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*FISCAL YEAR 2021
BUDGET REQUEST*



SEPTEMBER 2019



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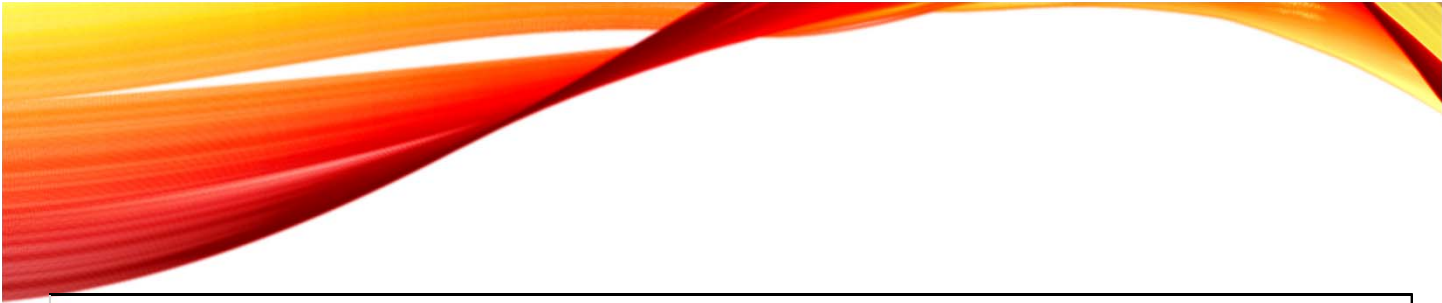
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South Dakota Board of Regents					
FY21 Board of Regents General Fund Budget Request					
Priorities	Base Funding	One-Time	Federal	Other	FTE
The Dakota Promise Scholarship	\$1,536,000				0.0
General Fund M&R Recovery	\$5,892,054				0.0
BHSU - Native American Student Success	\$249,872				2.8
NSU - American Indian Circle Program	\$154,577				2.0
SDSU - Rural Veterinary Medical Education		\$275,000			0.0
DSU - Cyber Cync Incubator and Entrepreneurial Center (CCIEC)		\$396,073			1.0
USD - Health Sciences Building		\$10,000,000			0.0
SDSM&T - Ascent Innovation Building Remodel		\$2,000,000			0.0
South Dakota Opportunity Scholarship	\$100,000				0.0
Post-Secondary Scholarship	TBD				0.0
Utilities	\$573,500	\$91,243			0.0
Lease Adjustment	(\$5,559)				0.0
Tuition Authority Adjustments				\$500,000	0.0
Informational Federal and Other Authority Adjustments				\$0	15.0
Federal and Other Authority Adjustments		\$3,188,794		\$3,803,265	8.0
Total FY21 Budget Request	\$8,500,444	\$15,951,110	\$0	\$4,303,265	27.8
Summary	General		Federal	Other	FTE
FY20 Base Funding	\$224,222,581		\$91,601,736	\$516,179,288	5,236.2
Base Funding Change without Salary Policy	\$8,500,444		\$0	\$4,303,265	27.8
FY21 Base Funding	\$232,723,025		\$91,601,736	\$520,482,553	5,264.0
Percent Base Change	3.8%		0.0%	0.8%	0.5%
FY20 One-Time Funding and Specials		\$15,951,110			0.0



*ON-GOING BASE BUDGET
PRIORITIES*






Goal - Create a needs based scholarship program that will begin to close the gap between existing financial aid and family support to meet the cost of attendance for South Dakota students attending any South Dakota public or private university.

FY21 Budget Request - \$1,536,000, base funding





Dakota's Promise
\$1,536,000 base funding

SCHOLARSHIP NEED

South Dakota's Workforce Needs More Educated People.

The state of South Dakota requires a consequential need-based scholarship program for its citizens. South Dakota ranks last out of 50 states and the District of Columbia in terms of average grant aid provided to students by the state. The lack of state investment in need-based funding, will likely continue to place a college education out of reach for students from low income families. This has significant long-term effects on economic mobility opportunities for individuals as well as long-term workforce implications for South Dakota.

South Dakota has a Competitive Disadvantage.


It is increasingly difficult for students from low income families to attend South Dakota universities, due in part to the lack of available aid options for South Dakota students. As evidence of this, the number of Pell Grant recipients at state universities is sharply declining. More specifically, the university system has lost 2,400 Pell recipient students between 2010 and 2018. Furthermore, between 2008 and 2016, states that border South Dakota all increased their available grant aid at higher percentage rates than South Dakota, leaving the state at a growing disadvantage in recruiting students from low income families in comparison to our neighbors (ND, MT, WY, NE, IA, MN).

South Dakota Students have a Daunting Financial Gap.

The average total price of attendance (e.g., tuition, fees, books, housing, etc.) at South Dakota public universities is competitive nationally and within the region. However, the average net price (average net price = total price of attendance minus average grant aid*) for South Dakota's public universities is the highest in the region by at least \$2,000 annually due to low average grant aid. Limited grant aid opportunities make the gap between Pell Grants and the net price out of reach for low income families. *"Grant aid" includes non-loan aid awarded to first-time, full-time, degree-seeking undergraduates and includes all federal, state, local, and institutional grants and scholarships.

Financial Reasons are a Major Graduation Barrier for Pell Grant Recipients.

Often due to an inability to stay enrolled for financial reasons, students receiving Pell Grants regardless of academic aptitude are statistically less likely to graduate than those who are not eligible for Pell Grants. In fact, the six-year graduation rate at South Dakota's public universities is 10% lower among South Dakota Pell recipients who received the Opportunity Scholarship than those who received the Opportunity Scholarship but did not qualify for Pell Grants.



Dakota's Promise
\$1,536,000 base funding

ELIGIBILITY CRITERIA

Pell Grant Eligible.

Paying for college is difficult for all students; however, students from low income families face additional barriers to degree completion. For the purpose of the proposed Dakota's Promise Scholarship, the *initial requirement for eligibility for the Dakota's Promise Scholarship is eligibility to receive a federal Pell Grant as that demonstrates significant financial need.*

Academic Criteria.

It is responsible to invest South Dakota dollars where they can make the biggest impact. Therefore, in addition to significant financial need, students also must meet certain academic criteria to be eligible for the Dakota's Promise Scholarship. This criterion includes an ACT score between 18 and 22 (or Accuplacer equivalent) AND a minimum high school GPA of 3.0. The data shows that students who meet this academic criterion graduate at a 25% higher rate than those with lower academic credentials.

First Time, Full Time Freshman.

Research shows that time and money are the biggest barriers to graduation. In fact, when students attend college at a full-time status they are 15% more likely to persist to graduation. Given these statistics on student success, students must attend an institution full-time to receive the Dakota's Promise Scholarship. For the purpose of this scholarship, "full-time" will be considered 30 credit hours over the course of a full academic year, including the summer term. Additionally, a student must be a first-time student in order to be eligible for the Dakota's Promise Scholarship.

South Dakota Residents.

In order to be eligible for the Dakota's Promise Scholarship a student must be a resident of South Dakota.

Attending SD Higher Education Institution.

In order to be eligible for the Dakota's Promise Scholarship a student must attend a South Dakota public university, South Dakota not-for-profit private university, or South Dakota tribal college.

Two and Four Year Scholarship.

Students who receive the Dakota's Promise Scholarship will be awarded the scholarship for two and four consecutive years depending on the course of study. If students transfer from one participating institution to another, the scholarship will follow them.

Dakota's Promise *\$1,536,000 base funding*

Budget Need

South Dakota resident, Pell-eligible students have an average financial gap of \$6,884.42 per year of school to pay for their South Dakota higher education. A student's financial gap is the difference between the cost of education and what the student can reasonably be expected to pay through work, scholarships, etc.

The Dakota's Promise Scholarship is designed to help fill the financial gap of eligible students by \$2,500 per student per year. This scholarship will provide students with the means to be successful in South Dakota higher education. Additionally, it makes South Dakota higher education institutions competitive regionally.

To determine the total budget needed to fund the scholarship program, the number of eligible students entering the public universities, private universities, and tribal colleges during Academic Year 2016 were calculated. Because the student population is projected to be flat over the next several years, it is reasonable to believe this number is a valid prediction for the near future.

Recognizing that not all participants will successfully escalate to the next year of their education, an estimated retention rate of 80% per year is projected. Therefore, the dollar amount required to fund the scholarship program for year 1 is higher than the dollar amounts needed in subsequent years. The ongoing eligibility requirements are yet to be determined.

Below is the budget for the scholarship program as proposed.

Ramping Up the Program										
	<u>State Funding</u>	<u>Match Funding</u>	<u>Students</u>	<u>Fresh</u>	<u>Soph</u>	<u>Junior</u>	<u>Senior</u>	<u>Total Students</u>	<u>Scholarship</u>	<u>Cost</u>
FY21	\$1,536,000	\$1,536,000	Fresh	600				600	\$2,500	\$1,500,000
FY22	\$1,536,000	\$1,536,000	Fresh/Soph	600	480			1080	\$2,500	\$2,700,000
FY23	\$1,536,000	\$1,536,000	Fresh/Soph/Jr	600	480	384		1464	\$2,500	\$3,660,000
FY24	<u>\$1,536,000</u>	<u>\$1,536,000</u>	Fresh/Soph/Jr/Sr	600	480	384	307	1771	\$2,500	\$4,428,000
	\$6,144,000	\$6,144,000						4915		\$12,288,000
Estimated On-going Cost of Program										
	<u>State Funding</u>	<u>Match Funding</u>	<u>Students</u>	<u>Fresh</u>	<u>Soph</u>	<u>Junior</u>	<u>Senior</u>	<u>Total Students</u>	<u>Scholarship</u>	<u>Cost</u>
FY25	\$1,750,000	\$1,750,000	Fresh/Soph/Jr/Sr	600	480	384	307	1771	\$2,500	\$4,428,000

- Note: The base budget will need to be increased in FY25 by \$678,000 to fully fund the program at the estimated rates of participation. The first four years of experience will help determine the actual number of students that will be eligible and participate. The base request of \$1,536,000 along with the private match will fully fund the first four years of the program.



General Fund Maintenance & Repair

Goal – Grow funding dedicated to the maintenance and repair of Regental academic buildings to 2% of the total replacement value of those buildings.

FY21 Budget Request - \$5,892,054 base funding





General Fund M&R \$5,892,054 base funding

South Dakota's public university system academic facilities are valued at \$1.9B dollars. Since 1997, major investments have been made to replace and upgrade facilities. Grants and private funding investments have totaled \$425M, student tuition and fees have represented \$433M, and State funding has been \$44M. While this represents a significant investment, there remains a backlog of deferred maintenance.

The Board has made the funding for maintenance and repair a priority by increasing its own commitment from HEFF and by establishing an annual maintenance and repair goal equivalent to 2% of the facility replacement values. This goal has driven a number of budget requests asking the state to participate in the maintenance of university facilities. The 2% goal was deemed to be the minimum investment necessary to maintain buildings that we expect to last 50 to 60 years. This is the same goal that the State is attempting to reach for other state owned facilities. There have been a number of studies done that recommend this level of investment, but the most comprehensive and often referenced book titled *Committing to the Cost of Ownership – Maintenance and Repair of Public Buildings*⁽¹⁾ makes it clear that 2% is really the minimum needed to sustain facilities to reach their expected public useful life:

“Underfunding is a widespread and persistent problem that undermines maintenance and repair (M&R) of public buildings. To overcome this problem, M&R budgets should be structured to identify explicitly the expenditures associated with routine M&R requirements and activities to reduce the backlog of deferred deficiencies. An appropriate budget allocation for routine M&R for a substantial inventory of facilities will typically be in the range of 2 to 4 percent of the aggregate current replacement value of those facilities (excluding land and major associated infrastructure). In the absence of specific information upon which to base the M&R budget, this funding level should be used as an absolute minimum value. Where neglect of maintenance has caused a backlog of needed repairs to accumulate, spending must exceed this minimum level until the backlog has been eliminated.”

¹ Committee on Advanced Maintenance Concepts for Buildings, Building Research Board, Commission on Engineering and Technical Systems, National Research Council, *Committing to the Cost of Ownership – Maintenance and Repair of Public Buildings*, National Academy Press, Washington, DC, 1990.

General Fund M&R *\$5,892,054 base funding*

Up until FY14, only student tuition and fees were available to support maintenance and repair of the facilities. As of FY13, the Board was investing about \$16M annually, or 1.6% of the replacement values. Since FY14, the State has grown its general fund commitment to support maintenance and repair to \$12.3M annually. This has made a huge impact on the safety, condition, comfort and appearance of our campus facilities; however, the need continues to grow each year and the cost of maintenance continues to climb. The Board received an additional \$3,746,133 of maintenance and repair funding for FY20. This represented about 50% of the total need to get to 2%. With the combination of new buildings and increased replacement values the need for FY21 will be \$5,892,054.

The estimated BOR funding for FY21 M&R is as follows:

Fee / per credit hour	\$2.29
Projected Cr Hrs	<u>565,688</u>
	\$1,295,426
Critical Deferred M&R	\$1.18
Projected Cr Hrs	<u>565,688</u>
	\$667,512
FY20 HEFF M&R	\$15,784,961
Estimated Increase - 2.0%	<u>\$315,699</u>
FY21 HEFF M&R	\$16,100,661

The total amount needed to bring the system to 2% of current replacement values in FY21 is \$5.9M.

FY21 Request	
Replacement Values**	\$1,814,971,102
	2.00%
2% Replacement Value	\$36,298,422
FY21 HEFF M&R - Est.	(\$16,100,661)
M&R Fee & Critical Deferred M&R	(\$1,962,937)
General Fund Base	<u>(\$12,342,769)</u>
State Contribution Needed	\$5,892,054

**Total estimate of academic building replacement values are based on the replacement values used in FY20 plus 3.0% construction cost inflation and 5-year phase-in of new buildings. University Centers and Special Schools are not included in replacement values. Estimated HEFF M&R Increase of 2%. M&R Fee & Critical Deferred M&R - \$3.47 per credit hour, projected credit hours of 565,688.



Native American Student Success

Native American student success is a high priority for the state of South Dakota and the Board of Regents system of higher education. Each university within the system currently provides student supports specifically for the Native American student population as highlighted on the following pages. Generally, these services seek to create a community and sense of belonging for these students as well as academic supports, which leads to academic success, higher retention and graduation rates.

Senate Bill 140, passed during the most recent legislative session, calls on the South Dakota Board of Regents "to develop programs to increase enrollment and improve retention and student supports for any student who is a member of one of the nine federally recognized tribes in South Dakota at state institutions."

Black Hills State University and Northern State University enroll the most Native American students per capita in the regental system. These request (pages X and X) focus on their desire to enhance their current services for Native American students to promote graduation.





Native American Student Success

Goal – Increase total degrees, American Indian degrees, retention rates, graduation rates, and remediation rates of Native American students.

FY21 Budget Request - \$249,872 base funding, 2.8 FTE

Director	\$92,043, 1.0 FTE
Recruiter / Advisor	\$56,950, 1.0 FTE
Peer Mentors	\$28,719, 0.8 FTE
Operating Support	\$72,160





*Black Hills State University
Native American Student Success
\$249,872 base funding*

Over forty years ago, Black Hills State University was one of the first higher education institutions in the United States to recognize American Indian Studies as a unique discipline. Today, BHSU boasts the largest percentage (6.5%) of American Indian students in the South Dakota Board of Regents system. During the fall 2018 term, there were 263 American Indian students enrolled.

BHSU provides a degree in American Indian Studies and houses a legislatively approved Center for American Indian Studies (CAIS). The Center provides a student friendly foundation for a variety of activities including the Jump Start Program, academic advisement and student programming. BHSU continually strives to strengthen its collaboration and partnership with Tribal higher education programs, Tribal Colleges, the SURF, and schools with high populations of American Indian students. Emerging initiatives include a Masters in American Indian Studies; a Native American recruiter/advisor, and a transitional bridge program.

With the largest percentage of Native American Students of any South Dakota Board of Regents Institution, the Center for American Indian Studies persistently strives to increase the recruitment, retention and graduation rates of its Native American students. Additional funding to promote proven retention strategies in the form of summer transition programs, peer mentoring and tutoring as well as the addition of a Native American recruiter will assist the Center in its endeavors.

Many Native American students enrolling in college are first generation students and have little knowledge of college life and financial and academic expectations. Employing a Native American recruiter would both increase the recruitment of Native American students as well as their retention and familiarization with college life. Such a recruiter would be able to travel to the nine tribal communities sharing South Dakota's geography and become a familiar face for high school students. The recruiter would also be tasked with communicating the expectations of college life, both academic and financial.

The Native American recruiter will also be instrumental in getting students registered for the Summer Bridge Program that will be held on campus the week before the fall semester starts. Summer bridge programs are increasingly popular in higher education as a strategy for helping students prepare for college. Student who participate will gain preparation for college transition in four areas: academic self-efficacy, sense of belonging, and academic and social skills.

Academic assistance provided by upperclassmen mentors assigned to freshmen and transfer students can guide and advise new students in order to help them adjust to the academic rigor of college-level courses. Incoming students are provided with American Indian role models, which can have a beneficial impact on academic achievement, peer mentors are assigned to mentees with similar academic majors and provide academic and social assistance. The peer mentors are required to contact their mentees weekly and provide reports to CAIS staff on a regular basis.



northern *State* university

American Indian Circle Program Initiative:
Lehánl Wičhíčhağapi (The Prospering Ones)

Goal – Increase the number of Native American Students earning college degrees by improving college preparedness with participation in mentorship and academic advising programs throughout a student's high school career.

FY21 Budget Request - \$154,577 base funding, 2.0 FTE

Program Coordinator	\$56,175, 1 FTE
Academic Advisor	\$56,175, 1 FTE
Peer Mentors	\$16,227
Operating Support	\$26,000





*Northern State University
American Indian Circle Program
\$154,577 base funding*

Leháŋl Wičhíčhaġapi (The Prospering Ones)


Northern State University strives to meet the educational needs of Native American students in the state. As part of its American Indian Circle Program, NSU proposes the Leháŋl Wičhíčhaġapi (The Prospering Ones) initiative, a program that is innovative in the way it works with rural predominantly Native American communities to help their high school students envision and prepare for a successful college career in South Dakota.

The Leháŋl Wičhíčhaġapi initiative is based on research indicating that many barriers hindering Native American students from completing undergraduate degrees can be offset by high school programs that provide support and bridge integration into a college environment. Formal mentoring programs have provided significant increases in enrollment and retention of these students, as well as increasing their overall satisfaction with their educational experiences. The Leháŋl Wičhíčhaġapi initiative focuses on providing mentorship that, in addition to academic preparedness, strengthens students' cultural appreciation upon moving from home to college; promoting the concept that working towards a college degree while retaining tribal identity and commitments is part of the fundamental "connectedness" among students, families, and communities that is central to their lives.

NSU has identified the following primary areas of need:

BE CONNECTED:

- Strong relationships with Native American schools and communities need to be established through regular and purposeful in-person outreach. This is important for all schools, but especially the most rural schools.
- Help students to envision the process of succeeding in high school and find ways to enhance life skills and emotional well-being, so that they may be better prepared to graduate from high school and prepare for college and/or the workforce.
- Strengthen community understanding related to the true value of a college education and opportunities that are created by earning a college degree.



*Northern State University
American Indian Circle Program
\$154,577 base funding*

MENTORING:

- Develop and initiate a collaborative leadership mentoring program that aims to increase participants' success in high school and strengthen post-secondary preparedness. Additionally, this is a focused retention tool for NSU college students that have committed to acting as peer mentors.
- NSU staff will work with targeted high schools to provide help in those schools through academic, financial, and life skills workshops, test preparation, tutoring, mentoring, and other areas of need identified by the schools. These services will all be delivered at the high schools through partnerships with faculty, staff, students, and families.

ACADEMIC ADVISING:

- On-campus academic advising capacity would increase in order to provide student-centered planning and experiences that help students sustain a strong cultural identity while learning to navigate the transition from high school to college life.
- Planned interaction between the students and NSU faculty and staff would build and foster a sense of community that contributes to the personal growth and academic success of high school students and NSU's Native American students.

As a whole, the Lehánl Wičhíčhaġapi (The Prospering Ones) initiative will greatly increase NSU's ability to build connections with Native American communities and their students to enhance college preparedness, streamline processes, provide necessary support, and ultimately increase the number of Native American students earning a college degree. It will also provide NSU with the means to reach out, connect and give back to our Native American schools and communities in South Dakota. The initiative's emphasis on developing trusting relationships through adult and peer mentoring, collaboration and development of successful programming will enhance high school education, improve graduation rates, and open the door to earning a college degree become a reality.



All of the South Dakota public universities have Native American student programs in place, here are highlights of the services already provided by DSU, SDSM&T, SDSU and USD.

Dakota State University

Recruitment

- Attend college fairs at reservation schools or at other locations to which reservation schools are invited
- Conduct high school visits at various reservation schools
- Host high school events at the schools to engage in conversations regarding college readiness (St. Joseph)
- Attend events such as the Lakota National Invitational Tournament (Rapid City) and the Dakota Oyate Challenge (Huron)
- Attend the South Dakota Indian Education Summit and participate in the event's college fair (Pierre)
- Host high school groups for campus visits (e.g., Lower Brule)
- Host Gear Up groups for campus visits (e.g., Crow Creek)

On-Campus

- DSU's Retention/Advising Program provides tutoring and support services for all students on campus including our Native Students.
- DSU is expanding the CybHer efforts to include more Native students and teachers from Reservation Schools.
- DSU hosts the Dakota 38+2 Riders; this event invites the DSU and the Madison community to participate. There is a meal with traditional native foods and information on the history of the ride and what it means today. We have hosted the Sioux Chef at this event. Educational programs are offered for the campus as part of this event.
- Provide support for the DSU Native American Student Group
- DSU professors are presenting their Hiawatha Digital Humanities project.
- A Skin Deep program is provided to students. This program is designed to stimulate dialogue in a safe space where students have the ability and willingness to speak candidly about a subject that is often difficult for people to address honestly.



South Dakota School of Mines and Technology

Recruitment:

- American Indian Science & Engineering Society (AISES) Pre-College Outreach – This program provides science and engineering experiences for middle schools and high schools in area with high concentrations of American Indian children.
- Admissions Outreach – The SD Mines' Admission Office makes concerted efforts to connect with high school students, school counselors, and math and science teachers at the tribal high schools and at high schools with high concentrations of American Indian students. Recruiting efforts are made by visiting high schools and participating in college fairs across the state.
- Tribal School Outreach and Engagement Plan – Through the President's Office at SD Mines, specialized efforts are underway to increase engagement with regional tribal schools that include personal visits by the Director of Planning and Events. The Director makes presentations at the schools that discuss college planning and opportunities at SD Mines.
- Green Chemistry Outreach – This program is designed to promote excitement and an appreciation for both science and higher education to middle and high school students. The program delivers educational resources aligned with SD Science Standards to the Pine Ridge Reservation and Rapid City area. A separate summer camp was held on the campus at SD Mines where many of the students participating in the camp were American Indian (61-percent).

Retention/Support

- Multicultural Affairs Pre-Orientation – This program invites both incoming freshman and transfer students to arrive on campus a week before classes begin to start the acclimation process to college life. Students attend sessions to get oriented, meet their advisors, and are paired with a mentor.
- American Indian Peer Mentor Program – All American Indian students are paired with a senior or junior-standing mentor. The mentors provide guidance, connection to the campus, and other support and is geared toward reinforcing a Native support system for students.
- Office of Multicultural Affairs (OMA) – OMA provides direct student support services for all underrepresented students. Support services include, but are not limited to, scholarship alerts, internship/co-op information, leadership and professional development, program coordination, networking lunches, and social support. The office promotes inclusion initiatives across campus for faculty, staff, and students.



South Dakota School of Mines and Technology

Retention/Support

- South Dakota Jump Start Program – This program is a federally funded First in the World program designed to help students succeed in college by providing them a financial and academic “jump start.” This \$3.6 million federal grant is shared among all six public universities in South Dakota and includes Oglala Lakota College (OLC). Eligible individuals are Native American and low-income students who have graduated from a South Dakota high school and want to attend college for the first time. The program will end on September 30, 2019.
- National Science Foundation (NSF) Tiospaye Program – This program has received three NSF S-STEM grants in excess of \$1.8 million of which 85-percent goes toward scholarships for American Indian students in STEM fields. The students are provided weekly mentoring sessions, monthly mentoring with the program director, and weekly tutoring in key gateway classes such as math, chemistry, physics, etc. The program also provides bi-weekly professional lunch meetings that feature programming in the financial, academic, professional, cultural, and social support areas. The program moved into larger, newly remodeled space in the summer of 2016.

Project-Based Learning Opportunities

- National Science Foundation OSSPEEC II Grant – This grant is a pre-engineering education collaboration with OLC, South Dakota State University, and SD Mines. The project aims to increase recruitment, retention, persistence, and completion rates in pre-engineering and engineering programs for Native American students. The program provides culturally centered and integrated project based experiential learning through activities consisting of research on reservation needs (e.g. water quality, geology, and sustainability).
- Engineering Projects in Community Service (EPICS) – SD Mines is a partner with OLC and strives to focus at least 50-percent of the community design projects on addressing critical needs of the Native American communities. The program offers technical training and professional development in engineering designs.
- Research Experiences for Undergraduates (REU) – SD Mines is host to two REU sites and these programs provide undergraduate research opportunities for underrepresented students, especially Native American students. The REU sites engage students in a funded 10-week summer research experience.



South Dakota School of Mines and Technology

Scholarships

- Tiospaye Scholar Program – Nearly \$1.5 million in scholarship funds has been awarded to American Indian students over the past 10 years.
- Private scholarships – Nearly \$35,000 in funding provided by alumni, corporations, or other private donors is awarded each year to American Indian students.
- American Chemical Society (ACS) Scholars Program – The ACS program awards scholarships to underrepresented students majoring in undergraduate chemistry-related fields. Selected recipients are awarded up to \$5,000 per academic year.
- NSF All Nations Louis Stokes Alliance for Minority Participation – This program provides merit-based scholarships of up to \$1,050 per semester as well as travel funds for students to attend professional conferences.

Other

- American Indian Science & Engineering Society (AISES) – The SD Mines AISES Student Chapter promotes excellence, leadership, and opportunities for education and professional development. AISES participates in national and regional conferences, scholarships, job placement assistance, internships and co-op opportunities, networking and social support, community service, and campus involvement.
- Emergency Fund – This fund is intended for any student with a dire financial need and is to assist students with unexpected expenses which may put them at risk for dropping out of school.
- American Indian Honoring Ceremony – The OMA coordinates and sponsors this ceremony held in the spring the day before commencement. The ceremony celebrates and honors Native American graduates through a traditional meal, invocation, and songs.



South Dakota State University

SDSU's Wokini Initiative is a campus-wide effort to build upon SDSU's current tribal partnerships and the services provided by the American Indian Student Center at SDSU.

Specific programs to support Native American students include:

- SDSU 2 U: College Readiness on the Road. *The American Indian Student Center hosts a traveling new student orientation program entitled "SDSU 2 U: College Readiness on the Road". Individuals from SDSU including representatives from admissions, the American Indian Student Center, Financial Aid and the First-Year Advising Center visit reservation high schools including Flandreau Indian School/Flandreau High School, Dupree/Timber Lake High School, Todd County High School, Red Cloud High School and Little Wound High School. SDSU representatives address issues in regard to funding for college, residential life, the American Indian Student Center and services specific to American Indian students, advising, and numerous other topics.*
- Elder in Residence Program. *The American Indian Student Center continues its Elder in Residence Program to foster academic, cultural and social support for American Indian students pursuing higher education. For 2018-19, the elder in residence was Jace DeCroy. Jace, Professor Emeritus, is an enrolled member of the Cheyenne River Sioux Tribe and had an extensive career at Black Hills State University, Spearfish, South Dakota, as a professor in American Indian Studies. She also has had a significant impact on the BHSU community and around the region.*
- Partnerships with Tribal High Schools, Colleges and Universities, *Examples include:*
 - *SDSU aviation faculty flew four planes to Eagle Butte, SD on the Cheyenne River Reservation and spent two days educating middle school students about the field of aviation and facilitated flight simulations.*
 - *SDSU biology faculty have a partnership with the high school in Eagle Butte to offer insights and enhance student learning of biology.*



South Dakota State University

- American Indian Student Center . *The American Indian Student Center (AISC) provides space to accommodate programmatic needs of the AISC. A new AISC is under construction at SDSU with an estimated completion date of spring 2020.*
- Tiospaye Council. *The Tiospaye Council Consists of all tribal faculty and staff, and other faculty and staff throughout the university who have demonstrated a commitment to the work of the Council. The purpose of the Council is to advocate for Native American students to ensure all receive what they need to succeed in higher education. Council members offer their expertise to students to support their current and future academic and career goals, build knowledge base of current and past issues that impact American Indian student recruitment, retention and success and advocate for effective and inclusive classrooms, program, curriculum and policies.*
- Living Learning Community (LLC): Oyate Yuwitaya Tipi Inclusive Community (The Tribes/Peoples Live Together). *The Oyate Yuwitaya Tipi (OYT) is a community of Native and non-Native peoples provided with opportunities to enhance their understandings of the diverse histories, contexts, cultures, and experiences of American Indian and Alaskan Native peoples. Founded upon the principles of respect, reciprocity, responsibility, and kinship, the purpose is to be a living learning environment that fosters educational success, nurtures student leadership, promotes solidarity, and honorably acknowledges the Dakota, Lakota, and Nakota nations of South Dakota. Students in this LLC live in Mathews Hall (1st floor).*
- Student Organizations. *Two registered Native student organizations are AISES (American Indian Science and Engineering Society) and AISA (American Indian Student Association) and serve as cultural, social and educational outlets for all students at South Dakota State University.*



University of South Dakota

The University of South Dakota has a long history of offering programming designed to support the academic, co-curricular, and social success of its Native American students, with a record of student-centered efforts dating back several decades. USD's current efforts have evolved significantly over time and are housed in both Student Services and Academic Affairs.

Native Student Services (NSS) is a division of Student Services at the University of South Dakota, with a staff consisting of the Director, two graduate students and 10 Work Study students. The Director actively collaborates across university programs and departments to provide a wrap-around approach to Native student support on campus. Directed retention efforts include meeting with students and assessing their needs in relation to financial support, cultural needs, academic needs, social connections, interpersonal issues, etc. The Director also sits on the Native American Scholarship Committee, which coordinates the awarding of all scholarships specifically designated for Native students.

NSS programming centers around the academic, cultural, and social needs of Native American students on campus. Many programs are open to all students on campus and occur in collaboration with other university departments and offices. The Director also guest lectures when invited to speak for classes. Therefore, Native Student Services provides both directed programming for Native students and programming for the entire university faculty, staff, and students. NSS also serves as the home for USD's Tiospaye student group, which receives funding from the USD Student Government Association that supports, among other things, the university's annual Wacipi (powwow).

The Academic and Career Planning Center (ACPC) houses a professional academic advisor dedicated to solely to the academic, co-curricular, and individual success of USD's Native students. All undergraduate Native students, no matter what their academic program, have this advisor assigned to them. The advisor monitors their academic progress and feedback from faculty through our Coyote Connections student success software, meets with students frequently to discuss their academic progress and plan their curriculum through graduation, and advises students about how best to navigate the campus processes they encounter through the Business Office, Registrar's Office, and Office of Financial Aid. The staff in Native Student Services also uses Coyote Connections to track students and communicate with advisors. NSS acts as a supplemental advisor and is often the first line contact when personal or academic challenges arise with students, coordinating with the ACPC advisor as needed.



South Dakota Opportunity Scholarship

Goal – Ensure the continued success of the South Dakota Opportunity Scholarship

FY21 Budget Request - \$100,000 base funding






South Dakota Opportunity Scholarship *\$100,000 base funding*

The South Dakota Opportunity Scholarship encourages students to take the college preparation curriculum, maintain good grades, and attend college in state, making them much more likely to stay in South Dakota after they graduate. The 2019 Legislative session saw a change to the eligibility requirements for home schooled students. The change will likely result in more home school students that are eligible for the scholarship. The South Dakota Opportunity Scholarship awards \$1,300 a year for the first three years and \$2,600 in the final year. The total value of the award over 4 years is \$6,500, which is approximately 20% of mandatory tuition and fees.

A variety of data elements are evaluated each year to determine the ongoing impact of the Opportunity Scholarship for meeting program objectives. Since its inception, the program has provided funding to approximately 1,200 new students each year. For Fall 2018, a total of 1,293 new students participated in the program along with an additional 2,794 students who have maintained their eligibility into the second, third and fourth year of enrollment. For FY21 it is expected that a total of 4,144 will take advantage of the scholarship benefits.

Each year the Board of Regents creates the High School to College Transition Report to document the first year performance of students from the state's school districts. When comparing the most recent graduating class against those graduates who enrolled in the Regental system prior to the start of the scholarship program, the number of students meeting ACT college readiness benchmarks in the areas of math, English, science, and reading has increased by more than 9%. Also, the number of high school graduates scoring 24 or higher on their ACT has shown a marked increase since the implementation of the Opportunity Scholarship. More South Dakota high school graduates continue to become eligible due to the flexibility allowed for completing career and technical education courses as an alternative to completing two years of world or foreign language, and legislation to allow any student with a 28 or higher on the ACT (yet not meeting the curriculum requirements) as well as a new path for home school students to qualify. Finally, as one of the primary drivers for establishing the program was to ensure that a larger number of the state's most talented students remain in the state after earning their degree, the placement data for scholarship recipients has averaged 69%.

Current award numbers have not been received from the campuses, this proposal is an estimate and will be adjusted based on the award information finalized in the Fall. The proposed funding would allow the Board of Regents to continue to award scholarships to deserving high school graduates.




FY21 General Fund Utility Adjustment *\$572,500 base funding*

The Board of Regents' system utility budget provides heating fuels, sewer, water and electricity to the two special schools and the academic facilities at the universities. Revenue facilities such as student unions and residential facilities must generate sufficient revenues to pay its utility costs.

The state has created a funding formula that uses projected cost increases and weather normalization to project budget needs. Additional square footage as well as yearly increases in water, sewer, and garbage rates will be considered.

Based on the BFM model, the needs for FY21 follow:

FY21 Utility Projections	
Electricity	\$ 4,738,521
Heated Contractual	\$ 2,862,218
Water	\$ 818,243
Garbage & Sewer	\$ 623,314
Subtotal	\$ 9,042,296
Additional Square Footage	\$ 183,968
Energy Conservation Pool	\$ 89,299
Total FY21 Utility Budget Projection	\$ 9,315,563
FY20 Base Utility Budget	\$ 8,742,063
Increase for FY21	\$ 573,500



Annual Lease Payment Adjustment (\$5,559) base funding

The 2007 Legislature (HB1101) authorized the South Dakota Building Authority (SDBA) to provide \$8.6M in revenue bonds for critical maintenance and repair of certain academic buildings. The legislature appropriated general funds to the Board of Regents to pay the annual lease payment, which is repaid by the M&R fee revenue dollars. Securing a general fund appropriation provided the Board of Regents the full faith and credit of the state, thus securing a very favorable bond rating.

According to the current lease payment schedule, the FY21 critical deferred maintenance lease payment is \$644,137, a decrease of \$5,559. The table below provides the payment adjustments for the life of the bonds and the necessary adjustments in funding.

Critical Deferred Maintenance

	<u>General Fund</u>	<u>Differential</u>
FY20	\$649,696	
FY21	\$644,137	(\$5,559)
FY22	\$637,894	(\$6,243)
FY23	\$630,965	(\$6,929)
FY24	\$628,427	(\$2,538)
FY25	\$624,975	(\$3,452)
FY26	\$620,609	(\$4,366)
FY27	\$615,330	(\$5,279)



Other Fund Authority Adjustment
\$3,803,265
23.0 FTE

<i>University of South Dakota...</i>	<i>\$1,022,265, 3.0 FTE</i>
<i>University of South Dakota Law School...</i>	<i>\$121,000, 0.0 FTE</i>
<i>South Dakota School of Mines & Technology...</i>	<i>\$500,000, 20.0 FTE</i>
<i>Dakota State University...</i>	<i>\$2,160,000, 0.0 FTE</i>

USD is requesting an increase to other fund authority of \$1,022,265 and 3.0 FTE, due to increases to student fees, growth in the book store operations and Discovery District employees becoming USD employees.

The USD Law School is request an increase to other fund authority of \$121,000 due to enrollment growth and increases to instructional costs.

SDSM&T is requesting an increase to other fund authority of \$500,000 and 20.0 FTE due to increases in student fees and growth of program awards and external grants.

DSU is requesting an increase to other fund authority of \$2,160,000 due to increases in food service expenses.

Tuition Fund Authority Adjustment
\$500,000
0.0 FTE

<i>Northern State University...</i>	<i>\$500,000, 0.0 FTE</i>
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NSU is requesting an increase to tuition fund authority of \$500,000 due to a change in fund source for salaries previously paid from other and federal funds.



ONE-TIME BUDGET PRIORITIES





**SOUTH DAKOTA
STATE UNIVERSITY**

Veterinary Medical Program

Goal – Address a shortage of veterinarians and create additional opportunities for South Dakota students to pursue veterinary careers.

FY21 Budget Request - \$275,000 one-time funding

<i>Director</i>	<i>\$143,529</i>
<i>Administrative Support</i>	<i>\$ 84,671</i>
<i>Operating Expenses</i>	<i>\$ 46,800</i>





*South Dakota State University
Rural Veterinary Medical Education
\$275,000 one-time funding*

In December 2018, the SDBOR approved the agreement between SDSU and the University of Minnesota for a collaborative Rural Veterinary Medical Education program. A phased-in redirection of the tax revenues from the sale of animal endoparasiticides and ectoparasiticides was authorized in 2019 through the legislative process (SB43). This satisfied the funding requirement needed to sustain the new rural veterinary medical education program in the long term.

This request is for one-time funding needed in year two of a three-year transition period to bring the program online, after which the program will be fully funded by the redirected tax revenues as well as tuition generation.

This funding request for \$275,000 would be used to cover the salaries and benefits for a full-time director (\$143,529), a full-time administrative support position (\$84,671), and operating expenses (\$46,800) for supplies and other necessary expenditures.

This program will have many positive impacts. It will help address a shortage of veterinarians, will create additional opportunities for South Dakota students to pursue veterinary careers, will support a growing agriculture industry in the region and will address the concern of student debt in veterinary education.

Funds are requested to develop the capacity of the South Dakota State University Department of Veterinary and Biomedical Sciences to deliver the first two years of coursework toward a doctor of veterinary medicine degree program. Students will complete their third and fourth years of coursework at the University of Minnesota College of Veterinary Medicine in St. Paul, with the degrees conferred by the University of Minnesota. Cohorts of 20 students per year are projected.

Food animal veterinarians are a critical component to an adequate food supply and continued economic growth in animal agriculture in South Dakota and the United States. Over the past several years, all segments of the food animal industry have grown in South Dakota, including the beef, dairy, swine, and poultry sectors. This trend is predicted to continue, and the South Dakota Department of Agriculture is proactively recruiting animal agriculture to the state. Adequate availability of veterinary services is pivotal to maintaining animal and public health. South Dakota has critical economic interest in ensuring a supply of highly skilled veterinary expertise with a local knowledge base.

SDSU has the capacity to leverage its position as a leading educator of students in the agricultural sciences to help fulfill South Dakota's food animal veterinary professional workforce needs. By partnering with the University of Minnesota, SDSU will provide the first two years of veterinary education with the final two years of education delivered at Minnesota, also called a 2+2 veterinary program.



DAKOTA STATE
UNIVERSITY


*The Cyber Cync Incubator and
Entrepreneurial Center*

*Goal – Expand Entrepreneurial and Workforce
Development Initiatives*

FY21 Budget Request - \$396,073 one-time funding

<i>Director</i>	<i>\$349,573 (3-yrs)</i>
<i>Operating Support</i>	<i>\$ 46,500 (3-yrs)</i>





*Dakota State University
Cyber Cync Incubator and
Entrepreneurial Center
\$396,073 one-time funding*

OPPORTUNITY: EXPANDED ENTREPRENEURIAL AND WORKFORCE DEVELOPMENT INITIATIVES


The opening of the MadLabs facility in the Fall of 2019 will launch a new era of research and development for Dakota State University, the region and the state of South Dakota. The operation of R&D clusters in areas of strategic interest, e.g., digital forensics, IOT security, adaptive technologies and several others, open doors to new possibilities for expanded entrepreneurial and workforce development initiatives. Of particular interest are the opportunities for strong support of business start-ups and entrepreneurial activities. This proposal is one such effort.

OPPORTUNITY: NEW PARTNERS

In the course of executing our most recent master academic plan, we have been able to forge good partnerships with companies across the United States in the area of computer and cyber sciences.

One such partnership is with the Northrop Grumman Corporation where through many discussions and meetings we have created the groundwork for a systematic relationship. This proposal seeks to build on our relationship and establish a functional extension of the research, development and entrepreneurial activity inherent in the MadLabs.

We are proposing the development of the DSU Cyber Cync Incubator and Entrepreneurial Center (CCIEC). This organization will be formed in solid partnership with the Northrop Grumman CIMS program and bwtech@UMBC (University of Maryland Baltimore County). Making good use of the Heartland Tech Center, CCIEC will provide a tech-transfer, entrepreneurship and business start-up center. CCIEC will provide dedicated office and co-working facilities, support services, an entrepreneurs-in-residence program, advisory boards, strategy/business development services, product development, training & networking events, access to DSU and MadLabs resources, and industry partner- ships via the Cync program.



*Dakota State University
Cyber Cync Incubator and
Entrepreneurial Center
\$396,073 one-time funding*


OPPORTUNITY: THREE-YEAR PILOT CENTER

We envision a multi-layer partnership with NSIN (National Security Innovation Network), the Northrop Grumman Cync, and state funding to provide operating support for a three-year pilot center. This center will reinforce relationships with SD EPSCOR and SD SBIR, will help us facilitate our CEO student group (business plan competitions, for example), and form a fundamental relationship with the researchers and projects of the MadLabs. The entrepreneurs-in-residence program will model the successful effort at bwtech@UMBC and allow us to use the accumulated experience of DSU alumni, regional and local entrepreneurs, and successful business spin-off leaders in making the incubation experience at CCIEC.

DELIVERABLES: ECONOMIC DEVELOPMENT, VISIBILITY, THOUGHT LEADERSHIP, CYBERSECURITY SOLUTIONS

We envision several specific project-related outcomes and deliverables from this partnership. For example, we anticipate an 18-month incubation term for individuals and organizations who join our partnership. Together, and with the assistance of Northrop Grumman advisors who have been involved with this sort of activity for nearly 10 years in Maryland, partners in the center will receive mentorship, partnership, collaboration opportunities, oversight from experts in business development, milestone marking and business plan development. We see this proposal as a positive link to the MadLabs operation that will spur economic development, visibility, and thought leadership while promoting innovative cybersecurity ideas and solutions.

This proposal requests funds to leverage an initial commitment from Northrop Grumman (\$140,000 plus in-kind services). It is anticipated that after three years, the Center would generate funds to continue operations indefinitely.



*Dakota State University
Cyber Cync Incubator and
Entrepreneurial Center
\$396,073 one-time funding*

The initial three-year budget is as follows and is the basis for the FY21 budget request of \$396,073. DSU is requesting this amount be a one-time special appropriation with 5 years to spend. This is a similar structure of the special appropriation received by DSU in FY14 to provide seed funding over 5 years to expand IS and Cyber Security Programs.

CyberCync	Yr 1	Yr 2	Yr 3	Total
Salary (Director)	90,000.00	92,700.00	95,481.00	278,181.00
Flex Benefits	12,825.00	13,210.00	13,607.00	39,642.00
Health	10,071.00	10,575.00	11,104.00	31,750.00
Travel	10,500.00	10,500.00	10,500.00	31,500.00
Supplies	-	2,500.00	2,500.00	5,000.00
Contractual Services	-	2,500.00	2,500.00	5,000.00
Capital Assets	5,000.00	-	-	5,000.00
	128,396.00	131,985.00	135,692.00	396,073.00

Funding for the initial three years of Cyber Cync would be supported by the state funding. DSU also has a verbal commitment from a private firm to provide start up funds for this Center. Those dollars would allow the Center to operate beyond the initial three-year period.

Future Sustainability

After the start-up period, the Center would be funded through a variety of revenue sources. The start-up period provides the necessary time for the director to secure these funding streams. Funding sources include, but are not limited to:

- Rental revenues from private companies and business start ups
- University Overhead on grants/contracts
- Direct grants supporting the Center

There are a number of opportunities for direct funding for an entrepreneurship lab such as Cyber Cync, but DSU needs to have the Center started in order to apply for these types of grants. The start-up funds from the state would enable DSU to engage with these granting entities and other supporting partners to provide funding on an ongoing basis.



CAPITAL FUNDING PRIORITIES





UNIVERSITY OF
SOUTH DAKOTA

Health Sciences Building

Goal – Growing the healthcare workforce in rural South Dakota is a critical need that can only be accomplished by investing in the state's only interprofessional School of Health Sciences at the University of South Dakota.

FY21 Budget Request - \$10,000,000 one-time funding

or

\$735,818 annual debt service





*University of South Dakota
Health Sciences Building
\$10,000,000 capital funding request*

USD's School of Health Sciences houses 11 of USD's fastest-growing majors. A new, integrated School of Health Sciences facility will educate future healthcare professionals in an interprofessional space and provide hands-on experiences in simulation, classroom and lab spaces that meet accreditation and regulatory standards.

This, in turn, allows many programs to expand the class size to meet the workforce needs of South Dakota.

Meeting South Dakota's Needs

Gov. Kristi Noem has identified investing in rural healthcare as one of her top priorities. As local healthcare providers focus on expanding access through a network of rural clinics and innovative telehealth technologies, South Dakota must focus on preparing qualified healthcare professionals who can take care of the physical and mental health needs of its citizens.

USD is an emerging leader in telehealth initiatives, including:

- Offering a telehealth course for addiction counseling and prevention as well as occupational therapy
- Developing a teledentistry course for dental hygiene
- Spearheading a teleaudiology pilot program in nursing and communication sciences, in collaboration with the Department of Health Early Hearing Detection and Intervention program
- Piloting an Extension of Community Healthcare Outcomes (ECHO) program through grant funding to enhance professional development of the rural workforce using Zoom technology in collaboration with the University of New Mexico

Additionally, Gov. Noem's focus on mental health, particularly for South Dakota's Native American population, strongly aligns with USD's mission of serving the health needs of the public, especially those in rural, medically underserved and health care shortage areas.

USD recognizes that the need for a qualified health and human services workforce in South Dakota is great—particularly in the fields of social work and mental health and in South Dakota's K–12 schools. USD is the only public university in South Dakota that offers bachelor's and master's degrees in social work, producing responsive, multi-talented professionals who can address needs and emerging issues from individual services to policy to community development.



*University of South Dakota
Health Sciences Building
\$10,000,000 capital funding request*

A new School of Health Sciences building will also allow for growth in South Dakota's only dental hygiene program. The program is limited by space constraints, which requires each cohort to be limited to 32 students, though typically 65–75 qualified students apply each year. A 2015 report by the U.S. Department of Health and Human Services shows that South Dakota is projected to see a shortage of 43 FTE dental hygienists by 2025. By creating a contemporary space that accommodates more students, USD will be able to double enrollment in dental hygiene classes, thereby meeting the health needs of South Dakotans.

USD is uniquely positioned to expand its ability to supply a highly qualified health and human services workforce for local healthcare employers and services in South Dakota. A new building will support anticipated growth in demand for a health care workforce and provide a contemporary facility that strengthens the interprofessional collaboration focus of the School of Health Sciences.

Contemporary Space for Efficient and Collaborative Practice

The School of Health Sciences is currently housed in five different buildings on USD's campus in Vermillion, and one building at the Health Science Center in Sioux Falls. This fragmentation makes it difficult to create efficiencies or collaborative experiences.

Many of USD's health sciences programs, including nursing, physician assistant, social work, addiction studies and health sciences major, are currently housed in former 1950s dormitory Julian Hall, a relic of a bygone era with cramped facilities that previous consultants have agreed are wholly inadequate to modern educational needs. It would cost approximately \$18.5 million to bring Julian Hall and Julian Addition up to basic standards, including repairs such as roof replacement, asbestos abatement, foundation repairs, new windows, etc. These repairs would not convert the space to the type of space the School of Health Sciences needs to expand its program offerings and adequately meet South Dakota's workforce needs.

Conversely, USD projects it would cost approximately \$22 million to build a contemporary 45,000 square-foot health sciences building capable of recruiting and educating South Dakota's future healthcare professionals. By demolishing the outdated building and constructing a new facility, USD would reduce its footprint by more than 5,000 square feet, improving its overall space utilization and reducing future costs in maintaining a space that supports USD's School of Health Sciences.



*University of South Dakota
Health Sciences Building
\$10,000,000 capital funding request*

We Are South Dakota Health

USD is home to exceptionally accomplished, professional faculty who provide a wide range of health and human service programs for undergraduate and graduate students. These students deserve a facility that enables them to learn in an interprofessional and collaborative space and that sets them up for success in South Dakota and beyond.

Maintenance and Repair Plan

The Board requires a funded maintenance and repair plan for all new buildings such that the new building does not negatively impact the current investment in maintenance and repair. The University of South Dakota is planning to eliminate Julian Hall and Julian Hall Addition and build a new Health Sciences Building which will result in a net reduction in square footage of 48,556 square feet of academic space. Other changes to facilities and storage space will result in a further reduction of 9,075 square feet, for a total reduction of 57,631. The plans will eliminate a backlog of deferred maintenance of \$19,065,500 at a cost of \$23,9080,000 for the three proposed buildings (Health Sciences, Grounds Facility, and Facilities Building). Focusing on the space that will be replaced with the new Allied Health Building, the replacement values for the current Julian Hall buildings is \$21,197,041, and the proposal is to replace that with a \$22,000,000 building. The difference is an increase to the replacement values of \$802,959, or a requirement for an additional \$16,059 in annual maintenance funding at 2%. The change in funding is almost a wash. Further, USD continues to invest substantial private dollars into maintenance and repair annually that would far exceed the additional need.

SOUTH DAKOTA



SCHOOL OF MINES
& TECHNOLOGY


Ascent Innovation Building

Goal – Increase ties to industry and assist our partners in enhancing their competitiveness. Bringing industrial practices to SD Mines, to prepare students for employment and future entrepreneurial ventures.

FY21 Budget Request - \$2,000,000 one-time funding

\$3,500,000 other fund authority





*South Dakota School of Mines & Technology
Ascent Innovation Building
\$2,000,000 one-time funding
\$3,500,000 capital funding*


EXECUTIVE SUMMARY

Over the past 20 years, South Dakota School of Mines & Technology (SD Mines) has focused its research and development on four major strength areas – Energy and Environment, Materials Manufacturing, Underground Science and Engineering, and STEM Education. As a result, SD Mines has become a powerful engine for economic development in South Dakota and its research has been the core nucleating factor for numerous small business startups in Rapid City, SD. The economic impact of research and development conducted at SD Mines continues to grow exceeded \$13M in 2018, with the creation and sustainment of more than 100 high paying local jobs. In order to continue this trend and to accelerate economic development, it is essential to provide the infrastructure necessary for additional research. The request for FY21 is capital funding of \$5.5M for the purchase of the 40,000 sq. ft. Ascent Innovation building, located on the SD Mines campus, and the necessary renovations to make the space suitable for research and development.

BACKGROUND

Research success at SD Mines over the past 20 years has been significant. The campus is nationally and internationally recognized for its outstanding education and research in several disciplines critical to national security. Examples of new research efforts are the new NSF-Track 1 research effort in which SD Mines is the lead institution, and a planning grant where SD Mines would establish a new Industry University Collaborative Research Center for development of a new generation of solid-state batteries.

SD Mines has grown its engagement with entrepreneurs through an Entrepreneur-in-Residence program that currently has 26 participants. Several of these entrepreneurs have become CEOs of start-ups involving SD Mines technologies. SD Mines students have won first place in the Governor's Giant Vision Competition for 5 consecutive years.




*South Dakota School of Mines & Technology
Ascent Innovation Building
\$2,000,000 one-time funding
\$3,500,000 capital funding*

South Dakota has over twelve hundred manufacturers and the state is well-positioned to take advantage of the economic opportunities in advanced manufacturing to support current and future SD companies. Over the past 15 years, SD Mines has made enormous progress in developing capabilities in R&D and characterization of advanced materials and composites, additive manufacturing, materials processing technologies, and robotics. A number of new centers have been funded by the State and established at SD Mines:

- Composite and Nanocomposite Advanced Manufacturing (CNAM)
- Advanced Manufacturing Process Technology Transition and Training (AMPTECH)
- Repair, Refurbish, and Return to Service Applied Research Center (R3S)
- Security Printing and Anti-Counterfeiting Technology (SPACT)
- Center for Friction Stir Processing (CFSP)
- Biochemical Spatiotemporal NeTwork Resource (BioSNTR)
- Surface Engineering Research Center (SERC)
- Center for Bio-Composites.

Numerous multi-million dollar grants and contracts have been awarded by the State, Department of Defense, National Science Foundation, Department of Energy, National Aeronautics and Space Administration, and industry to support research and development at the university, to create intellectual property, and to transition new technologies to industry partners. Several successful high-tech companies were established by graduates or employees from SD Mines, such as:

- RPM & Associates
- VRC Metal Systems
- CalxAqua, LLC
- Nanofiber Separations
- NanoPareil
- New Tech Ceramics, LLC
- Daktronics, Inc.
- RESPEC.




*South Dakota School of Mines & Technology
Ascent Innovation Building
\$2,000,000 one-time funding
\$3,500,000 capital funding*

These companies provide opportunities for graduates from SD Mines to find high-tech jobs with high salaries in South Dakota. As a result of the reputation of SD Mines, Caterpillar opened a design center in Rapid City, which currently employs over ninety engineers and technicians. In addition, the centers located at SD Mines have attracted numerous global multi-million dollar companies, such as: Kaneka; Johns Manville; Mitsubishi; Continental Structural Plastics; PolyOne Corp.; SGL Group; Teijin Co.; Stratasys; Steelcase; MOOG; United Technologies; Lockheed Martin; Nordson-Xaloy; Boeing; American Axle; and Daktronics.

In order to further stimulate economic development by enabling the creation of new high-tech companies and creation of a large number of high-paying jobs in the state, especially in the Black Hills area, there is a need for the formation of integrated R&D facilities. The proposed purchase and renovation of the Ascent Innovation building would serve as the catalyst and technology enabler for local, state and national companies. By increasing ties to industry, we plan to assist our partners in enhancing their competitiveness, and bring industrial practices here, to prepare students for employment and even establishing their own firms.

While all of this research and economic activity bodes well, there are significant challenges in the research area at SD Mines. The most significant barrier to continued research growth is lack of space. Mines has accommodated research growth in research through use of very low-quality, surplus space owned by the School of Mines Foundation, by leasing space, and by overcrowding research equipment. In our nationally recognized composites research facility, we have stopped accepting any research awards that require more equipment space, even if the equipment is donated. SD Mines can only continue to expand research in this high value area with sufficient and appropriate space to do the work.




*South Dakota School of Mines & Technology
Ascent Innovation Building
\$2,000,000 one-time funding
\$3,500,000 capital funding*

The spaces that have been leased from outside entities cause a number of issues, including:

- Additional financial burden on the university budget;
- Lack of integrity of university spaces; and
- Inconvenient location for students who must commute between the campus and these spaces

Governor's Research Centers, combined with numerous multi-million dollar federal grants and contracts from the Department of Defense, the National Science Foundation, the Department of Energy, NASA, and industry have developed an impressive core of facilities and capabilities that are having an economic impact in South Dakota. We propose to consolidate the operations and capabilities of these laboratories, currently scattered on and off the Mines campus, and create room for research expansion.

SD Mines proposes to purchase the existing Ascent Innovation building, which is currently located on the university campus, to support and expand national caliber research and economic development. Funding for the purchase of the Ascent Incubator Building will come in the form of grants overhead revenue. Estimated annual payments of \$275,000 will be made over the life of the 20-year bonds.



*APPENDIX I: SUMMARY OF
ORIGINAL CAMPUS
PRIORITIES*

