

Minnesota State University, Mankato

FY2019 Institutional Equipment Prioritization Work Group Recommendations

FY2019 Institutional Equipment Spending Budget Target \$ 1,000,000
Less: Prioritization Work Group Recommendation Running Total \$ (997,437)
Difference or Remaining Unspent Balance \$ 2,563

Report Date: May 10, 2018

Items Approved for Funding By the President's Cabinet

Item #	Divisional Priority	Division	Departmental Unit	Equipment / Furnishing Description	Rationale	Match	Quantity	Unit Price	Total Request	Divisional Running Total	Recommended for FY19 Inst Equip Funding (Type in Yes or No for automatic calc in next column)	Recommended for FY19 Inst Equip Funding Running Total
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1	1	Academic Affairs	AH&N - Dental Hygiene (1.a)	Dental simulators	The CSB Dental Clinic was strategically equipped with 24 operatories to allow for adequate space to increase class size from 20 to 24 students. However, the Simulation Lab where pre-clinical training on instrumentation skills and restoration functions takes place was initially equipped with only 20 dental simulators due to lack of funding. In order to increase class size from 20 to 24, it is first necessary to equip the Simulation Lab with 4 more dental simulators. Two dental simulators were purchased this fall with college dollars, and an additional 2 dental simulators are still needed to fully equip the Simulation Lab to full capacity. The room was designed to support 24 simulation stations, so the cabinetry and necessary hook-ups are already in place. Direct benefits of equipping the Simulation Lab with 2 additional dental simulators to allow us to increase class size to 24 would be increased FTE production for the college, additional students would get accepted into the program of their choice, and it would help meet the demand of the profession as dentists in southern Minnesota would have an easier time filling these positions. Additionally, the Simulation Lab is utilized by not only the junior and senior dental hygiene students, but also approximately 25 dental assisting students, as we have a partnership with South Central College's Dental Assisting program.	2,100.00	2	10,500.00	\$ 18,900	\$ 18,900	Yes	\$ 18,900
2	2	Academic Affairs	AH&N - Dental Hygiene (1.b)	Dental mannekin heads and teeth	The Dental Simulators as noted above do not come with mannekin heads/teeth, which are a necessity in order to use them. This will allow the MSU dental hygiene and SCC dental assisting students to practice instrumentation skills, which is the foundation of our curriculum and to learn restorative functions, which allows them to learn how to place dental fillings.	880.00	4	2,200.00	\$ 7,920	\$ 26,820	Yes	\$ 26,820
3	3	Academic Affairs	ED - SPED (1.a)	Table, swivel chairs, mobile cart	Mn DoE reports a significant shortage of SPED teachers, to meet this demand we are seeking to update classroom with state of the art technology and collaborative centers for teams up to six students. This will enhance the educational experience and help to recruit new students.	20,000 - EDU	5 tables 30 chairs cart hndlg fee	2,476.20 363.47 1,295.00 492.00	\$ 5,072	\$ 31,892	Yes	\$ 31,892
4	4	Academic Affairs	ED - SPED (1.b)	Video Equip for tables & instructor including audio & control system	Mn DoE reports a significant shortage of SPED teachers, to meet this demand we are seeking to update classroom with state of the art technology and collaborative centers for teams up to six students. This will enhance the educational experience and help to recruit new students.	20,000 - EDU 5,000 - IT		49,833.85	\$ 24,834	\$ 56,726	Yes	\$ 56,726
5	5	Academic Affairs	ED - SPED (1.c)	Misc equipment, installation, programming & design	Mn DoE reports a significant shortage of SPED teachers, to meet this demand we are seeking to update classroom with state of the art technology and collaborative centers for teams up to six students. This will enhance the educational experience and help to recruit new students.	5,000 - IT		9,120.00	\$ 4,120	\$ 60,846	Yes	\$ 60,846
6	6	Academic Affairs	SBS - Social Work (1)	The SOWK interview assessment lab does not function. The equipment needs to be replaced with updated hardware and software in order for the system to work as designed.	The Department of Social Work is requesting equipment upgrades for their Social Work Skills Lab, including a software upgrade and recording equipment upgrades (camera, mics, and remote). The Skills Lab is an essential component of their approach to teaching their students. Students learn interviewing and counseling skills, therapeutic interventions, and skills in facilitating interviews with individuals, couples, families, and groups. Social Work has multiple courses at the undergraduate and graduate levels that utilize the skills lab on a regular basis. Having a functioning skills lab is essential to the training of students and preparation for their interaction with clients in the field.		Extron camera	Microphones Program 2,826.00 2,247.00 3,000.00 700.00	\$ 8,773	\$ 69,619	Yes	\$ 69,619

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7	7	Academic Affairs	SET - Biological Sciences (1)	Autoclave	This is a built-in, large sterilizer, that will replace one that has been non-usable, and deemed unrepairable, due to safety concerns. The sterilizer is used to kill the bacterial and viral cultures, critical to learning outcomes in the teaching labs for most of the microbiology courses, including the large enrollment service course (service for health science, nursing), general microbiology (BIOL 270). Other courses using this equipment include medical microbiology, immunology, food microbiology, molecular biology, microbial ecology and bioremediation, and microbial physiology and genetics. A thorough kill of all microbes is an important part of our safety protocol.		1	44,000.00	\$ 44,000	\$ 113,619	Yes	\$ 113,619
8	8	Academic Affairs	UEE (1)	2 Vaddio ZoomShot systems. 1 Vaddio 1-RU rack panels. 1 Extron processor. 1 Extron remote control panel. 1 Extron Extender Plus Tx. 1 Extron Extender Plus Decora Rx. 1 ClearOne ceiling microphone. 1 Shure microphone mixer. Fasteners, connectors... Installation	Installation of a modern capture room to utilize for courses and programming offered at the Edina facility. Necessary to accommodate the needs of programs, staff and students at this facility. Audio/video recording system for capture room 526 in the Edina building. The system will be built upon an Extron SMP 531 H264 Streaming Media Processor. Includes the installation of all equipment, terminating connections, rack cabling/terminating, programming, alignment and testing.			2-\$2,138.75 \$66.25 \$2,826.10 \$230.10 \$448.50 \$552.50 \$457.77 \$254.10 \$50.00 \$840.00	\$ 10,003	\$ 123,622	Yes	\$ 123,622
9	9	Academic Affairs	Library (1)	Furniture Upgrades: Flexible seating furniture for public seating areas	Memorial Library users expect a variety of furniture available for different purposes. Some very old (outdated/worn-out) furniture is no longer functional. It needs to be discarded and replaced. The Library will leverage this request and fund half (15,000).	15,000.00		30,000.00	\$ 15,000	\$ 138,622	Yes	\$ 138,622
10	10	Academic Affairs	AH&N - Human Performance Vi Holbrook Lab - Ex Sci (2.a)	1 Treadmill, safety arch with harness & chest belts (S,M, L) Floor protection mate/connection cable/installation and 1 day Clinical education	The HP HC Teaching Lab equipment is to be combined with R & R remodel request. Treadmill: Current piece of equipment is an older model with a narrow running belt, no side rails, and no harness. We feel this is dangerous to do maximal testing on because the subject could fall to either side. The new treadmill has a safety arch and harnesses that allow the subject to grab the side rails if needed and/or for the harness system to catch them should they fall. From a liability standpoint, this is a much better system. The treadmill is the foundational piece of equipment for a HPL and this allows us to conduct tests safely and will be a great recruiting tool. The treadmill will be used in HP 414, 456, 466, 348, 486, 601, 602, and 609 as well as faculty and student research.	10,000.00	1	27,987.00	\$ 17,987	\$ 156,609	Yes	\$ 156,609
11	11	Academic Affairs	AH&N - Human Performance Vi Holbrook Lab - Ex Sci (2.b)	Monark 891E Wingate with dock to dock station	The HP HC Teaching Lab equipment is to be combined with R & R remodel request. Monark 891E & Concept 2 (SkiErg): We currently have no equipment options for people with lower body injuries or disabilities. These pieces of equipment allow us to test people who are limited to upper body activities. We can also use this equipment in undergraduate & Graduate classes (HP 414, 466, 601, 602, 609) to show the differences in work, power, endurance, etc. of the upper vs. lower vs whole body.		1	9,419.00	\$ 9,419	\$ 166,028	Yes	\$ 166,028
12	12	Academic Affairs	AH&N - Human Performance Vi Holbrook Lab - Ex Sci (2.c)	Quark T12xUSA (12-lead wireless)Stress, Rest ECG with Interpretation & Patient Database, Electrodes for ECG	The HP HC Teaching Lab equipment is to be combined with R & R remodel request. Quark T12 (Wireless ECG): This unit gives wireless capabilities and replaces older equipment. This wireless unit allows subjects to move away from testing device without unhooking leads, helps minimize artifact and noise related to traditional ECG, and allows more students to safely get closer to the subject on the treadmill to take blood pressure or other measurements. This equipment can be used in the following undergraduate and graduate courses: HP 414, 466, and 645.		1	7,717.50	\$ 7,718	\$ 173,745	Yes	\$ 173,745
13	13	Academic Affairs	AH&N - Human Performance Vi Holbrook Lab - Ex Sci (2.d)	Concept 2 (CTS) Ski Erg Monitor with floor stand	The HP HC Teaching Lab equipment is to be combined with R & R remodel request. Ski Erg: We currently have no equipment options for people with lower body injuries, disabilities, or limitations due to overweight/obesity. This equipment is also commonly used in CrossFit training and competitions so it serves many groups. This equipment can be used in the following undergraduate and graduate courses: HP 102, 348, 414, 456, 486, 601, 602, and 609, to show the differences in work, power, endurance, etc. of upper vs. lower vs. whole body.		1	1,040.00	\$ 1,040	\$ 174,785	Yes	\$ 174,785
14	14	Academic Affairs	AH&N - Human Performance Vi Holbrook Lab - Ex Sci (2.e)		The HP HC Teaching Lab equipment is to be combined with R & R remodel request. This unit gives us wireless capabilities and replaces older equipment. This wireless unit allows subjects to move away from testing device without unhooking leads, helps minimize artifact and noise related to traditional ECG, and allows more students to safely get closer to the subject on the treadmill to take blood pressure or other measurements. This equipment can be used in the following undergraduate and graduate courses: HP 414, 466, and 645.		1	21,245.00	\$ 21,245	\$ 196,030	Yes	\$ 196,030

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15	15	Academic Affairs	ED - KSP (2.a)	Table, power data module outlets	Mn DoE reports a significant shortage of SPED teachers, to meet this demand we are seeking to update classroom with state of the art technology and collaborative centers for teams up to six students. This will enhance the educational experience and help to recruit new students.		6 tables 12 outlets freight design installation	1,006.20 249.49 100.00 55.00 1,185.00	\$ 10,371	\$ 206,401	Yes	\$ 206,401
16	16	Academic Affairs	ED - KSP (2.b)	Video Equip for tables & instructor including audio & control system	Mn DoE reports a significant shortage of SPED teachers, to meet this demand we are seeking to update classroom with state of the art technology and collaborative centers for teams up to six students. This will enhance the educational experience and help to recruit new students.	20,000 - EDU 5,000 - IT		39,713.02	\$ 14,713	\$ 221,114	Yes	\$ 221,114
17	17	Academic Affairs	ED - KSP (2.C)	Misc equipment, installation, programming & design	Mn DoE reports a significant shortage of SPED teachers, to meet this demand we are seeking to update classroom with state of the art technology and collaborative centers for teams up to six students. This will enhance the educational experience and help to recruit new students.	5,000 - IT		10,255.00	\$ 5,255	\$ 226,369	Yes	\$ 226,369
18	18	Academic Affairs	SBS - Anthro / Geog for AGES (2)	Additional 30 Terabytes of memory for new SAN server	The new SAN server will not increase our approximately 10 TB available memory. We need 100-plus TB for teaching and researching. We propose adding approximately 30 TB with two requests, one to directly enhance teaching and learning, the other to directly enhance research capabilities		1	19,005.45	\$ 19,005	\$ 245,375	Yes	\$ 245,375
19	19	Academic Affairs	SET - Chem and Geol (2)	1. CO2 sensor with computer interface; 2. CO2 / O2 sensor	A benchtop CO2 sensor and additional sensor for oxygen would enable accurate quantification of the gas in a range of applications including lab analysis and analysis of environmental samples. In particular, a method would be designed to use these sensors to accurately quantify the carbonate mineral content of rocks, sediments, and soils. Carbonates are important to understanding sediment and soil chemistry, and they are common in a wide range of materials in our region. Quantifying carbonates with a benchtop CO2 protocol would provide a leap forward in accuracy and sample throughput relative to currently available methods at MSU. This method could be easily learned by students, and employed in a range of activities ranging from teaching (GEOL 320 and 449) to acquisition of new grants and contracts associated with agriculture and natural resources.		PAIR	7,500.00	\$ 7,500	\$ 252,875	Yes	\$ 252,875
20	20	Academic Affairs	Library (2)	Flexible furniture to create group study spaces for students	The number of group study rooms available is insufficient for current demand. The library needs to expand the options by providing flexible arrangements in open spaces that will allow students to work in groups and have working spaces with writing boards and power sources, outlined with flexible/portable walls	15,000.00		30,000.00	\$ 15,000	\$ 267,875	Yes	\$ 267,875
21	21	Academic Affairs	AH&N - Nursing (3.a)	Patient Exam Tables for education of Family Nurse Practitioner Students at 7700 France Ave, Edina:	The 5th floor renovation lab/classroom combination (Room 531) and video capture (Room 526) require patient exam tables. Quote from DRE and MN Med are available upon request. Quotes have been obtained on repairing/refurbishing our 7 old exam tables donated to program years ago but not much more to replace and have under warranty. MN Med will remove and donate old tables.	9,185.00	8	1,550.00	\$ 3,215	\$ 271,090	Yes	\$ 271,090
22	22	Academic Affairs	AH&N - Nursing (3.b)	Wall Mounted Patient Diagnostic Systems for education of Family Nurse Practitioner students at 7700 France Ave, Edina	The 5th floor renovation allows for 6 wall mounted diagnostic systems (otoscope, ophthalmoscope, specula dispenser, etc.); 5 of these units will go in Room 531 and 1 in Room 526. Two of the exam tables will not be against walls so no wall units are needed for them. Quote from DRE is available.		6	995.00	\$ 5,970	\$ 277,060	Yes	\$ 277,060
23	24	Academic Affairs	SBS - GEOG (3)	Additional 30 Terabytes of memory for new SAN server	The new SAN server will not increase our approximately 10 TB available memory. We need 100-plus TB for teaching and researching. We propose adding approximately 30 TB with two requests, one to directly enhance teaching and learning, the other to directly enhance research capabilities		1	19,005.45	\$ 19,005	\$ 296,065	Yes	\$ 296,065
24	26	Academic Affairs	AH&N - Nursing (4)	Laerdal SimBaby High-Fidelity Manikin	This addition of a new high-fidelity baby (6 month old) will complete our full renovation to the new Maverick Family Nursing Simulation Center. We have one manikin in the center that requires external air compression along with a link box and requires a fully tethered operational system. We would like to update this last member of the manikin family with a wireless high-fidelity manikin. This price includes a VP Platinum 3 year warranty for preventative maintenance on-site and loaner unit. This is an essential component of this highly technical unit. Simulation operations would stop if the manikin had to be sent in for repairs (sometimes taking 3 weeks for repairs). Once wireless, we have the capability of moving the manikin throughout the sim center as well as providing academic support to other departments such as Dental and Human Performance.		1	58,427.19	\$ 58,427	\$ 354,492	Yes	\$ 354,492
25	27	Academic Affairs	ED - CSP (4)	i2i Chairs w/tablets and w/o, small 4 seat table, collaborative technology	Room AH 317 needs to have updated furniture and media so that it is accessible for students to engage in both f2f and online learning. This requires an environment with accessible, flexible and reflective of the future.	10,000 - IT		66,700.00	\$ 56,700	\$ 411,192	Yes	\$ 411,192

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26	28	Academic Affairs	SBS - Sociology, Corrections, Aging Studies, Nonprofit Leadership, Applied Organizational Studies (4)	Panels, Seating and Casework	There are 21 faculty members, several adjunct faculty, graduate assistants and work study that utilize this space. This work area includes office work stations for staff, supply storage, file cabinets, printers, mailboxes, and the only work area for the office complex. The current set up is very inefficient and does not provide work space needed for efficiency or usability of area. This area was last updated in 1997 and is in poor repair (broken laminate, hinges and stained among other issues.) Detailed plans and estimates attached.			13,726.99	\$ 13,727	\$ 424,919	Yes	\$ 424,919
27	30	Academic Affairs	SET - Physics and Astronomy (5)	Lab Chairs	Last year we were able to replace the lab stools in many of our teaching labs and classrooms. We would like to complete this process.		40	200.00	\$ 8,000	\$ 432,919	Yes	\$ 432,919
28	31	Academic Affairs	AH&N - Nursing (6)	HD Vaddio Cameras	These cameras will complete the conversion to the new Maverick Family Nursing Simulation Center from Wissink Hall. These were cut from the budget when we moved to the new building.		12	4,000.00	\$ 48,000	\$ 480,919	Yes	\$ 480,919
29	32	Academic Affairs	SET - Computer Information Science Department (6)	Specification: OS-Windows Server 2016; GPU-4x NVIDIA Tesla P100 (16GB); Memory-512 GB DDR4 ECC RAM; Storage: 2TB SSD (550MB/s read); 3 years warranty Note: Depending on the available fund the server may be configured to different level of GPU power. The lowest still acceptable GPU power can reduce the total cost by up to \$20,000.00. However, higher power GPU will produce more desirable performance and better use.	This is a high-powered computer server for deep learning research projects. This server computer will also be used in teaching data science courses. The computer will need to have several high-performance graphic cards with CUDA architecture to support TensorFlow, Caffe, Keras, and PyTorch. (https://lambdal.com/products/blade#specs)	5,000.00	1	49,000.00	\$ 44,000	\$ 524,919	Yes	\$ 524,919
30	33	Academic Affairs	AH&N - Nursing (7)	Laerdal Advanced Ventilator Management Training	This ventilator system solution integrates IngMar Medical's ASL 5000 Breathing Simulator with Laerdal Medical's SimMan 3G allowing for authentic simulations to occur using high fidelity lungs to replicate human patients. This equipment can be used with customized training partners such as Mayo Health System as well as 4th semester senior undergraduate nursing students and graduate nursing students. Industry has also indicated that more respiratory therapists are needed and this is a potential new program to be offered in the Simulation Center.		1	50,918.00	\$ 50,918	\$ 575,837	Yes	\$ 575,837
31	37	Academic Affairs	SET (various departments) (10)	Electronic door access for labs in ME/CivE, ECET, Biology and CIS	This request continues our installation of electronic door access on labs and high student worker use areas to greater support safety, security and accountability.		8	4,000.00	\$ 32,000	\$ 607,837	Yes	\$ 607,837
32	39	Academic Affairs	SET - Chem and Geol (12)	Thermcraft XSB-6-6-9-1SS-F01-H Furnace	H Furnace operates at maximum temperature of 1600°C, has volume of 5 L, and chamber dimensions: 6 x 6 x 9". The XSB box furnaces have a hinged vertical lift door that keeps the hot door insulation always facing away from the operator. A door safety switch interrupts power to the heating elements when the door is opened. The furnace has Silicon Carbide (SiC) heating elements with free radiating dual helix design. The furnace chamber, heating elements, hearth plate and chamber thresholds are designed to be easily replaced if they become worn out. An air gap between the heated chamber exterior and furnace exterior surface is designed to minimize the external surface temperature of the furnace. The furnace has Thermcraft SmartControl touch screen PID control system, 10' (3m) power cable. Furnace and controller ship fully assembled and ready for connection to incoming power supply. The two existing box muffle ovens (FH 138) are quite old and can generate maximum temperature of 1100C. However, many solid phase reactions take place at higher temperatures. Therefore, purchase of the Thermcraft XSB-6-6-9-1SS-F01-H Furnace will be an important addition to the instruments used for the undergraduate research.		1	10,100.00	\$ 10,100	\$ 617,937	Yes	\$ 617,937
33	40	Academic Affairs	SET - Physics and Astronomy (13)	4-channel High Speed Digital Oscilloscope	This is a multi-purpose research tool that would be useful to at least four members of the department as part of their experimental physics research programs		1	20,000.00	\$ 20,000	\$ 637,937	Yes	\$ 637,937
34	1	Student Affairs	Security	Card access and camera for building entrances. Proposed additions include Wiecking Center, Performing Arts, Trafton and Athletics spaces.	Continue progress on the after-hours security plan to provide at least one card access entrance with one security camera for every building				\$ 35,000	\$ 35,000	Yes	\$ 672,937

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35	2	Student Affairs	Security	Exterior and interior security cameras	Campus Mall does not have adequate camera coverage for the frequency of and type of events held in the Mall Area. In addition, cameras, in public spaces, to address thefts in Athletics spaces.				\$ 15,000	\$ 50,000	Yes	\$ 687,937
36	3	Student Affairs	Security	Intelligent Management System for Department Keyrings	To control, monitor, secure and record security keyring use. This is the same system that the Physical Plant and Building Services use. This solution integrates seamlessly with our existing card access system.				\$ 20,000	\$ 70,000	Yes	\$ 707,937
37	4	Student Affairs	Campus Recreation with support and in collaboration with Human Performance.	Replace weight room equipment in Otto Recreation Center.	Most of the weight equipment is over 10 years old and is breaking down and needing more maintenance because of age. The equipment is used for Human Performance classes and Campus Recreation programs. Total project is \$85,000.	35,000.00	1 lot	varies	\$ 50,000	\$ 120,000	Yes	\$ 757,937
38	1	Finance & Administration	Intercollegiate Athletics	Athletic Equipment room - industrial clothes dryer	To replace an old model. The athletic equipment room runs laundry for all athletic teams and many other departments around campus 12 months a year. The existing dryer is well past it's shelf-life and is inefficient and barely operationally sustainable as replacement parts from the manufacturer are becoming unavailable.	0.00	1	\$ 16,500.00	\$ 16,500	\$ 16,500	Yes	\$ 774,437
39	2	Finance & Administration	Intercollegiate Athletics	Protective throwing cage system for outdoor track and field complex.	Install throwing cage at outdoor track complex used for outdoor track/field weight throwing practice and competitions. Current setup is a huge safety concern as existing layout poses risks of injury to student-athletes, coaches, spectators and users of the adjacent walking path. A new netting/framework/boarder throwing cage system would greatly reduce the potential for injury and make the area much safer for all who utilize the space.	0.00	1	\$ 14,500.00	\$ 14,500	\$ 31,000	Yes	\$ 788,937
40	3	Finance & Administration	Physical Plant / Athletics / Building Services	Articulating Boom Lift	The lift will replace the 1996 Z60/34 machine. The current machine requires significant maintenance with more than \$20,000 in deferred maintenance. Leaking hydraulic fluid not uncommon problem. Among other departments, Building Services needs outdoor lift for cleaning windows and exterior building walls; Physical Plant needs lift for replacing light bulbs in parking lots and MSU owned streets; Athletics uses lift for filming football games and practices. 22 year old machine.	\$7,500 Trade-in estimate; and \$2,500 Parking Fund contribution	1	\$ 75,000.00	\$ 65,000	\$ 96,000	Yes	\$ 853,937
41	4	Finance & Administration	Physical Plant - Grounds / Safety	John Deere Gator / Winter Package to be used for spraying salt brine on walk ways	The John Deere Utility Gator is a versatile piece of equipment that will improve safety and efficiency in performing grounds operations. It will be used year round for weekly trash, landscape projects, watering flowers, and dragging infields. One of the main uses of this utility cart is to apply salt brine to reduce our sand/salt amounts. This salt brine process will also help remove snow on sidewalks which reduces slips and falls from ice. Salt brine will also improve campus safety and appearance, causing less damage to sidewalks, building and inside floors. This utility cart will eliminate heavy trucks that perform daily tasks currently done with a pickup. Our current utility cart can't haul the amount of brine necessary to perform the task.	None	1	\$ 20,000.00	\$ 20,000	\$ 116,000	Yes	\$ 873,937
42	5	Finance & Administration	Building Services	28" Advance Rider/Scrubber machine for floors	This is a replacement machine for Highland Center, Myers Field House and Taylor Center.	\$2,500 Trade-in Value	1	\$ 17,500.00	\$ 15,000	\$ 131,000	Yes	\$ 888,937
43	6	Finance & Administration	Intercollegiate Athletics	Athletic training room - taping tables	Replace worn, broken and unstable taping/exam tables located in Athletic Training room in Highland Center. Current tables are past shelf life and have been repaired/stabilized over the years to their maximum levels.	0.00	1	\$ 28,500.00	\$ 28,500	\$ 159,500	Yes	\$ 917,437
44	1	ITS	ITS	ITS Furniture for Phase 2 of remodel	ITS is replacing furniture for staff that is 18 years old to create workspaces that are more collaborative. ITS budget pays for software, equipment, staff and support, but has little for furnishings for their own staff.	0.00	1	\$ 100,000.00	\$ 70,000	\$ 70,000	Yes	\$ 987,437
45	1	University Advancement	University Advancement	LED Lighting System for Bell tower	As part of a "Light the Tower" event that could be implemented as part of the sesquicentennial and homecoming festivities. A lighting system that would turn the bell tower purple using LED lighting. Paul Corcoran notes that we'll need 6-8 panels and will want to do other holiday lighting. Total project cost around \$9-10K		1	\$ 10,000.00	\$ 10,000	\$ 10,000	Yes	\$ 997,437
Items Recommended for Funding By the President's Cabinet Subtotal									\$ 997,437	\$ 997,437		\$ 997,437

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Items Not Recommended for Funding at this time												
46	23	Academic Affairs	ED - EEC (3)	Telepresence Equipment for AH 330	We plan on offering STEM certificate courses to our students in the Twin Cities on a regular basis. We feel it is vital for recruitment and retention that T.C. students have full access to the range of options that are available to the on campus initial licensure students. We have several other potential courses if we had regular access. Current TP are difficult to access and not set up to accommodate our pedagogies. This would also facilitate weekly department meetings to include those faculty members in the TC.	10,000 - EDU		35,305.00	\$ 25,305	\$ 25,305	No	
47	29	Academic Affairs	AH&N - Dental Hygiene (5)	ELO touch screen	The CSB Dental Clinic is divided into two sections with a north and south side, and initially a large ELO touch screen for communication between the students and faculty was mounted on a wall on the north side. After working in the clinic for a year, we have realized that a second screen for the south side is necessary for optimal communication between students and faculty. It is inefficient for faculty working on the south side to have to rely on the monitor on the north side to see which students need instructor checks and assistance. The direct benefit of placing an ELO touch screen on the south side is a huge increase in the efficiency of clinic flow, which reduces the stress for both faculty and students, and lends to a more positive experience for the patients. This screen would be utilized by both junior and senior dental hygiene students, in addition to SCC dental assisting students, due to the partnership between MSU, Mankato and SCC.	500.00	1	5,000.00	\$ 4,500	\$ 29,805	No	
48	34	Academic Affairs	SET - Physics and Astronomy (7)	Zeeman Effect Experiment	This equipment would be used by our Modern Physics courses, and increase the number and variety of seminal Modern Physics experiments our students can reproduce.		1	10,000.00	\$ 10,000	\$ 39,805	No	
49	35	Academic Affairs	SET - Construction Management (8)	1. Trimble C5 mechanical Total Station; 2. Trimble S5 Robotic Station +data collector	Both CM and CE use the tools for surveying. These would replace out of date survey equipment and update us to current industry use		5	5 X 5,875 + 15,669.37	\$ 45,044	\$ 84,849	No	
50	36	Academic Affairs	SET - Water Resources Center (interest from ECET, Geology and Geography) (9)	Monitoring Equipment for HABS: 1. DJI Matrice 600 pro; 2. Ronin MX Gimbal; 3. Sony 6300 alpha camera modified by life pixel 3. Spypoint Link Evo Verizon Cellular/air Camera Brown and lock box	This drone would be invaluable for monitoring harmful algal blooms (HABS) in S. MN lakes. HABS are a recreation/drinking water quality concern which is expected to increase with global climate change. HABS can form rapidly and unexpectedly, requiring the use of novel monitoring techniques such as drones to provide public health warnings. This drone would be equipped with a BNDVI (blue normalized difference vegetation index) camera for algal bloom mapping. Drones fill in key gaps in satellite data due to low satellite revisit periods and cloud coverage. The DJI Matrice 600 Pro is dependable, can cover a large area, and would be applicable to other MNSU projects such as agricultural mapping. It would assist with developing partnerships with other water quality/remote sensing researchers, and in training MNSU students and interns in applying cutting edge remote sensing methods to water quality monitoring. This equipment would increase our ability to obtain future funding: we plan to carry out a pilot project (applying for foundation funding during 2018), and ultimately scale up the work with a larger grant (USGS National Competitive Grant). The Gimbal supports the 600 pro and the Spypoint is a second novel technique for tracking HABS using trail camers with cellular service to send daily images of shoreline water clarity. This techniques is being used to track HABS by the USGS (Guy Foster, Kansas Water Science Center, personal communication). This device could be equipped in numerous lakes at a low cost to warn citizens of harmful algal blooms, and be used to cue drone surveys and water quality sampling.			4,999.00 1,600.00 1,273.00 1,224.00 300.00	\$ 9,396	\$ 94,245	No	
51	38	Academic Affairs	SET Advising Center (11)	Individual/Portable Telepresence Units	With two off-campus programs (Mesabi, Normandale) and new Edina and potential 2+2 Riverland offerings, we need individual units for our advising center to give better advising services to (1) students in those programs, (2) students in the Future Mavericks program. Additionally, we will use these for PDR and other one-on-one/small group meetings with faculty at those locations.	6,000.00 - SET	4	3,000.00	\$ 6,000	\$ 100,245	No	

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52	41	Academic Affairs	SET - CM (14)	iSPACE environments quote	Office remodel started 2 years ago. These are the pieces to complete the reorganization		1	7,900.22	\$ 7,900	\$ 108,146	No	
53	42	Academic Affairs	SET - ECET (15)	ECET Computing and Design Lab Xuanhui Wu, Qun Zhang and Puteri S. Megat Hamari Dell Precision 7910 Workstation	These workstations will be used for computationally intensive modeling of complex engineering problems and design such as antenna design, IC design, communication and signal processing system design, and microwave device design They will be used in the courses EE 341, EE487, EE622, EE 672, and EE476/576.		8	6,085.00	\$ 48,680	\$ 156,826	No	
54	43	Academic Affairs	SET - AMET (16)	Road Speed Fan for MnCAR lab	As the lab usage goes up and the focus on providing data that is recognized by the US EPA and California Air Resources Board. Currently we are using a fan that is on loan for a company we are doing work for. While this fan meets requirements for low speed vehicles, it will not meet requirements for larger vehicles and motorcycles. I am confident that we will be doing some research for Polaris on their low speed vehicles, but would not be able to work on their motorcycles and larger vehicles.	\$10K match from MnCAR	1	75,901.00	\$ 65,901	\$ 222,727	No	
55	44	Academic Affairs	SET - ECET (18)	ECET Power Systems Lab and Machines Equipment Winstead/Zheng/Mandojana Power Systems lab and machines equipment: (1) 8010-E Power Transmission Trainer with optional wind turbine simulator module, (2) 10 DC motor/generators, (3) 10 synchronous motor/generators	This equipment will allow the EET 355 course to conduct experiments in voltage stability on physical hardware as well as allow the EE 482, EE 474/574, EE 473/573, and EET 355 courses to have new and functioning machine modules for the machines lab to support the laboratory experience of the aforementioned courses.			80,000.00	\$ 80,000	\$ 302,727	No	
56	45	Academic Affairs	SET - ECET (19)	ECET Computer Engineering Curriculum Development Equipment Huang/He/Zhang 1. Nexys 4 DDR Artix-7 FPGA: Trainer Board 25 x \$320 = \$8000 (to be used in EE395 and Graduate level EE612) 2. DE10-Standard (an FPGA board with dual core ARM-A9): 25 x \$260 = \$6500 (to be used in EE282 and EET340) 3. STM32H753I-EVAL board (an STM-Cortex-H7 microcontroller board) 25 x \$481 = \$12025 (to be used in EE334, EET484, and other courses involved microcontrollers) 4. 25 sets of Raspberry Pi kit (including Raspberry Pi board, desktop box, mouse, & keyboard) for teaching introductory level ECET courses (such as EE107, EET142, EET143): 25 x \$260 = \$6500 5. Bluetooth evaluation kit (nRF52840) from Nordic (to be used in EE470 wireless networking course): 25 x \$42 = \$1050 6. Low-power networking LoRa protocol board (P-NUCLEO-LRWAN1) (to be used in EE470): 25 x \$70 = \$1750 7. Integrated circuit design lab computer stations (to be used in Integrated circuit courses/DSP/Machine Learning courses. (to be used in EE 481, EE 484, EE 472, EE 475): 8 x \$3,000	This equipment will allow us to improve our Computer Engineering curriculum via course and lab course offerings. The department has done a major revision to its Computer Engineering curriculum to help with both recruitment and retention. More importantly with the modern curriculum, students will be more competitive in their knowledge and skill grasped here in MSU Mankato. The proposed equipment will support our Computer Engineering courses extensively (also some courses in our Computer Engineering Technology courses with EET designation): EE 395, EE 612, EE 282, EET 340, EE 334, EET 484, EE107, EET142, EET 143, EE 470, EE 481, EE 482, EE 472, and EE 475.			59,825.00	\$ 59,825	\$ 362,552	No	
57	46	Academic Affairs	SET - CM (21)	1. Additional Projector for WC 350 classroom; 2. Ceiling mounted Document Camera for WC 350	students have a difficult time seeing/reading anything off the single projector. We plan to rearrange the room to accommodate two screens and will need one additional projector. Ceiling cam be installed/used in WC 350 for showing plan sets to the students. Our plan sets can be 24 X 36 and the standard document camera does not work easily.			5,000.00 2,000.00	\$ 7,000	\$ 369,552	No	

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58	50	Academic Affairs	SET - AMET (25)	Acoustical enclosure in CORE 111	The chassis dynamometer is used for AET 364 Chassis Design, AET 468 Auto. Research and AET Sr. Design classes but is very loud, running at 109dB at the vehicle. The impact on the neighboring office exceeds OSHA standards. This acoustical enclosure would be the most economical and effective way to control the noise. We have a similar one in NH 104 and it has worked very well. Cost incluts concrete work, electrical, and installation.			42,395.00	\$ 42,395	\$ 411,947	No	
59	5	Student Affairs	Campus Recreation in collaboration with Human Performance and the Wellness Committee	Complete 9-hole Disc Golf Course and Fitness Trail	We secured \$10,000 in Institutional Equipment funding in FY15 to build a 9 hole disc golf course in summer 2015, but over \$5,000 of that funding was taken back during budget cuts. We were not able to complete the tee pads and signage. In addition, we have a need for signage at the fitness trail to indicate a 5K route, distance of the three loops, a marked start/finish line, and a map to be located at the start of the fitness trail.		1 lot	\$ 5,600.00	\$ 5,600	\$ 5,600	No	
60	6	Student Affairs	Security	Utility vehicle	Small utility vehicle (similar or equal to a John Deere Gator) for patrol and emergency response to fitness trails and similar areas not accessible by a car or SUV.				\$ 16,000	\$ 21,600	No	
61	7	Student Affairs	Campus Recreation	Kayaks, paddles, lifejackets, storage unit and a trailer			1 lot	varies	\$ 11,450	\$ 33,050	No	
62	7	Finance & Administration	Environmental Health, Safety & Risk Management + Building Services	E-Ride Utility Vehicle - Electric and Lightweight	Need lightweight utility vehicle to replace existing all-electric 2007 utility vehicle. Lightweight vehicle suitable for going over sidewalks to pick up hazardous waste throughout campus.	None	1	\$ 23,000.00	\$ 23,000	\$ 23,000	No	
63	8	Finance & Administration	Physical Plant / Building Services - Maintenance Fleet	Maintenance Service Vehicles - Five Units for \$75,000 of which \$25,000 is funded internally from Facilities Management	Request funding to replace Maintenance Fleet Vehicles. The fleet is a hodgepodge of aging mechanically deficient vehicles. Many vehicles were aged out of the passenger fleet and are not supportive of the maintenance activity. The intent is to purchase used maintenance vehicles.		5 - Reduced to 2 vehicles by AVP	\$ 15,000.00	\$ 30,000	\$ 53,000	No	
64	9	Finance & Administration	Intercollegiate Athletics	Laser measuring/scoring device system for track/field practice and competitions	In-house laser measuring system would eliminate the need to contract out for the rental and service of this equipment for all indoor and outdoor track/field meets.	0.00	1	\$ 9,000.00	\$ 9,000	\$ 62,000	No	
65	10	Finance & Administration	Physical Plant	John Deere 8808 A Field mower	This athletic turf mower will replace an existing eight year old mower. This machine will greatly increase our mowing efficiency. Our current athletic mower is 6 ft wide and this newer mower is 8 ft wide. This new mower will reduce labor, fuel costs, and general maintenance work.	Trade in current mower	1	\$ 45,000.00	\$ 45,000	\$ 107,000	No	
66	11	Finance & Administration	Intercollegiate Athletics	Athletic training rehab equipment - modality units	Replace aging injury rehabilitation machines in Athletic Training rooms. Equipment used for treatment of injured student-athletes and as a injury preventative measure.	0.00	1	\$ 16,750.00	\$ 16,750	\$ 123,750	No	
67	12	Finance & Administration	Physical Plant / Building Services	Electric Battery-Powered Manually Propelled one man lift	This lift will replace a similar lift removed from service due to catastrophic failure of the mast. This lift is used in tight spaces for cleaning and mechanical tasks.	None	1	\$ 10,000.00	\$ 10,000	\$ 133,750	No	
68	13	Finance & Administration	Intercollegiate Athletics / Advancement	T-Shirt Gatling Gun	A multiple-chamber t-shirt cannon that can be used at parades, homecoming, athletic, and student events such as first-year student orientation. This would be a shared piece of equipment housed in Athletics and used by University Advancement from time to time.	0.00	1	\$ 5,000.00	\$ 5,000	\$ 138,750	No	
69	14	Finance & Administration	Intercollegiate Athletics	Portable, elevated press box/timing booth/concessions and ticketing trailer	For use with electronic timing system that is part of outdoor track facility. Elevated booth needed for timing system controls and also serve multiple purposes as press box, concessions area and ticketing trailer. Portability allows for placement at different field positions and facilities as needed.	0.00	1	\$ 25,500.00	\$ 25,500	\$ 164,250	No	
70	15	Finance & Administration	Intercollegiate Athletics	Public address system at Blakeslee Stadium	Update/replace neglected and outdated public address sound system components at Blakeslee Stadium. System has been pieced together and repaired as needed over the years and has reached the end of it life cycle in its current state. 3 of the 6 existing speakers are not operational and need to be replaced along with the system operating components.	0.00	1	\$ 24,000.00	\$ 24,000	\$ 188,250	No	

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71	2	ITS	ITS	Furniture for the ACC to create a maker space for students to have some technology available to create, build and demonstrate new skills or objects. This could be anything from 3D printed objects that are created, to programming robots, etc.	Space focused on 3D printing, 3D imaging, robotics, a place where people can bring their own devices with larger monitors. Equipment will be provided through Tech Fees. This request is for furniture for the space.	50,000.00	1	\$ 100,000.00	\$ 50,000	\$ 50,000	No	
72	2	University Advancement	University Advancement / Admissions	Customized Golf-Cart	An additional Customized Cart for Admissions to use for tours with families who have members with disabilities or mobility issues. Just like the Advancement Cart that was purchased last year.		1	\$ 17,000.00	\$ 17,000	\$ 17,000	No	

Items Not Recommended for Funding At This Time Subtotal \$ **700,247**

Items that do not seem to meet the criteria for funding

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73	25	Academic Affairs	SET - Chem and Geol (3)	YSI 6600v2-4 Multisensor Sonde-- Repairs	The YSI 6600v2-4 sonde, purchased using external funds from the Minnesota Pollution Control Agency's Clean Water Legacy, has served both teaching interests and research goals since its purchase in 2008. It has logged, literally, thousands of hours submerged in hostile environments that have now taken their toll on its functionality. Its on-board power supply needs to be refurbished. Its oxygen, turbidity, conductivity, and chlorophyll-a sensors all need to be replaced. The sum of these repairs (which is less than half of the cost of a new sonde) is not cheap; however, the per-usage cost of keeping the sonde fully functional is well worth the investment because all geoscience majors following the environmental track utilize the instrument and it is also used in virtually all surface water studies supporting senior and graduate student theses. It is also a point of distinction for our program—sondes like this one are not common and make use known regionally (by the MPCA, DNR, and MDA) as the providers of high quality science with impact.		1	9,000.00	\$ 9,000	\$ 9,000	No	
74	47	Academic Affairs	SET - Chem and Geol (22)	Vacuum tubing fittings , gauge and sensor	An additional vacuum line dedicated to vial preparation is needed to support research relating to carbonate analysis by acid digestion as well as research considering CO2 and other greenhouse gases in the environment. These methods would be learned by MSU students in a range courses(GEOL 320 and 449) and would aid in the acquisition of new grants and contracts associated with agriculture and natural resources.		1	1,579.00	\$ 1,579	\$ 10,579	No	
75	48	Academic Affairs	SET - Chem and Geol (23)	YSI 6136 Turbidity Sensor	The existing sensor was purchased in 2007 and dutifully fulfilled its responsibilities for the past 10 years. Being immersed in natural surface waters for much of its life, it has aged and water entered the sensor housing and damaged the inner electronics. It cannot be repaired; it must be replaced		1	1,900.00	\$ 1,900	\$ 12,479	No	
76	49	Academic Affairs	SET - Chem and Geol (24)	Dry block heater and required blocks	A dry block heater would allow for processing of larger batches of samples for geochemical analysis, associated with sediment and soil analysis including nutrient extractions and quantitative acid digestions (e.g. carbonate analysis). These tools would be used by MSU students in a range of activities from coursework (GEOL 320 and 449) to acquisition of new grants and contracts associated with agriculture and natural resources			990.00	\$ 990	\$ 13,469	No	
77	51	Academic Affairs	SET - Biological Sciences (26)	Whiteboards	Two units 98" x 60" and two units 90" x 48" including delivery for TR-S 284 & FH 232. These rooms have sensitive equipment that is harmed by the chalk dust.		4	2,262.00	\$ 2,262	\$ 15,731	No	

Items Not Recommended for Funding Due to Not Meeting Criteria Subtotal \$ **15,731**

Grand Total All Requests \$ **1,713,415**