

DATE: February 10, 2021

TO: Chief Academic Officers, Montana University System

FROM: Brock Tessman, Deputy Commissioner for Academic, Research, and Student Affairs

RE: March 2021 Request to Plan Proposals

The campuses of the Montana University System have proposed new academic programs or changes under the Request to Plan process authorized by the Montana Board of Regents. The proposals are being sent to you for your review and approval. If you have concerns about a particular proposal, you should share those concerns with your colleagues at that institution and try to come to some understanding. If you cannot resolve your concerns, raise them at the Chief Academic Officer's conference call on Wednesday, February 17. Issues not resolved at that meeting should be submitted in writing to OCHE by noon on Friday, February 19. If no concerns are received, OCHE will assume that the proposals have your approval.

Requests to Plan Proposals

University of Montana Missoula:

- Request to Plan an option in Engineering Physics within the Physics B.A.
[Item #193-1002-R0321](#)
- Request to Plan a Post-Baccalaureate Pre-Medical Certificate
[Item #193-1003-R0321](#)

Montana Technological University:

- Request to Eliminate the Geophysics Department at Montana Technological University
[Item #193-1501-R0321](#)
- Request to Plan a Certificate in General Studies
[Item #193-1502-R0321](#)

Helena College University of Montana:

- Request to plan a C.A.S. in Automotive Technology
[Item #193-1901-R0321](#)

Montana State University Bozeman:

- Request to Plan a Master of Music (M.M.) with an option in Music Education
[Item #193-2016-R0321](#)

Montana State University Billings:

- Request to Plan an A.A.S. in Diagnostic Medical Sonography
[Item #193-2701-R0321](#)
- Request to Plan an Institute for Neurodiversity and Applied Behavior Analysis
[Item #193-2702-R0321](#)

ITEM 193-1002-R0321

March 2021

Request for authorization to establish an option in Engineering Physics in the Physics B.A.

Program/Center/Institute Title: **Physics BA, Engineering Physics option**

Planned 6-digit CIP code: **14.1201**

Campus, School/Department: **University of Montana-Missoula, College of Humanities and Sciences**

Expected Final Submission Date: **June 2021**

Contact Name/Info: **Andrew Ware, andrew.ware@mso.umt.edu**

This form is meant to increase communication, collaboration, and problem-solving opportunities throughout the MUS in the program/center/institute development process. The completed form should not be more than 2-3 pages. For more information regarding the program/center/institute approval process, please visit <http://mus.edu/che/arsa/academicproposals.asp>.

1) Provide a description of the program/center/institute.

We propose a new option in Engineering Physics in the Physics B.A. This option is sought to provide students interested in engineering and physics a pathway to obtain a degree in physics with some engineering content. This proposal leverages existing courses in engineering offered as part of our Pre-Engineering program to provide a new pathway for students.

2) Describe the need for the program/center/institute. Specifically, how the program/center/institute meets current student, state, and workforce demands. (Please cite sources).

A number of graduates from UM's Department of Physics and Astronomy obtain jobs with engineering companies that are willing to hire either engineers or physicists. This degree will help make our graduates even more desirable for these companies and it will also raise awareness among potential students that this is a career path for students obtaining a degree from our department.

3) Describe any significant new resources (financial, staff, facility, new curricula) needed to launch and sustain the program/center/institute.

No new resources are required for this program. The engineering courses in this proposal are offered as part of our Pre-Engineering program and the physics courses are offered as part of our Physics program.

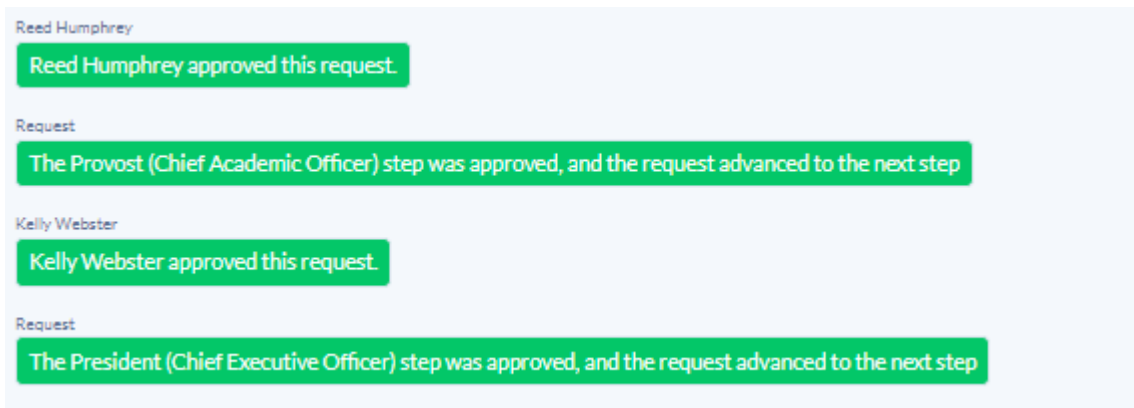
4) Describe any efforts or opportunities you have identified for collaboration either within the institution or between MUS institutions (i.e. articulation, course-sharing, research collaboration).

We have been working with representatives from the engineering program of Montana Tech to strengthen our Pre-Engineering program. We added three additional lower-division engineering courses at UM so our students will be better prepared when they transfer to an engineering school. This proposed new option will allow us to use these courses more effectively as they are required for this option. This option will serve students who are interested in both physics and engineering and it will allow students to obtain a degree in physics with a solid introduction to engineering.

5) Describe how the program/center/institute fits with the institutional mission, strategic plan, existing institutional program array, and academic priorities as described in the most recent Academic Priorities and Planning Statement.

This program would advance the goal of Innovation by providing students with 21st Century skills. Physicists and engineers are at the forefront of solving problems through working with teams and developing creative methods for approaching and providing solutions to highly complex tasks. These tasks are highly interdisciplinary and have multiple solutions that foster creativity and a hands-on approach in a team environment. Engineering Physics bridges the gap between the applied, practical approach of engineering and the scientific method of physics. This program would contribute to and strengthen our Community of Excellence in Science and Technology.

<u>Signature/Date</u>
Chief Academic Officer:
Chief Research Officer*:
Chief Executive Officer:
Flagship Provost**: Approved on Coursedog
Flagship President**: Approved on Coursedog
<small>*Center/Institute Proposal only **Not applicable to the Community Colleges.</small>



ITEM 193-1003-R0321

March 2021

Request for authorization to establish a Post-Baccalaureate Pre-Medical Certificate

Program/Center/Institute Title: **Integrative Physiology and Athletic Training**

Planned 6-digit CIP code: **51.1102**

Campus, School/Department: **University of Montana-Missoula, College of Health**

Expected Final Submission Date: **June 2021**

Contact Name/Info: **Lily Apedaile, lily.apedaile@mso.umt.edu**

This form is meant to increase communication, collaboration, and problem-solving opportunities throughout the MUS in the program/center/institute development process. The completed form should not be more than 2-3 pages. For more information regarding the program/center/institute approval process, please visit <http://mus.edu/che/arsa/academicproposals.asp>.

1) Provide a description of the program/center/institute.

The Post Baccalaureate Pre-Medical Certificate is designed for students that already have completed an undergraduate degree in a non-science/health science field but are interested in attending a healthcare professional program such as medical school, physician assistant school, etc. The program is designed to be completed in a compressed time frame of 4 consecutive semesters. Once, completed the graduates will have the pre-requisite coursework to apply to a healthcare professional program.

2) Describe the need for the program/center/institute. Specifically, how the program/center/institute meets current student, state, and workforce demands. (Please cite sources).

Healthcare is the largest employment sector in Montana and also has one of the highest rates of jobs that go unfilled each year, approximately 22% of these positions go unfilled. Montana has 52 of 56 counties that are designated as healthcare provider shortage areas. There are 15 counties in Montana that do not have a practicing physician and 7 counties that do not have a practicing physician assistant. There is a strong need for students to enter into the healthcare field, especially at the provider level.

Many students graduate from college in a non-science field and realize that they would like to become a medical provider. However, they do not have the pre-requisite coursework to apply to medical school, PA school, etc. This means they either have to piecemeal coursework together at UM that is not cost/time-efficient or go to the post-baccalaureate program at MSU.

Creating this new certificate program will help with increasing the number of students that can attend a health profession school, and potentially increasing the number of providers in Montana, while doing so in a more efficient manner for the students.

3) Describe any significant new resources (financial, staff, facility, new curricula) needed to launch and sustain the program/center/institute.

No new resources would be needed to establish this program. The program would essentially be offering existing courses just in a sequence that allows students to complete the program in a condensed time frame.

4) Describe any efforts or opportunities you have identified for collaboration either within the institution or between MUS institutions (i.e. articulation, course-sharing, research collaboration).

This program would be a collaboration between the College of Health and the College of Humanities and Sciences since the coursework for this program is offered in both Colleges.

5) Describe how the program/center/institute fits with the institutional mission, strategic plan, existing institutional program array, and academic priorities as described in the most recent Academic Priorities and Planning Statement.

The COVID-19 pandemic has demonstrated that a large majority of leaders of tomorrow will need to be in the healthcare field. Students that complete this program will be able to make a large impact on the health of Montanans for decades to come by entering the healthcare field. It also embodies the interdisciplinary focus of the UM Mission by bringing together coursework, staff, and faculty from many different departments and Colleges on campus to make this program possible. This program will also be supported by the HCOP grant program in the College of Health so that American Indian students can pursue a career in healthcare with extra support.

<u>Signature/Date</u>
Chief Academic Officer:
Chief Research Officer*:
Chief Executive Officer:
Flagship Provost**: Approved on Coursedog
Flagship President**: Approved on Coursedog
<small>*Center/Institute Proposal only **Not applicable to the Community Colleges.</small>

Reed Humphrey

Reed Humphrey approved this request.

Request

The Provost (Chief Academic Officer) step was approved, and the request advanced to the next step

Kelly Webster

Kelly Webster approved this request.

Request

The President (Chief Executive Officer) step was approved, and the request advanced to the next step

Montana University System
REQUEST TO PLAN FORM

ITEM 1501-R0321

Meeting Date March 2021

Request to eliminate the Geophysics Department at Montana Technological University

Program/Center/Institute Title: **Elimination of the Geophysics Department**

Planned 6-digit CIP code:
14.3901

Campus, School/Department: **Montana Tech, School of Mines and Engineering**

Expected Final Submission Date:
February 2021

Contact Name/Info: **Dan Trudnowski, Dean of SME.**

This form is meant to increase communication, collaboration, and problem-solving opportunities throughout the MUS in the program/center/institute development process. The completed form should not be more than 2-3 pages. For more information regarding the program/center/institute approval process, please visit

<http://mus.edu/che/arsa/academicproposals.asp>.

1) Provide a description of the program/center/institute.

Eliminate the Geophysics department.

2) Describe the need for the program/center/institute. Specifically, how the program/center/institute meets current student, state, and workforce demands. (Please cite sources).

Until last year, Montana Tech offered a Geophysical Engineering BS degree in the Geophysics Department. For over a decade, this degree has had very low enrollment; for example, the last 2 years the enrollment is 8 FTE students. Also, industrial demand for the graduates has not significantly increased. Montana Tech can no longer afford to maintain a full program supporting this degree.

Students who are currently in the affected BS Geophysics program have been consulted about these proposed changes. Working with these students we will make appropriate accommodations to ensure that they can meet their desired educational outcomes with no additional time to completion

3) Describe any significant new resources (financial, staff, facility, new curricula) needed to launch and sustain the program/center/institute.

None. This will result in cost savings.

4) Describe any efforts or opportunities you have identified for collaboration either within the institution or between MUS institutions (i.e. articulation, course-sharing, research collaboration).

NA.

Montana University System
REQUEST TO PLAN FORM

5) Describe how the program/center/institute fits with the institutional mission, strategic plan, existing institutional program array, and academic priorities as described in the most recent Academic Priorities and Planning Statement.

This proposed change in the most recent Academic Priorities and Planning Statement was addressed with the following statement:

We are considering the merging of the Geophysical Engineering department with the Geological Engineering department. This new department would be the heart of our geosciences expertise at Tech.

This Request to Plan proposal are the steps that we would like to execute our plan. The elimination of the Geophysics Department and the BS degree will reduce our needs to hire faculty in these areas.

Signature/Date

Chief Academic Officer:

 12/25/2020

Chief Research Officer*:

Chief Executive Officer:

 12/30/2020

Flagship Provost**:

Flagship President**:

*Center/Institute Proposal only

**Not applicable to the Community Colleges.

FOR OCHE USE

Labor market outlook

**Related programs /
centers / institutes**

Montana University System
REQUEST TO PLAN FORM

**CAO discussion and
follow-up**

**ARSA/BOR comment
and direction for Level
II proposal**

Montana University System
REQUEST TO PLAN FORM

ITEM 1502-R0321

Meeting Date March 2021

Request to establish a Certificate in General Studies at Montana Technological UniversityProgram/Center/Institute Title: **Certificate in General Studies**Planned 6-digit CIP code: **30.9999**Campus, School/Department: **Montana Tech, Highlands College/Associate of Science**Expected Final Submission Date: **March 2021**Contact Name/Info: **Michelle Morley, Director Associate of Science**

This form is meant to increase communication, collaboration, and problem-solving opportunities throughout the MUS in the program/center/institute development process. The completed form should not be more than 2-3 pages. For more information regarding the program/center/institute approval process, please visit

<http://mus.edu/che/arsa/academicproposals.asp>.

1) Provide a description of the program/center/institute.

We are submitting this request to plan for a Certificate of General Studies. Providing students the option to earn a Certificate in General Studies demonstrates completion of the required 30 credits of the Montana Tech and MUS Core should students transfer within the MUS.

2) Describe the need for the program/center/institute. Specifically, how the program/center/institute meets current student, state, and workforce demands. (Please cite sources).

The Certificate of General Studies serves to fulfill the requirements of the MUS Core recognizing students may want to complete their generals at Highlands College before transferring to another institution within the MUS. Providing the certificate demonstrates successful completion of the MUS core creating a smoother transition for students post-transfer and delivers a stackable credential in one year for those students who may want to earn the Associate of Science at Highlands College prior to enrolling in their four-year BS program at Tech or another institution within the MUS.

This certificate can also be used by the dual credit program at Montana Tech and Highlands College. Providing the opportunity to earn 30 credits that will count towards their four-year degrees. The Certificate provides a clear guideline of the courses students should be taking for dual-credit that will count directly towards their generals and four-year degrees. Currently many students take any courses that are available for dual-credit which may not go towards a degree increasing their cost and time to a degree.

3) Describe any significant new resources (financial, staff, facility, new curricula) needed to launch and sustain the program/center/institute.

There would not be an additional cost or new resources associated with the certificate as the courses are already available through Highlands College/Montana Tech.

4) Describe any efforts or opportunities you have identified for collaboration either within the institution or between MUS institutions (i.e. articulation, course-sharing, research collaboration).

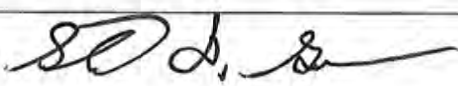

Montana University System
REQUEST TO PLAN FORM

The certificate is currently offered at Gallatin College, Great Falls College and Miles Community College. The certificate is collaborative in that it fulfills the requirements for the MUS Core thus providing a clear transition between institutions and further fulfill the goals of the two-year mission within the MUS.

5) Describe how the program/center/institute fits with the institutional mission, strategic plan, existing institutional program array, and academic priorities as described in the most recent Academic Priorities and Planning Statement.

BOR Policy 301.10, "The Montana University System (MUS) is committed to facilitating the ease of undergraduate student transfer to its campuses, particularly in the area of general education." The Certificate of General Studies achieves this goal with a credential that can be counted as successful completion within the institution and for the student.

Aligning with Montana Technological University's Brand Promise Montana True, the Certificate of General Studies promotes a smart investment for students in Southwest Montana communities surrounding Butte who can stay in their hometowns and complete the MUS Core at the lower two-year tuition level before making the transition to other institutions within the MUS. The Certificate in General Studies would increase retention and completion rates for students who begin their studies either through dual-credit or as freshman by allowing students to earn a credential upon completion of the general education requirements.

<u>Signature/Date</u>	
Chief Academic Officer:	 1/6/2021
Chief Research Officer*:	
Chief Executive Officer:	 1/6/2021
Flagship Provost**:	n/a
Flagship President**:	n/a
<small>*Center/Institute Proposal only **Not applicable to the Community Colleges.</small>	

Montana University System
REQUEST TO PLAN FORM

ITEM 193-1901-R 0321_RTP**Meeting Date March 2021****Item Name** Request for authorization to plan a Certificate of Applied Science in Automotive TechnologyProgram/Center/Institute Title: **University Of Montana**Planned 6-digit CIP code: **47.0604**Campus, School/Department: **Helena College**Expected Final Submission Date: **May 2021**Contact Name/Info: **Tammy Burke 406-447-6352**

This form is meant to increase communication, collaboration, and problem-solving opportunities throughout the MUS in the program/center/institute development process. The completed form should not be more than 2-3 pages. For more information regarding the program/center/institute approval process, please visit <http://mus.edu/che/arsa/academicproposals.asp>.

1) Provide a description of the program/center/institute.

Helena College is a two-year comprehensive college that currently offers students interested in Automotive Technology with a single option of an AAS degree in Automotive Technology. Helena College would like to offer a stackable credential in the way of a CAS in Automotive Technology after the first year of instruction. After an intense program review and revision in 2019, the addition of a work-based learning apprenticeship program, and further conversations with industry partners, we are seeking both a one-year and two-year option for students in the field of automotive technology.

2) Describe the need for the program/center/institute. Specifically, how the program/center/institute meets current student, state, and workforce demands. (Please cite sources).

Industry partners in the field of automotive technology have expressed that there are many areas of employment in the industry other than the certified master technician. There are currently thousands of unfilled jobs in these areas with projected growth in this area as well. The Department of Labor Data reinforces this need in their data and prediction for workforce 2019-2029 (see statistical data below). This field is in high demand for parts room workers, service specialists, tire and alignment technicians, lube rack technicians, etc. For workers in these areas they would not require the full AAS degree to be successful but would still need a thorough understanding of basic automotive function. By offering a CAS in Automotive Technology for students who have an interest in the field but may not have the skill or desire to become a Master Technician, we are providing an alternative option that leads to a high demand field.

Area	Period	Industry Code & Title	Occupation Code & Title	Base Year Employment	Projected Employment	Numeric Change	% Change	Annual Openings Due to Growth	Annual Openings I to Replacer
Montana	2019-2029 Projections	1021 - Trade, Transportation and Utilities	412022 - Parts Salespersons	1,303	1,391	88	6.7536%		
Montana	2019-2029 Projections	1021 - Trade, Transportation and Utilities	493023 - Automotive Service Techni..	1,427	1,479	52	3.6440%		
Montana	2019-2029 Projections	1021 - Trade, Transportation and Utilities	493093 - Tire Repairers and Changers	816	879	63	7.7206%		
Montana	2019-2029 Projections	1021 - Trade, Transportation and Utilities	536000 - Other Transportation Workers	342	353	11	3.2164%		

3) Describe any significant new resources (financial, staff, facility, new curricula) needed to launch and sustain the program/center/institute.

No new resources will be needed as this is the first year of a two-year program. We currently have all of the equipment and instructors needed for this addition of a certificate. There will be a change in order of first and second year courses and some course revisions that are performed to help prepare these students specifically but no other major changes or resources will be needed.

4) Describe any efforts or opportunities you have identified for collaboration either within the institution or between MUS institutions (i.e. articulation, course-sharing, research collaboration).

Since the revamp of the automotive program in 2019 we have been in conversation with Miles City Community College as well as Highlands College to collaborate regarding how to expand the apprenticeship program; however, due to the COVID pandemic these collaborations were put on hold. Helena College currently has an articulation with MSU Northern for a four-year degree in Automotive Technology and due to the fact that we are rearranging our courses for the CAS we will revise our current articulation.

5) Describe how the program/center/institute fits with the institutional mission, strategic plan, existing institutional program array, and academic priorities as described in the most recent Academic Priorities and Planning Statement.

The mission of Helena College is to provides access to and support of high quality lifelong educational opportunities for our diverse community. Helena College attracts a wide variety of students of all educational backgrounds and levels; and by providing an option of a CAS or AAS in this area will support a greater number of students who desire to work in this growing and dynamic field.

Signature/Date

Chief Academic Officer:

Chief Research Officer*:

Chief Executive Officer:

Flagship Provost:**

Flagship President:**

*Center/Institute Proposal only

**Not applicable to the Community Colleges.

ITEM XXX-2016-R0321**Meeting Date: March 2021****Item Name**

Program/Center/Institute **Master of Music (M.M.) with an Option in Music**
 Title: **Education**

Planned 6-digit CIP code: **13.1312**

Campus, **Montana State University, Bozeman, School of**
 School/Department: **Music**

Expected Final Submission
 Date: **Spring 2021**

Contact Name/Info: **Kristin Harney, Associate Professor of Music, kristin.harney@montana.edu, 406-994-5771**
Jason Bolte, Interim Director, School of Music, jason.bolte@montana.edu, 406-994-3562

This form is meant to increase communication, collaboration, and problem-solving opportunities throughout the MUS in the program/center/institute development process. The completed form should not be more than 2-3 pages. For more information regarding the program/center/institute approval process, please visit <http://mus.edu/che/arsa/academicproposals.asp>.

1) Provide a description of the program/center/institute.

The Master of Music with an Option in Music Education (MMME) degree is designed for practicing (“in-service”) music educators. This degree program can be completed 100% online, allowing currently licensed music educators to pursue advanced training and academic study without interrupting their existing professional lives. The online format has positive implications for music teachers who work in rural and remote schools throughout the state and often have geographical constraints preventing them from accessing regional universities. The proposed curriculum for the Master of Music with an Option in Music Education (MMME) will emphasize music education research, along with the practical application of knowledge. The participants in this program will typically enroll in one to two 3-credit courses each fall, spring, and summer semester, allowing them to complete the program in two to three years. Initially, students in the program will primarily be music teachers in Montana. Over time, we expect that this program could reach a larger audience outside of the state.

2) Describe the need for the program/center/institute. Specifically, how the program/center/institute meets current student, state, and workforce demands. (Please cite sources).

- There are many music teachers throughout the state of Montana who, due to their geography, cannot access on-campus graduate education in music education. The 100% online format of the proposed MSU Master of Music in Music Education responds directly to this specific audience and need.
- Current and prospective graduate students have expressed a strong desire for a master’s degree that is delivered by the School of Music. The MMME places music as the teachers’ primary area of study, allowing music to hold a prominent position in their advanced degree. A music specific masters is best for those students who wish to pursue doctorate degrees and is the industry standard, reflecting the discipline in which practicing music teachers wish to teach and study (National Association for Music Education; Montana Music Educators Association).
- There is a severe shortage of music teachers in the state of Montana. Our proposed degree targets currently licensed and employed music teachers and indirectly helps with the teacher shortage by focusing on teacher retention - enhancing teachers' skills and knowledge for their daily teaching, fostering a sense of community, and allowing them to advance on their pay scales. Typically, music teachers in rural Montana contexts are the sole music teacher for their entire district. Even in larger communities, music teachers often lack colleagues within their building and struggle to find professional development specific to their discipline. This program will create the opportunity for music teachers across Montana to build connections and develop professional networks. Additionally, teachers who hold masters degrees will see a salary bump in most Montana districts. For example, a fourth year teacher in Bozeman with a BA makes \$44,211. A fourth year teacher in Bozeman with a master's degree makes \$51,519. Our degree proposal also addresses another aspect of the music teacher shortage in the state, the lack of placements for undergraduate music education practicum students and student teachers.

3) Describe any significant new resources (financial, staff, facility, new curricula) needed to launch and sustain the program/center/institute.

- This proposed MMME represents a re-purposing of MSU's currently offered M.Ed. music option, and our initial target audience is comprised of students that are already enrolled at MSU. We anticipate that once the MMME program is approved, approximately 6-8 new students will enroll in the program annually. Once the program is fully operational in three to four years, we anticipate total program enrollment to sustain at 15-18 students. The numbers were determined by extrapolating current enrollment in the M.Ed. in C&I with an Emphasis in Music (approximately 4-5 students currently enroll in that program each year or begin as non-degree seeking graduate students) along with ongoing first-hand evidence from prospective students, current students, and graduates. It is likely that the Music Education option under the M.Ed. in Curriculum and Instruction will no longer be offered. The MSU Department of Education supports this MMME proposal.
- The School of Music has been offering 1-2 graduate-level music education courses each summer session and enrollment in these summer courses covers the associated salary requirements. Additionally, two graduate-level music education courses are currently included in our tenured music education faculty member's load and one graduate-level conducting course is being offered every academic year by a tenured school of music faculty member. The MMME curriculum will require the addition of two 3-credit courses, but only one new course will need to be offered each academic year (one course in odd years and the other in even years). The School of Music can cover the cost of this teaching assignment through added enrollment or by re-assigning the music education faculty member's load. Ideally, faculty load time and associated budget will be allocated for graduate coordinator duties; however, the current music education program coordinator is already serving as the academic advisor for music students in the M.Ed. program, so at least initially, this cost could be covered without any adjustments.

4) Describe any efforts or opportunities you have identified for collaboration either within the institution or between MUS institutions (i.e. articulation, course-sharing, research collaboration).


- Our proposal already largely exists under the rubric of another department at MSU. We are seeking to move administration of this existing program to Music, and to modify it slightly. At MSU, the graduate degree option currently available to practicing music teachers is a Master of Education in Curriculum and Instruction. The MSU School of Music faculty, School of Music Director, MSU College of Arts and Architecture Dean, MSU Department of Education, and MSU University Graduate Council support this proposal.
- We welcome the opportunity to work with other institutions across Montana. Graduate students enrolled in programs outside MSU may take our courses to transfer back to their home schools, and MSU graduate students are allowed to transfer in up to nine graduate credits from other institutions. Additionally, it is possible for individual courses within the MMME program to be taken by students outside of any degree program for recertification or licensure, and credits will allow teachers to progress on their district's salary scale (Montana Office of Public Instruction).
- While the *title* of this new degree (M.M.) is duplicated within the Montana University System, the content of the proposed degree program does not duplicate any existing MUS programs. The University of Montana currently offers a Master of Music (M.M.) in Music Education degree. Typically in the United States, some M.M. degrees are more focused on the development of musical performance skills, music theory, and musicology, while other M.M. degree programs are more pedagogy and music education research based. This is the case within the Montana University System: The University of Montana M.M. degree places more emphasis on music/music performance skills and our proposed Montana State University M.M. degree places more emphasis on music education and music education research. [Outside of elective credits, UM requires 16 credits in the area of music/music performance, 4 credits in music education, and 2-6 credits in research (depending on option chosen). Outside required education credits and electives, this MMME proposal requires 6 credits in music, 6 credits in music education, and 9 credits in research.] Therefore, the content of the two programs is significantly different and does not represent substantial duplication.

5) Describe how the program/center/institute fits with the institutional mission, strategic plan, existing institutional program array, and academic priorities as described in the most recent Academic Priorities and Planning Statement.

- The MMME program will fill a gap left by existing programs at MSU, particularly the current M.Ed. in Curriculum & Instruction through the Department of Education. The current M.Ed. in C&I offers graduate students three separate tracks: a) Technology Education; b) Educational Researcher; and c) Professional Educator. Within the Professional Educator track, there are four specializations available: 1) Elementary Teachers; 2) Secondary Teachers; 3) K-12 Music Teachers; and 4) Library Media Certificate Core. While it appears that K-12 music teachers have an appropriate option for graduate studies through the Professional

Educator track within the C&I degree, only 50% of the coursework in that program is designated as music or music education. In contrast, the MMME is designed with a primary focus on disciplinary coursework (75-90% music/music education, depending on electives). This unique focus of the MMME responds directly to the needs of music teachers throughout the state. The program also complements the current C&I graduate degree. The MMME includes a required education course (EDCI 514), and students may choose to take their six online elective credits through Education (EDCI, EDLD) and Native American Studies (NASX) as a part of their MMME program. In this way, the MMME taps into additional existing programs at the university, while responding to the needs of the music teachers in Montana who have expressed a desire to have a program that offers opportunities to deepen content and pedagogical knowledge specific to music education.

- The proposed M.M. degree program also advances all three of Montana State University's Intentional Focus areas. Because of the online format, access to MSU will be available to practicing music teachers throughout the state and beyond, helping to address Goals 1.1 and 1.2 to "broaden access for underrepresented populations" and to "expand high-quality graduate education." This proposal aligns with Goal 1.3 to "develop informed professionals." A major aspect of the proposed M.M. involves helping practicing music teachers to become better educators. M.M. students will be encouraged to disseminate their learning and research with conference presentations, community outreach, and scholarly writing, aligning with Goal 2.1 to "enhance the significance and impact of scholarship." This dissemination is already occurring, as practicing music teachers enrolled at MSU have presented and published at peer reviewed at state, regional, and national levels. Additionally, the M.M. degree is the necessary program of study if a student plans to eventually pursue a Ph.D. in Music Education, a potential future degree program for MSU. This supports Goal 2.3 related to strengthening MSU's "institutional reputation in scholarship." Finally, the MMME will respond to the needs of music teachers who have expressed a desire for a program that offers opportunities to deepen content and pedagogical knowledge specific to music education, addressing MSU Intentional Focus 3 to "enhance the well-being of individuals, organizations, and communities" and "improve the lives and livelihoods of Montanans."

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Chief Research Officer*:		
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CAO discussion and follow-up	
ARSA/BOR comment and direction for Level II proposal	

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ITEM 193-2701-R0321**Meeting Date: March 2021****Item Name: AAS in Diagnostic Medical Sonography**Program/Center/Institute Title: **Montana State University Billings**Planned 6-digit CIP code: **51.0910**Campus, School/Department: **City College/ Health Occupations**Expected Final Submission Date: **May 2021**Contact Name/Info: **Jenna Andujar jenna.andujar@msubillings.edu 406-896-5957**

This form is meant to increase communication, collaboration, and problem-solving opportunities throughout the MUS in the program/center/institute development process. The completed form should not be more than 2-3 pages. For more information regarding the program/center/institute approval process, please visit <http://mus.edu/che/arsa/academicproposals.asp>.

1) Provide a description of the program/center/institute.

The Associates of Applied Science (AAS) in Diagnostic Medical Sonography (DMS) will prepare students for career entry into the ultrasound modality of Diagnostic Imaging. It responds to the increasing demand by hospitals and health care centers for qualified, technically competent allied health providers, particularly in rural settings where it is desirable for imaging technologists to hold certifications in multiple modalities. The AAS in DMS will be a hybrid/low residency program. Didactics will be taught entirely online in addition to a five-day lecture/scan lab combination seminar held on campus at the beginning of the fall and spring semesters. A clinical component consisting of a minimum of 1680 hours will be completed at a health care facility, conveniently located to the student's preferred geographic location when possible. Supplemental scan hours for remote students can be performed using handheld ultrasound scan units that will be rented from the college. This technology will allow students to electronically submit scanned images to the registered Sonographer for grading. For local students, additional scan lab hours will be offered at City College campus under the direction of a registered Sonographer. Students participating in this program will attend full time for a period of 24 months consisting of two semesters each of fall, spring, and summer. It is anticipated that the first few graduating cohorts will come from existing Allied Health and Medical professional backgrounds seeking to acquire additional credentials, particularly those already serving rural Montana areas. However, since the program is hybrid in nature, we expect enrollment will grow to include students from other backgrounds and from surrounding states, especially as we pursue CAAHEP accreditation in the future. The City College program is the only one of its kind in Montana.

2) Describe the need for the program/center/institute. Specifically, how the program/center/institute meets current student, state, and workforce demands. (Please cite sources).

Bureau of Labor and Statistics Occupational Outlook Handbook (OOH), lists DMS as one of the fastest growing Allied Health occupations. Healthcare as an industry is expected to see faster than average growth for the next 10 years. With increasing healthcare costs, demand for safer and less expensive diagnostic imaging continues to grow as well. Increasingly, ultrasound is the modality best able to fulfill that demand (<https://www.radiologytoday.net/archive/rt0213p14.shtml>). OOH predicts sonography occupations will grow at a rate of 14% over the next decade. Through informal surveying of Imaging Department Managers across Montana and networking with representatives of various Sonography departments, the need for quality

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Diagnostic Medical Sonographers has become evident. Many of the job openings require graduation from an Associate's level or higher Sonography program, preferably one that is accredited. Montana currently has no such program. This is the need we hope to fill. Additionally, recruitment and retention of out of state candidates to fill these positions has historically been a challenge, especially for rural facilities. Marketing efforts should be targeted to rural areas as a pathway to fill open positions with current employees or hometown residents.

3) Describe any significant new resources (financial, staff, facility, new curricula) needed to launch and sustain the program/center/institute.

The current Certificate of Applied Science (CAS) in Ultrasound Technology offered at City College is a hybrid program taught by two full-time faculty members and two or more registered sonographers, depending on clinical site locations and scan lab availability. The costs for the instruction of the online didactics are absorbed into the existing duties of the full-time faculty who also instruct courses for the Radiologic Technology program at City College. Costs for the registered sonographers are budgeted through contractual agreements as Clinical Coordinators at \$25/hour for up to 19.5 hours/week. The addition of didactic course workload will necessitate an additional FTE status faculty or staff member to prevent overload for the existing faculty. The roles of the multiple contract agreements of the current registered sonographers could be combined into one full-time faculty FTE. This role will be responsible for all clinical coordination as well as Scan Lab instruction. As a full-time faculty member, this role would need to meet the annual course load hour requirements per Union contract, therefore allowing them to take on some of the online didactic instruction from expanding the curriculum. Handheld ultrasound scanners to be rented to students will be needed. There would be an initial expense of roughly \$30,000 for this technology which would be offset by adding additional equipment to the student fees for the program. These mobile units will provide students in remote areas the ability to attend mandatory scan labs, submit images for grading, and provide video competency exams within the first two semesters. Our CAS program has gratefully accepted numerous donations of ultrasound equipment from local and rural hospitals. Future moneys may be available through Perkins Grant funding or future donations from our clinical partners as the industry and technology continue to advance. A request for Perkins Grant funding has been submitted to help absorb some of the equipment expenses. Continuing education (CE) courses through Gulf Coast Ultrasound Institute will assist in keep in our instructors up to date with current ultrasound education and registry requirements, and Perkin Grant funding will be sought to assist with professional development expenses.


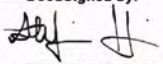
4) Describe any efforts or opportunities you have identified for collaboration either within the institution or between MUS institutions (i.e. articulation, course-sharing, research collaboration).

The expansion of curricula to include specific prerequisite courses has the potential to increase student volume in other departments. Future collaboration with the MSUB university campus, or another MUS 4-year campus, could possibly generate a 2 plus 2 pathways to a Bachelor's degree, similar to the BSN or BAS. Course-sharing could be done through opening Introductory Ultrasound courses to other Allied and Healthcare programs throughout the MUS System, offering the already established CAS in Ultrasound Technology. We have an existing partnership with Great Falls College to offer pre-requisite courses for Surgical Technologist, Dental Hygiene, and soon Respiratory Therapy. The addition of the AAS in Diagnostic Medical Sonography may create the opportunity to enhance our partnership capabilities with GFC and Gallatin to potentially obtain an endorsement.

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5) Describe how the program/center/institute fits with the institutional mission, strategic plan, existing institutional program array, and academic priorities as described in the most recent Academic Priorities and Planning Statement.

As stated in the 2020-2021 MSUB Academic Priority and Planning Statement, the development of an AAS in General and Vascular Sonography will help meet employment needs in the Billings, MT area and in regional VA facilities because there is a significant need for Vascular Sonographers to scan our aging Veterans. The VA facility in Billings has offered to be a clinical site for our students. This program is a natural extension of the existing Radiologic Technology Program and complements the existing focus on applied programs at MSU Billings. Due to the hybrid nature of the AAS in Diagnostic Medical Sonography, this program is consistent with the innovation of online teaching and learning efforts. The implementation of the handheld ultrasound scanners will promote best practices in online learning by providing a safe and effect supplement to clinical education. Additional efforts include development of online student success resources, information, and academic support services. MSU Billings sees great potential for continued priorities in online teaching and learning to support students who work in our community and care for family members as well as addressing the needs of Eastern and Central Montana

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<small>*Center/Institute Proposal only **Not applicable to the Community Colleges.</small>	

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ITEM 193-2702-R0321**Meeting Date** March 2021**Item Name** Institute for Neurodiversity and Applied Behavior AnalysisProgram/Center/Institute Title: **Institute for Neurodiversity and Applied Behavior Analysis**Planned 6-digit CIP code: **NA**Campus, School/Department: **MSU Billings**Expected Final Submission Date: **May 2021**Contact Name/Info: **Dr. Jana Marcette, jana.marcette@msubillings.edu, 406-657-2238**

This form is meant to increase communication, collaboration, and problem-solving opportunities throughout the MUS in the program/center/institute development process. The completed form should not be more than 2-3 pages. For more information regarding the program/center/institute approval process, please visit <http://mus.edu/che/arsa/academicproposals.asp>.

1) Provide a description of the program/center/institute.

Montana State University Billings proposes to establish an Institute for Neurodiversity and Applied Behavior Analysis. The institute will provide an on-campus demonstration site for socially valid applied behavior analysis programs for children and adolescents with social and behavioral challenges including autism spectrum disorders (ASDs), developmental disabilities, anxiety disorders, and other behavioral disabilities. The Institute will serve both the public and the University, providing direct services to children and families while functioning as a site for University graduate students to complete their clinical internships and supervision requirements for MSUB's Master of Science in Special Education Adv. Studies ABA degree program, recently accredited by the Association for Behavior Analysis International.ⁱ

In addition to ASD, Students with behavioral issues related to mental health (e.g., opposition, anxiety, disruption) and neurodiversity (e.g., ADHD, OCD, Tourette's Syndrome) have specific needs for behavioral interventions that can be extremely challenging for teachers to implement due to the individualized nature and design of treatment.ⁱⁱ The MSU Billings Institute for Neurodiversity and Applied Behavior Analysis will (a) extend and enhance training opportunities for school and community partners in the science of behavior analysis; (b) increase the number of board certified, licensed behavior analysts in this region; and (c) reduce wait-time for children in the community who are in need of ABA treatment for socially valid behavior change.

The Institute for Neurodiversity and Applied Behavior Analysis will further synergize scholarship efforts at MSU Billings in applied mental/behavioral health fields; including the M.S. Applied Behavior Analysis program in the College of Education, the M.S. Clinical Rehabilitation and Mental Health Counseling program in the College of Health Professions and Science, and the M.S. Psychology program in the College of Liberal Arts and Social Sciences.

2) Describe the need for the program/center/institute. Specifically, how the program/center/institute meets current student, state, and workforce demands. (Please cite sources).

In 2018, the Centers for Disease Controlⁱⁱⁱ increased the US estimate of autism prevalence by 15 percent, to 1 in 59 children. The CDC and the U.S. Surgeon General support Applied Behavior Analysis (ABA) therapy for autism spectrum disorders (ASD) and to reduce problem behaviors.^{iv} ABA has reached the standard of evidence based practice for the treatment of autism.



Montana University System
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A 2019 survey by Centria Autism^v, an ABA provider in 10 states, reported that 99% of parents believed early intervention was important for children with Autism Spectrum Disorder (ASD), but on average it took 15 months to start treatment. Waitlists are commonplace for ABA treatment; in an informal survey, ABA providers in the Billings area reported their waitlists ranged from 5 to 28 children, and, depending on complicated insurance and authorizations, time on the list ranged from six months to two years.

In Montana, ABA treatment is provided by Licensed Behavior Analysts (LBAs) who are Board Certified Behavior Analysts (BCBAs). There are 33 LBAs with only 51% of them listed as Medicaid providers leaving a gap in coverage for low-income clients. In comparison to the whole state, the Billings area has approximately 25 to 30% of the population who could benefit from ABA treatment living in this region.^{vi} In addition, due to the rural nature of the eastern part of the state, the number of clinical opportunities for graduate students in ABA are extremely sparse. The need for a clinic to support our graduate ABA practicum is extremely important to maintain accreditation.

The Institute will alleviate long wait lists for children who need ABA services by functioning as both provider of services as well as a clinical training site for graduate students in ABA who will soon enter the labor market as behavior analysts.

The multi-tier system of behavior support which has been adopted by the Office of Public Instruction provides a structure for training schools in effective interventions. A demonstration project through MSU Billings Institute for Neurodiversity and Applied Behavior Analysis would (a) extend and enhance training opportunities for the educational community to proactively reduce problem behavior through social/emotional learning, functional analysis and positive behavior interventions^{vii}

3) Describe any significant new resources (financial, staff, facility, new curricula) needed to launch and sustain the program/center/institute.

The institute will initially require financial resources to launch but will be supported by billable services through the Applied Behavior Analysis Clinic starting in year two. The MSU Billings Foundation has secured three years of start-up funding through the MJ Murdock Charitable Trust that phases out in defined steps as the clinic ramps up. A sustainability plan and financial projections were developed as a part of the funded proposal. This funding of \$593,050.00 is budgeted to support a program director, half-time medical director, compliance specialist, as well as initial supplies/equipment/furniture. Registered Behavioral Technicians will be funded as part of billable services. An existing educational observation space has been identified on campus for immediate use, and the MSU Billings foundation is actively working to secure additional remodeling/infrastructure funds. Existing faculty in the Colleges of Education, Health Professions and Science and Liberal Arts and Social Sciences will be involved in programming and scholarly activities, and no additional faculty or curricular costs are required to launch the institute.

4) Describe any efforts or opportunities you have identified for collaboration either within the institution or between MUS institutions (i.e. articulation, course-sharing, research collaboration).

While other campuses have on-site clinics, lab schools/centers, or professional development institutes, none provide the comprehensive nature of this proposed institute in applied behavior analysis for neurodiversity. Contact has already been initiated with providers in the Billings area, and we have also begun talks with Montana State University in order to best collaborate on this endeavor. The advisory committee includes Dr. Alison Harmon MSU Dean, College of Education, Health and Human Development, Dr. Ian Handley MSU Chair Psychology, and Dr. Jody Bartz MSU Assistant Professor -

Montana University System
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Special Education, Autism and Inclusion. The Institute will provide field and clinical experiences for students, pre-service training for behavior analysts, professional development for school teams, and continuing education for licensed professionals. It provides an opportunity to establish partnerships with organizations in the community (e.g., hospitals, clinics), and is informed by an active advisory committee of 12 community members including Representative Kathy Kelker, Tom Lynaugh, and Dr. Laura Nicholson, as well as Dr. Alison Harmon and faculty from Montana State University. The operation of an on-campus clinic is something that will attract students from the Rocky Mountain and Northern Plains States, as well as Western Canada. Besides Cal State, Los Angeles, MSU Billings is the only accredited Master's program by the Association for Behavior Analysis International in the Western United States. The Institute for Behavior Analysis & Neurodiversity would be a significant resource to communities and other states in this region.

5) Describe how the program/center/institute fits with the institutional mission, strategic plan, existing institutional program array, and academic priorities as described in the most recent Academic Priorities and Planning Statement.

As an extension of the Graduate MSSED ABA Program, the Institute aligns with the MSUB and COE mission statements through excellent teaching, support for individual learning, engagement in civic responsibility, and intellectual, cultural, social and economic community enhancement. Further, the ABA program is congruent with these mission statements by emphasizing its dedication to: (a) developing incomparable, caring, and committed professionals for schools and communities in Montana and beyond, (b) conducting socially significant applied research to improve the human condition, (c) providing community service to improve the quality of life in Montana, and (d) providing graduate and continuing education for career-long professional development. The Institute for Neurodiversity is mentioned in the MSU Billings 2020/21 Academic Priorities and Planning Statement and fits within the focus on applied programs and research efforts; it will foster and support collaborative efforts that include faculty and student scholarship while supporting wider health and education communities.

The Institute for Neurodiversity and Applied Behavioral Analysis will be affiliated with the Montana Center for Inclusive Education at Montana State University Billings. The Montana Center has served the disability community of Montana since 1947. In recent decades, with the exception of audiology services, the work of the Montana Center has been focused on educational services. This institute returns the Montana Center to its historic roots of providing therapeutic treatment to children in partnership with the medical community of Billings. The institute will support and promote the Montana Center's mission of serving the diverse population of Montana through providing holistic therapeutic treatment to children in renewed partnerships with the region's extensive medical community.

i <https://accreditation.abainternational.org/apply/accredited-programs.aspx>

ii Fazel, M., Hoagwood, K., Stephan, S., & Ford, T. (2014). Mental health interventions in schools. *Lancet Psychiatry*, 1(2014), 377-387.

iii Baio J, Wiggins L, Christensen DL, et al. (2018). Prevalence of Autism Spectrum Disorder Among Children Aged 8, *MMWR Surveill Summ* 2018;67(No. SS-6), 1–23. DOI: <http://dx.doi.org/10.15585/mmwr.ss6706a1>.

iv U.S. Surgeon General Report. (1999). *Mental Health: A report of the Surgeon General*. Retrieved June 2019. <https://profiles.nlm.nih.gov/ps/retrieve/ResourceMetadata/NNBBHS#autism>

v Wakefield Research. (2019). *Centria Autism Survey*. Retrieved at <https://cdn.buttercms.com/blfvWjrHQXSvVtTf9UId>

vi Comprehensive System of Personnel Development (CSPD Regions) and Childcare Resource and Referral Regions of Montana lists by County compared with 2017 OPI Child Count Data.

vii Recommendation in Oregon Education Association. (2019). *A crisis of disrupted learning: Conditions in our schools and recommended solutions*. https://www.oregoned.org/images/uploads/blog/DisruptedLearning_Report_2019_v5.pdf

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Chief Research Officer*:	DocuSigned by: <i>Cindy Bell</i> 86CF7F1F41B14E7... 1/7/2021
Chief Executive Officer:	DocuSigned by: <i>[Signature]</i> BF3C54894E8F4C6... 1/7/2021
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