, new program startup, or other institutional needs for UND and SMHS: \$5,073,785

- In addition to the NDUS needs-based budget request, UND supports the submitted optional request which includes the an increase in funding of \$4,350,356 to cover the student share of the merit pool increase. This funding request would eliminate the need to increase tuition by approximately 2% to cover this additional cost
- Finally, the optional budget package includes an increase of 2.5% per credit hour funding
 to provide resources for critical service needs related to student services, workforce
 initiatives, new program startup, and other institutional needs as determined by the
 President. This funding of \$5,073,785 is for UND as well as the School of Medicine &
 Health Sciences

Impact of Engrossed SB2003 Budget

- Senate Engrossed SB2003 submitted for House legislative consideration has base funding of \$146,601,560 for UND
 - Base funding in 2021-23 of \$148,332,155
 - Decrease of \$1,730,595 based on reduced total credit hours in funding formula (1.2% budget decrease)
 - Increase by \$2,153,457 for state's share of 2% / 2% salary increase on appropriated salaries and associated fringe
 - Increase by \$19,824 for state's share of .1% health insurance rate increase
 - · Increase by \$2,253,590 for changes in the funding formula factors
 - SBHE assumes an annual tuition increase (estimated at 1.07% for UND in year one and 2.30% in year two or 1.70% increase over both years) for tuition portion of 2% / 2% salary, benefit and health insurance increase

96% "Hold Harmless" Threshold for the Funding Formula

- Though UND would not benefit in the current biennium from the reinstatement of the 96% hold harmless clause, UND is extremely supportive of permanent language including this clause
- This clause protects all universities that have swings in enrollment and allows them to make adjustments over time that would not be possible in one year due to multiple considerations such as:
 - Tenure status
 - · Teach-out requirements if programs are stopped
 - · Curriculum redevelopment, etc.

MM Additional Funding Requests

- · Capital projects:
 - Merrifield and Twamley Halls: \$5M for design work
 - \$56M + \$23M local for the completed project
 - Aerospace: \$5M for the flight apron (SB2006)
 - \$15M for all School of Aerospace Sciences health and safety projects
- Challenge Grant fund (SB2030)
 - Maximize use of this 2-to-1 matching program
- Funds to support research and development
- Space Command infrastructure funding: \$4M
- High-speed computing network infrastructure: \$2.2M
- Challenge Grant funding affects the affordability and accessibility of the university system for all students in the state
- Funding for the Higher Education Challenge Grant program also would increase from \$9.4M to \$20M – \$10M from the general fund and \$10M from potential June 30, 2021, Legacy Fund earnings – to support North Dakota's public colleges and universities. By requiring a 2-to-1 match in private donations, investing \$20M into the Challenge Grant program would bring a total of \$60M into the higher education system
- Challenge Grant APPROPRIATION. There is appropriated out of any moneys in the
 general fund in the state treasury, not otherwise appropriated, the sum of
 \$9,650,000, or so much of the sum as may be necessary, to the State Board of
 Higher Education for the purpose of awarding matching grants for the advancement
 of academics at institutions under the control of the board, for the biennium
 beginning July 1, 2021, and ending June 30, 2023. The funding provided in this
 section is considered a one-time funding item

Requests Requiring No Funding

- Permission to refinance Tech Accelerator, pending SBHE approval
- Support issuance of Certificates of Participation to raise funds for the Student Housing P3 project, pending SBHE approval
- Permission to use Tier 2 and Tier 3 dollars for the Nistler College of Business & Public Administration as part of the State's \$20M match

Closing Comments

- Summary of budget interest items
- · Other areas of interest to UND
 - Commerce: Northern Plains UAS Test Site, LIFT, Innovate ND
 - Energy: SERC designation, clean and sustainable energy technologies
- Commitment to provide timely information
- Appreciation for past support



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Q&A