

REQUEST TO PLAN MEMORANDUM

DATE: February 12, 2024

TO: Chief Academic Officers, Montana University System

FROM: Joe Thiel, Interim Deputy Commissioner for Academic, Research, and Student Affairs

RE: March 2024 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 21, 2024. Issues not resolved at that meeting should be submitted in writing to OCHE by noon on Friday, February 23, 2024. If no concerns are received, OCHE will assume that the proposals have your approval.

Requests to Plan

Montana State University Billings:

- Request for authorization to consolidate the Department of Health Care Services and the Department of Health and Human Performance into the new Department of Health Sciences and Human Performance
Item [#211-2701-R0324](#)

The University of Montana Missoula:

- Request for authorization to plan consolidation of Learning LAB Preschool under UM Institute for Early Childhood Education
Item [#211-1001-R0324](#)
- Request for authorization to plan to establish the Indigenous Research and STEM Education Center
Item [#211-1002-R0324](#)

Montana Technological University:

- Request for authorization to plan a Certificate of Applied Sciences in Smart Manufacturing Technology
Item [#211-1501-R0324](#)
- Request for authorization to plan a Certificate of Applied Sciences in Broadband Technology
Item [#211-1502-R0324](#)
- Request for authorization to establish a Center for Education and Ecosystem Studies
Item [#211-1503-R0324](#)

The University of Montana-Western:

- Request for authorization to plan a BS in Farm and Ranch Management
Item [#211-1601-R0324](#)
- Request for authorization to plan a Strength and Conditioning Minor
Item [#211-1602-R0324](#)

Montana University System
REQUEST TO PLAN FORM

ITEM 2701 R0324**Meeting Date: March 2024**

Item Name: Request for authorization to consolidate the Department of Health Care Services and the Department of Health and Human Performance into the new Department of Health Sciences and Human Performance.

Program/Center/Institute Title: **Department of Health Sciences and Human Performance**

Planned 6-digit CIP code:

Campus, School/Department: **MSU Billings/College of Health Professions and Science**

Expected Final Submission Date: **April 2024**

Contact Name/Info:

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.

MSU Billings proposes combining two departments, the Department of Health Care Services (HCS) and the Department of Health and Human Performance (HHP), into the new Department of Health Sciences and Human Performance (HSHP).

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 Department of Health Care Services consists of two programs: Health Administration and RN to BSN. This department currently includes two tenure-track faculty, one tenured faculty and one fixed-term faculty. As a result, the department is too small to function effectively. The Department of Health and Human Performance, which includes programs in Athletic Training, Outdoor Adventure Leadership, and Human Performance is the natural partner for the programs in Health Care Services. The merger will create a new department with significant additional opportunities for (i) growth of health sciences programs, (ii) synergistic curricular and research collaborations among faculty and disciplines, (iii) broadening learning and career opportunities for our students, and (iv) mentorship provided to junior faculty, , and. The combined department will have two full professors, three tenured professors, four tenure-track faculty, one clinical lecturer and a fixed-term assistant professor serving about 248 students in undergraduate and graduate programs.

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

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There will be minimal administrative costs associated with merging the two departments. We anticipate recouping a small amount with the elimination of one department chair.

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 two existing departments already share a health care focus, and programs in each department already require some coursework from the other. Pathways from Health and Human Performance degrees into Health Care Services programs will be facilitated by this merger. The merger will also facilitate collaborative research opportunities among faculty and students.

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 departmental merger fits with the University's Strategic Plan in several ways:

Theme 1: Educate 1.3 "Elevate programmatic offerings to be responsive to student and community needs"

This merger will allow programs specifically focused on health care to more closely track and respond to changes in that environment in order to meet employer needs and student demands.

Theme 2: Recruit/Retain 2.3 "continue to recruit and retain quality faculty and staff" As part of the new, larger department, junior faculty will have more effective mentoring and collaboration opportunities. Service demands on junior faculty will also be reduced. The combined department will have two full professors, three tenured professors, four tenure-track faculty, one clinical lecturer and a fixed-term assistant professor.

Theme 3: Partnership 3.2 "Strengthen relationships with the Billings community and alumni" and 3.3 "Improve community giving and philanthropy to MSU Billings" The faculty in each existing department have different connections and experiences in the health care community in Billings and Montana. This merger will provide the opportunity for synergy and should significantly strengthen MSU Billings' presence in the communities that we serve.

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<u>Signature/Date</u>	
Chief Academic Officer:	<div style="border: 1px solid black; padding: 2px; display: inline-block;">DocuSigned by: <i>Dr. Sep Eskandari</i> 151D5B91B28F4B0...</div> 12/1/2023
Chief Research Officer*:	
Chief Executive Officer:	<div style="border: 1px solid black; padding: 2px; display: inline-block;">DocuSigned by: <i>[Signature]</i> 84C8ED970C4E4C7...</div> 12/4/2023
Flagship Provost**:	<i>R. Mohana</i> 12/7/23
Flagship President**:	<i>[Signature]</i>

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

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ITEM 211-1001-R0324

March 2024

Item Name - Request for authorization to plan consolidation of Learning LAB Preschool under UM Institute for Early Childhood Education

Program/Center/Institute Title: **UM Institute for Early Childhood Education**

Planned 6-digit CIP code:

Campus, School/Department: **University of Montana, Phyllis J. Washington College of Education**

Expected Final Submission Date: **Fall 2024**

Contact Name/Info: **Allison Wilson (Allison.wilson@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 UM Institute for Early Childhood Education is a specialty unit for convening researchers, faculty, students, community professionals, and policymakers who work collectively to create a better future for young children (birth to age eight) and their families. Anchored in the values and core beliefs put forth by the National Association for the Education of Young Children (NAEYC) and the goal of advancing a diverse, dynamic, early childhood profession and support for all who care for, educate, and work on behalf of young children and their families.

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).

Institute aims to (1) foster collaboration among university faculty with a strong common interest in research with early childhood populations; (2) model demonstration of research-based, high-quality practices through the Learning and Belonging (LAB) School and community school partnerships; (3) promote research to practice across degree programs, local classrooms, informal learning spaces, and community settings and, (4) engage university faculty in collaborative relationships with local, state, and regional stakeholders.

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

none




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 Institute of Early Childhood Education hosts an annual conference at UM for early childhood educators throughout the state and region.

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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.

The LAB Preschool and the Institute of Early Childhood Education are existing programs. The Institute was approved by the Board of Regents just two years ago. Its mission of research and dissemination of state-of-art practices directly align with the university's mission.

Signature/Date	
Chief Academic Officer: <i>Daniel Lee</i>	11/30/23
Chief Research Officer*:	
	12/1/23
	
Chief Executive Officer:	
Flagship Provost**: 	1/16/2024
Flagship President**: 	1/23/2024
*Center/Institute Proposal only **Not applicable to the Community Colleges.	

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ITEM 211-1002-R0324

March 2024

Item Name – Request for authorization to plan to establish the Indigenous Research and STEM Education Center

Program/Center/Institute Title: **Indigenous Research and STEM Education Center**

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

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

Expected Final Submission Date: **Fall 2024**

Contact Name/Info: **Aaron Thomas (aaron.thomas@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 Indigenous Research and STEM Education Center is dedicated to the advancement of Native American, Alaskan Native, Native Hawaiian, and First Nation students in science, technology, engineering, and mathematics (STEM) academic disciplines and professions. The Center focuses on Indigenous based research for both faculty and students and well as supporting Native-based STEM education and academic programming for K-12 students, undergraduates, and graduate students. Further, IRSEC will continue to strengthen established relationships with Tribal communities, school districts on or near Tribal reservations, and Tribal Colleges and Universities for future collaborative research and educational efforts.

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 Center will be a part of the workforce development of Tribal communities through the education of Indigenous students and Indigenous centered, community-based research. IRSEC will support current Indigenous K-12, undergraduate, and graduate students while continue to provide pathways for students to complete their degrees in STEM disciplines. It will also seek to further weave Indigenous ways of knowing into the current Western-centric model of education.

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

Indigenous Research and STEM Education has been running as a program for about 10 years and has continued to grow with the increase of more grant and donor funding. At this time, there is currently enough grant funded positions that will sustain the Center.





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).

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Collaboration can continue with other Native based Centers and Institutes on the UM campus and at MSU. These would include the Cobell Land and Culture Institute that has focused more on GIS, Forestry, and Native American Studies. The American Indian Governance and Policy Institute which focuses on law and policy. Finally, the Center for American Indian and Rural Health Equity at MSU that primarily focuses on health professions.

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.

In our effort towards Inclusive Excellence, this includes our Indigenous students and Tribal communities. It is Indigenous student's success that is the center of IRSEC that is also focused on Partnering with Place, where our students reside and the importance of place based, and culturally based learning with our Indigenous population. It will also help promote the University's Diversity, Equity, and Inclusion initiative on campus as well as the current American Indian Minority Achievement Action Plan put forth to OCHE by the University. Finally, IRSEC will continue to work closely with the UM Foundation's Native American Excellence initiative in fundraising for Indigenous programming and student scholarships on the UM campus.

<u>Signature/Date</u>	
Chief Academic Officer:	 1/8/24
Chief Research Officer*:	 1/10/24
Chief Executive Officer:	
Flagship Provost**:	 1/03/2024
Flagship President**:	 1/23/2024

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

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ITEM 211-1501-R0324**Meeting Date: March 2023****Request for authorization to plan a Certificate of Applied Sciences in Smart Manufacturing Technology**Program/Center/Institute Title: **Smart Manufacturing Technology, C.A.S**Planned 6-digit CIP code: **15.0613**Campus, School/Department: **Montana Tech/Highlands College**Expected Final Submission Date: **Spring 2025**Contact Name/Info: **Karen VanDaveer, Dean Highlands College**

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 Smart Manufacturing Technology Certificate of Applied Science provides students the entry-level smart manufacturing process skills they will need to work in Manufacturing Industry of the 21st Century. The program will be offered in a hybrid format and is structured to become an exit point within the Metals Fabrication Technology Associate of Applied Science program that will be renamed the Advanced Manufacturing Technology Associate of Applied Science. The Advanced Manufacturing Technology AAS includes a revision of the previous Metals Fabrication Technology curriculum to be offered in a hybrid format and to reflect the machining, welding and smart manufacturing knowledge and skills needed for positions as Manufacturing Technicians.

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).

Highlands College is part of a collaboration of agencies across Montana assembled to develop and provide training in Smart Manufacturing Technologies. Known as Smart Manufacturing Montana, the goal is help manufacturers accelerate the implementation of smart manufacturing technologies in their operations.

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

The applied technical courses specific to smart manufacturing in the areas of robotics, additive manufacturing and mechatronics will need to be created. A faculty member will be hired for course development and instruction. Required equipment including a new 3D printer and robotic arm will be purchased for the program. All equipment and faculty salary & benefits for the first three years will be covered utilizing the funding received from the Smart Manufacturing Montana. Upon completion of the funding term, it is expected that the Smart Manufacturing Technology CAS and Advanced Manufacturing Technology AAS will be in a position to be self-sustaining with student enrollments.

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).

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As a member of the Smart Manufacturing Montana, Highlands College will be working with Montana Department of Environmental Quality (MDEQ), and the Montana Manufacturing Extension Center (MMEC) at Montana State University to deliver quality education and training opportunities to Montana citizens and manufacturers.

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 proposed Smart Manufacturing Certificate of Applied Science and the inclusion of the certificate in a renamed and redesigned Advanced Manufacturing Technology Associate of Applied Science supports the mission of Montana Tech to provide workforce development education and vision through an innovative advanced manufacturing curriculum. Through a redesigned curriculum that blends theory with hands-on industry recognized practice, the Smart Manufacturing CAS and Advanced Manufacturing Technology AAS programs offer multiple exit points and deliver the smart manufacturing process skills students for immediate employability in the Manufacturing Industry of the 21st Century. The Smart Manufacturing Certificate of Applied Science and the redesigned Advanced Manufacturing Technology AAS advances the strategic goals of Montana Tech through:

- The promotion and affordability of an education that allows students across the state of Montana the ability to utilize multiple entry and exit points meeting the individual needs of students and industry. Similar to the other programs offered at Highlands College, the AAS will also provide the ability to transfer into a bachelor's degree at Montana Tech.
- A program of distinction combining theory and hands-on Smart Manufacturing education with welding and machining courses giving students the skills and knowledge need to work in a fast-growing smart manufacturing industry.
- Deliver hands-on learning on Smart Manufacturing equipment and through collaboration with the Smart Manufacturing Montana identified apprenticeships.

Additionally, the multiple exit points provided through available with the Smart Manufacturing Certificate of Applied Science and the program inclusion in the renamed and updated Advanced Manufacturing Technology, AAS (formerly the Metals Fabrication Technology, AAS) meets BOR Policy 301.12.

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Signature/Date

Chief Academic Officer:  12/11/2023

Chief Research Officer*:

Chief Executive Officer:  12/11/23

Flagship Provost**:

Flagship President**:

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

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REQUEST TO PLAN FORM

ITEM 211-1502-R0324

Meeting Date March 2023

Request for authorization to plan a Certificate of Applied Sciences in Broadband Technology

Program/Center/Institute Title: **Broadband Technology, C.A.S**

Planned 6-digit CIP code: **46.0303**

Campus, School/Department: **Highlands College of Montana Technological University**

Expected Final Submission Date: **Spring 2025**

Contact Name/Info: **Michelle Morley/Director Associate of Science & Curriculum, 406-496-3778**

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 Broadband Technology, Certificate of Applied Science will provide students with training needed to gain employment in the broadband telecommunications industry. The one-semester, 30-credit program covers broadband/telecommunication issues and procedures in the areas of safety, warehousing, fiber and splicing, and equipment operations. Students in the program will receive industry recognized training in, CDL-A (Commercial Driver's License), OSHA-10, Flagging, Rigging, First Aid & CPR and Splicing. The program will be delivered in a hybrid format utilizing online instruction for the theory and evening/weekend scheduling for the hands-on labs.

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 state of Montana and Governor Gianforte has made narrowing the digital divide and providing reliable high-speed internet to rural communities and underserved populations a priority.¹ The significant increase in broadband access necessitates a substantial increase in the workforce needed to address narrowing the digital divide. Over the next four years, projections indicate that more than half of Montana's broadband-related positions will face shortages. Manual roles are expected to have the most significant deficit, with a projected 36% labor shortage by 2026. Shortages in key roles such as laborers (36% gap), locators (18% gap), and restoration crews (9% gap) could cause delays and increase costs if labor needs to be sourced outside the state to fill gaps.² The Broadband Technology CAS will meet the employment gaps by providing short-term, accelerated workforce training in these labor-intensive positions allowing the expansion of broadband across the state to continue unimpeded by the lack of a skilled workforce.

¹ Governor's Office. "Governor Gianforte Announces \$628 Million to Expand Broadband Access." *News.mt.gov*, 26 June 2023, news.mt.gov/Governors-Office/Governor_Gianforte_Announces_628_Million_To_Expand_Broadband_Access. Accessed 04 Nov. 2023.

² Montana Broadband Office. *BEAD Five-Year Action Plan*. 16 May 2023.

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

The applied technical courses specific to broadband technology with the exception of the safety and certifications and CDL courses will need to be created. Faculty will need to be identified and hired to teach the applied technical broadband courses. Some of the heavy equipment and tractor/trailer combinations utilized in the Pre-Apprentice Line program and CDL training will be shared. Highlands College will partner with industry in the identification and purchase of necessary broadband specific technical equipment.

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).

Both the Broadband Technology Program and the Pre-Apprentice Line Program require most of the same safety and certification training which will be taught to students in both programs at the same time as it requires specialized instruction that is currently contracted out. Additionally, by scheduling the Broadband Technology labs during the evenings and weekends, the more expensive equipment, specifically the heavy equipment and CDL tractor/trailers can be shared with the Pre-Apprentice Line Program.

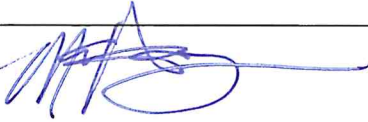
5) Describe how the program/center/institute fits with the institutional mission, strategic plan, existing institutional program array, and academic priorities as described in the most recent Academic Priorities and Planning Statement.

The proposed Broadband Technology CAS supports the mission and vision of Montana Tech to provide workforce development education and vision through an innovative broadband curriculum. Through a hybrid curriculum that blends online theory with hands-on industry recognized practice, the Broadband Technology programs delivers the labor-intensive skills and certifications needed for immediate employability in the broadband industry. The Broadband Technology program advances the strategic goals of Montana Tech through:

- The promotion and affordability of an education that allows students across the state of Montana the utilize flexibility in scheduling through the hybrid delivery of a short-term, accelerated workforce training meeting the needs of both students and industry.
 - The Broadband Technology CAS will be a program of distinction due to the connection with the established and successful Pre-Apprentice Line Program and the flexibility the program provides to students through hybrid delivery and one semester program length.
 - The Broadband Technology CAS will continue Montana Tech's goal of delivering hands-on learning on broadband equipment and partnerships within the broadband telecommunications industry.
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Signature/Date

Chief Academic Officer:  1/18/24

Chief Research Officer*:

Chief Executive Officer:  1/22/24

Flagship Provost**:

Flagship President**:

*Center/Institute Proposal only

**Not applicable to the Community Colleges.

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ITEM 211-1503-R0324

Meeting Date January 2024

Request for authorization to establish a Center for Education and Ecosystem Studies

Program/Center/Institute Title: **The Center for Education and Ecosystem Studies**

Planned
6-digit CIP
code:

Campus, School/Department: **Montana Technological University**

Expected
Final
Submission
Date: **June
2024**

Contact Name/Info: **Rayelynn Brandl, rbrandl@mtech.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 Clark Fork Watershed Education Program (CFWEP) has been operating at Montana Technological University since 2005. The core focus of the program is watershed science, providing in-class service days and field trips for the communities of the Clark Fork. The call to action for the program when it was started was to educate students and local residents about the damages from historic mining practices and the on-going restoration of the river system. As the program has grown, K-12 teacher professional development in STEM has become a second focus. The program utilizes partnerships from campuses throughout Montana in order to achieve the goal of providing high-quality professional development. The combination of K-12 student and teacher STEM education is aimed at creating pathways into STEM education for K-12 students. The program has partnered with Montana school districts and campus researchers to provide authentic research experiences for students in the classroom, at summer research locations, and in campus laboratories. The program employs in-depth research practices to evaluate program efficacy, leading to publications about effective practices in STEM teaching and learning. CFWEP has presented both empirical research and our developed instructional practices at state, regional, and national education conferences. The program operates within formal K-12 structures and also within informal community settings, providing a necessary connection between schools and communities. This connection is promoted from K-12, communities and regional campuses, providing accessible pathways into STEM for students. The program relies completely on soft dollars from a variety of sources including federal and state grants, private donations, fundraising efforts, contracts, and fee for service offerings.

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).

CFWEP is poised for growth, expanding across Montana to focus on ecological education, addressing current and future ecological threats, including climate change, population growth, and development. The designed approach,

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grounded in extensive research (Babenko-Mould et al., 2021; Tschannen-Moran & Woolfolk Hoy, 2001; Ingersoll & Strong, 2011), is distinguished by five key innovations. Firstly, it leverages partnerships to address the unique STEM education challenges in rural and Indigenous communities. The center adopts a community-centric design, fostering deep connections between science and local communities through community-based participatory research (Varner, 2014). Secondly, an integration of authentic, real-time datasets provided by industry and agency partners serves as a mechanism for the integration of math and science, offering local relevance and engaging students in meaningful ways (Varner, 2014). A third innovation integrates cultural histories into education, aligning with principles of science pedagogy success (Chu et al., 2021). By focusing on community strengths, the project promotes inclusion and deconstructs the borders between students' family and peer cultures and the culture of science (Aikenhead, 1996). The fourth innovation involves mentoring teachers for citizen-science projects, exploring local issues in K-12 districts and engaging teachers, researchers, and industry professionals in developing real-time, innovative solutions (Beierle & Cayford, 2002). Lastly, adopting a strength-based approach empowers Montana teachers and school districts to create and scale solutions for challenges in math and science education, ultimately leading to more inclusive STEM pathways.

The center's specific aims encompass creating an EcosySTEM, empowering K-12 STEM teachers, opening multiple STEM pathways for all students, and conducting and publishing empirical research on STEM teaching and learning. Targeting low-income, rural, and Indigenous communities in Montana, the center addresses disparities in the state's education landscape, where 41% of students in districts have incomes below the federal poverty threshold, and high school dropout rates exceed state and national averages (MT OPI, 2023). The center extends its reach beyond traditional STEM education recipients, promoting scientific literacy, active citizen involvement in research, and localized problem-solving within under-represented groups. With dual-value impact, the center contributes to STEM education research and encourages teacher and classroom contributions to scientific research, fostering enduring change in STEM education anchored in place-based learning for sustainability. This comprehensive approach is built on the foundation of CFWEP's extensive 20-year experience within the Clark Fork Watershed.

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

The program is currently well-positioned with sufficient staffing and funding, underpinned by a robust growth and sustainability plan designed to facilitate the attainment of center designation. In light of the proposed changes and expansion, we anticipate the need to hire an additional staff member within a year of securing center designation. This new position will play a pivotal role in supporting the proposed center by spearheading the development of funding sources. The responsibilities will include crafting grant requests and fostering strategic partnerships within communities to ensure sustained growth and success. This strategic allocation of resources aligns with our commitment to securing the necessary support for the continued advancement of the 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).

CFWEP has a rich history of collaboration within Montana Technological University (Tech) and across the Montana University System (MUS). To further our objectives, we are actively cultivating collaborative partnerships to offer K-12 students authentic research experiences within their communities. Our ongoing efforts involve the recruitment of esteemed STEM faculty members at Montana Technological University to craft stackable learning modules tailored for practicing teachers. In tandem, we have established a strategic partnership with the Research Office to design

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a comprehensive certificate program that integrates these stackable modules, ensuring a cohesive and impactful educational experience. This collaborative approach exemplifies our commitment to fostering innovation and excellence in STEM education.

Currently, we partner with the University of Montana's Biology Department and the University of Montana Bird Ecology Lab. Both areas host our Missoula Program Manager, assisting us with delivering CFWEP programming throughout Missoula County Public schools. We currently offer a CFWEP internship and class for UM students. This class is an accepted elective within the School of Forestry program.

Historically, CFWEP has partnered with Montana State University—Billings to bring forward two Department of Education grants. We have also partnered with University of Montana—Western through our Math Science Partnership award projects. We have worked collaboratively with the Salish-Kootenai College within our PHAGES projects and within our work regarding place names within the Clark Fork Watershed.

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.

Montana Technological University has prioritized Programs of Distinction as a pathway for student success by ensuring students are connected to authentic research experiences, experiential learning activities, and innovation enterprise. CFWEP provides a pathway to the campus through our innovative watershed science programming, our PHAGE discovery programs, and our student research mentoring opportunities. As a Special Focus Institution, Montana Technological University is committed to providing a transformative student experience and advancing science, engineering, and technology for the benefit of humanity while meeting the changing needs of society. CFWEP contributes significantly to this mission by engaging in ecological education, leveraging extensive research, and fostering innovative STEM education practices. The program directly aligns with the university's commitment to advancing science and technology by driving beneficial connections in STEM education, as indicated by its use of real-time datasets, community-based participatory research, and cultural integration (Babenko-Mould et al., 2021; Tschannen-Moran & Woolfolk Hoy, 2001; Ingersoll & Strong, 2011; Varner, 2014; Chu et al., 2021; Aikenhead, 1996; Beierle & Cayford, 2002). By focusing on ecological education and addressing current and future ecological threats, including climate change, CFWEP embodies the university's dedication to meeting the changing needs of society. Furthermore, the program contributes to the development of leaders by empowering K-12 STEM teachers, creating pathways for all students into STEM, and conducting empirical research on STEM teaching and learning. Because the program is connected to many more communities outside of the campus, we are able to recruit students from underserved and underrepresented communities in Montana. This is especially important for assisting the campus with reaching its goals for DEI. The emphasis on mentorship, community engagement, and the creation of citizen-science projects aligns with the university's commitment to providing a transformative student experience. CFWEP's goal of expanding to rural and Indigenous schools also demonstrates a commitment to benefiting humanity by addressing disparities in education, promoting scientific

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literacy, and fostering enduring change in STEM education anchored in place-based learning for sustainability.

Signature/Date

Chief Academic Officer:

M. J. Dudley 1/23/24

Chief Research Officer*:

Ayesh Fuchs

Chief Executive Officer:

M. J. Dudley 1/23/24 ACTING CEO

Flagship Provost:**

Flagship President:**

*Center/Institute Proposal only

**Not applicable to the Community Colleges.

Montana University System
REQUEST TO PLAN FORM

ITEM 211-1601-R0324

Meeting Date: JANUARY 2024

Item Name: Request for authorization to plan a Strength & Conditioning Minor

Program/Center/Institute Title: **Strength & Conditioning Minor**

Planned 6-digit CIP code:

The University of Montana

Campus, School/Department: **Western/Department of Health & Human Performance (HHP)**

Expected Final Submission Date: **February 2024**

Contact Name/Info: **Mitchell Stephenson/mitchell.stephenson@umwestern.edu/406-683-7230**

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.

This proposal establishes an unattached minor program in Strength & Conditioning that consists of currently-offered courses in order to adhere to an external accrediting standard that the Department of Health & Human Performance intends to attain in year 2030.

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).

Students within and beyond the BS: Kinesiology and BS: Physical Education & Health programs have aggressively pursued advanced certifications to facilitate career attainment and security. Currently, the core kinesiological curriculum prepares students for these advanced certifications, particularly the National Strength & Conditioning Association's (NSCA) Strength & Condition Specialist Certification (CSCS). This certification is well-respected throughout physical education, athletic performance enhancement, coaching, and applied medicine. The Department of Health & Human Performance (HHP) also currently offers study sessions to community members interested in pursuing this important certification.

The NSCA has moved to restricting access to the certification examination to only those who graduate from a [Council on Accreditation of Strength and Conditioning Education](#) (CASCE)-accredited program by the year 2030. HHP has identified that this accreditation is a necessary priority to ensure our graduates are well placed in their respective career markets, a goal that was reinforced during the Kinesiology Program's seven-year review by the external reviewer. In order to accomplish this and follow [the accreditation expectations](#), a Strength & Conditioning Program must be established for accrediting oversight. The Department has identified that a program-independent minor would be most appropriate and potentially facilitate access to out-of-department students.

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

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The University of Montana has already established a new Strength & Conditioning Laboratory to be used in this new minor. With current enrollments, no new faculty members are required. As enrollments grow, tuition revenue will fund additional instructional needs.

- 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).**

As this is simply a minor, it will largely serve existing UMW students in various other majors, such as our BS in Kinesiology.

- 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 is perfectly aligned with Montana Western's experiential education mission. We focus on hands-on learning, and this minor will allow students to engage in high impact practices supervised by terminally degreed faculty members. The program was also included in our latest Academic Priorities and Planning Statement.

Signature/Date

Chief Academic Officer:  11/16/2023

Chief Research Officer*:

Chief Executive Officer:  11/20/2023

Flagship Provost**:

Flagship President**:

*Center/Institute Proposal only

**Not applicable to the Community Colleges.

Montana University System
REQUEST TO PLAN FORM

ITEM 211-1602-R0324

Meeting Date MARCH 2024

Item Name: Request for authorization to plan a B.S. in Farm and Ranch Management

Program/Center/Institute Title: **B.S. in Farm and Ranch Management, The University of Montana Western**

Planned 6-digit CIP code:

Campus, School/Department: **The University of Montana Western/Department of Business and Technology**

Expected Final Submission Date: **May 2024**

Contact Name/Info: **Denise Holland/denise.holland@umwestern.edu/406-683-7203**

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 B.S. Farm and Ranch Management degree is designed to teach individuals the business aspect of ranch management along with the knowledge for livestock and forage production. This program will give the students the ability to identify opportunities in management and operations within the agriculture industry. Students will also be introduced to emerging and traditional practices in this industry.

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).

With an expanding job market for qualified farm and ranch managers or in the Agricultural Industry in general, students taking the farm and ranch core will learn important agricultural content areas such as plant and crop identification, concepts about soil and water, livestock feeding and nutrition, technology in agriculture, animal science and reproduction. Students are offered a variety of minors from business, equine, outdoor industry or any other minor that they can pair with this major. By adding any of these minors to the degree it gives a value-added benefit. This degree teaches a mix of traditional and new methods related to farming and ranching. Teaching the benefit of traditional and new methods will promote the resource for generations to come.

The University of Montana Western is situated in Beaverhead County which has over 400 farms with over 1 million acres of farm and ranch land and is one of the largest cattle producing counties in Montana. This will give students unique experiential opportunities through field experiences, practicums, and internships.

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

We are piloting this degree with the use of the current business faculty who are already teaching the courses that are being offered. An adjunct may be needed periodically for a class. We anticipate this degree growing and will eventually be needing a tenure line faculty member. This has been discussed with Provost MacLean and he is in support of the possible hire in the future.



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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).

Discussion with the Sciences at The University of Montana Western regarding adding a Range Management Minor (official title to be determined) to the major has been discussed and the review of that curriculum has begun. We have been discussing with MSU for a partnership to assist students in starting their career at Montana Western and then transferring to MSU for Agricultural Education.

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 degree aligns with Western’s mission statement through experiential education and enhancing degree-seeking student recruitment. Four years ago, the Business & Technology Department added a Farm and Ranch Management minor to the B.S. Business Administration degree. In four years, this minor has become the fastest growing minor with students from different disciplines adding it to their degrees. The Farm and Ranch Management degree is designed for hands-on learning. The students in this degree will spend time in the field with farmers and ranchers fulfilling our mission of being a leader in experiential education.

<u>Signature/Date</u>	
Chief Academic Officer:	 1/23/2024
Chief Research Officer*:	
Chief Executive Officer:	 1/23/2024
Flagship Provost**:	
Flagship President**:	
*Center/Institute Proposal only	
**Not applicable to the Community Colleges.	