REQUEST TO PLAN MEMORANDUM

DATE: April 25, 2025

TO: Chief Academic Officers, Montana University System

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

RE: May 2025 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 Wednesday, April 30th. Issues not resolved at that meeting should be submitted in writing to OCHE by noon on Friday, May 2, 2025. If no concerns are received, OCHE will assume that the proposals have your approval.

Requests to Plan

Montana State University Bozeman:

- Request to plan a Bachelor of Science in Agricultural Sciences
  Item #218-2010-R0525
- Request to plan a Masters of Agriculture in Professional Horsemanship
  Item #218-2011-R0525
- Request to plan a Masters of Science in Agricultural Sciences
  Item #218-2012-R0525

Montana Technological University:

- Request to plan standalone MS degrees in Mechanical Engineering and Civil Engineering that would replace the two options currently under General Engineering
  Item #218-1501-R0525

Montana University System

REQUEST TO PLAN FORM

ITEM 2010-R0325 **Meeting Date: March 2025**

Item Name Request to establish a Bachelor of Science in Agricultural Sciences

Program/Center/Institute Title: **Bachelor of Science in Agricultural Sciences** Planned 6-digit CIP code: **01.9999**

Campus, School/Department: **College of Agriculture** Expected Final Submission Date: **May 2025**

Contact Name/Info: **Jennifer Thomson 994-6772**
Jennifer.thomson@montana.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.**

A candidate who completes a broadfield B.S. degree in Agricultural Sciences will be expected to demonstrate proficiency in fundamental principles of agricultural economics and management as well as in the science of operations involving plants and animals, the utilization of agricultural products, and marketing strategies. Potential career paths for graduates with a degree in Agricultural Sciences include agricultural, civil service, technical and sales positions, county extension services, land management, agronomic or horticultural production oversight, and quality assurance.

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 proposed Agricultural Sciences program addresses students' diverse career needs by offering a wide range of courses covering multiple disciplines, including agronomy, animal science, agribusiness, and agricultural education. With the agricultural industry rapidly evolving, there is a growing demand for skilled professionals with interdisciplinary knowledge. This program will equip students with the multidisciplinary skills and expertise required to tackle the agricultural sector's current and future challenges and the vast array of jobs.

According the USDA and Perdue University (https://www.purdue.edu/usda/employment/), the demand for agricultural degree graduates will be 59,500 jobs per year with only 33,500 graduates being produced in the US each year resulting in a gab of 26,000 jobs each year on a national basis.

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Nationally, the demand for agricultural technicians is increasing faster (5-8%), with projected job openings greater than 2500 nationwide. Similarly, the number of biological technicians in Montana is expected to increase by 7% between 2020 and 2030. https://www.onetonline.org/link/localtrends/19-4021.00?st=MT

According the USDA and Perdue University (https://www.purdue.edu/usda/employment/), the demand for agricultural degree graduates will be 59,500 jobs per year with only 33,500 graduates being produced in the US each year resulting in a gab of 26,000 jobs each year on a national basis.

Nationally, precision agricultural technicians are expected to increase by 8%, with Montana increasing by 13%. https://www.onetonline.org/link/localtrends/19-4012.01?st=MT

Conservation Scientist demand nationally is increasing by 2-4%, while in Montana, the increase is 14%. https://www.onetonline.org/link/localtrends/19-1031.00?st=MT

Farmers, Ranchers, and other agricultural managers are decreasing nationally by 2% but growing by 4% in Montana.

https://www.onetonline.org/link/localtrends/11-9013.00?st=MT

3) **Describe any significant new resources (financial, staff, facility, new curricula) needed to launch and sustain the program/center/institute.** While some faculty and administrative time will be needed to establish this program, the program will primarily rely on existing courses with the College of Agriculture, minimizing the need for new resources. As the program grows, additional FTE may be needed to support it.

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 demand for this program came from our current student population. A flexible program like the one proposed would allow for numerous articulation agreements with two-year and tribal colleges across Montana and the region. Additionally, we will be exploring options to share courses with MSU-Northern as they have a similar agriculture 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 Agricultural Sciences program aligns with MSU's vision to drive transformational learning experiences, create outstanding educational outcomes for all students, and improve lives and society through research, creativity, and scholarship. By preparing students to address complex agricultural challenges through interdisciplinary collaboration, this program will contribute to the advancement of Montana's agricultural industry and support sustainable practices that benefit rural communities. This program is being proposed to address both student demand and the needs of the agricultural industry workforce.

Montana University System

REQUEST TO PLAN FORM

Signature/Date		
Chief Academic Officer:	DocuSigned by: Robert Mokwa 212A28411AC04BD...	12/4/2024 | 1:50 PM MST
Chief Research Officer*:		
Chief Executive Officer:	DocuSigned by: Waded Cruzado 7D6A4CE96C3F415...	12/4/2024 | 1:50 PM MST
Flagship Provost:**	DocuSigned by: Robert Mokwa 212A28411AC04BD...	12/4/2024 | 1:50 PM MST
Flagship President:**	DocuSigned by: Waded Cruzado 7D6A4CE96C3F415...	12/4/2024 | 1:50 PM MST

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

Montana University System

REQUEST TO PLAN FORM

ITEM 2011-R0325 **Meeting Date: March 2025**

Item Name: Request to establish Masters of Agriculture in Professional Horsemanship

Program/Center/Institute Title:	**Masters of Agriculture in Professional Horsemanship**	Planned 6-digit CIP code:	**01.0307**
Campus, School/Department:	**College of Agriculture**	Expected Final Submission Date:	**May 2025**
Contact Name/Info:	**Jennifer Thomson 994-6772** **Jennifer.thomson@montana.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.**

Masters of Agriculture in Professional Horsemanship is to provide graduate students with an education in horsemanship methodology and techniques, business, and research knowledge to become a skilled professional in the equine industry. Horsemanship skills taught in the practical classes are heavily based on the principles of equine behavior along with horse training methods of experts in horsemanship and similar disciplines. Academic aspects of the program are designed to increase students' knowledge in business, education, research, and awareness of the modern world equine industry. The collaboration of Montana State University (MSU) and the Montana Center for Horsemanship's/Haras de la Cense France experiential learning and online curriculum allows the graduate to pursue a career in equine-related education. MSU will provide current existing online academic courses through the institution either through the Business, Agricultural Education, or Animal and Range Sciences programs. Graduate students will have the choice to choose their location for onsite courses. Students interested in western disciplines, the Montana Center for Horsemanship will offer skills courses in-person in Dillon, MT. Students interested in English disciplines, Haras de la Cense will offer the skills courses in-person in Paris, France. Students will be admitted to MSU, register for courses through MSU, and pay administrative fees through MSU. In-person classes will be taught by professionals at one of the two hands-on locations under and MOU with MSU. Remaining courses be existing courses at MSU taught in person but allowing students to participate remotely. Additional program fees planned to be paid directly to MCH or La Cense (Horse boarding $400/month or rental horse fee $400/month, on-site lodging in either Dillon or Paris $900/month). Degree will be issued by MSU.

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 USA is home to 6.6 million horses and the horse industry contributes approximately $50 billion in direct economic impact to the U.S. economy and has a direct employment of 988,394 jobs. Including the wages, salaries, benefits of these and the supporting industries, the total contribution of the horse industry to US economy is $177 billion and 2.2 million jobs (**https://horsecouncil.org/economic-impact-study/**)

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According to the American Quarter Horse Association, Montana is ranked fifth in the nation for most horse registries at 96,732 with an increase of 2800 from 2022. The total registered horses from all breed associations are around 130,000 horses in Montana, not including non-registered horses. Horses are second only to cattle in the economic impact of agricultural animals in Montana.

3) **Describe any significant new resources (financial, staff, facility, new curricula) needed to launch and sustain the program/center/institute.** This program will be built on a partnership with the Montana Center for Horsemanship. The Montana Center for Horsemanship is an independent 501(c)(3) nonprofit organization located in Dillon, MT. MCH is the only equine education center in the United States dedicated solely to natural horsemanship. The Montana Center for Horsemanship teaches the "La Cense Method" of Natural Horsemanship, developed with a team of academics, horse experts, and scientists. This program is known today as the La Cense Method, first introduced at the renowned Haras de la Cense in France in 1999. La Cense is Europe's leading equestrian education center dedicated to the teaching of Natural Horsemanship in France and is recognized by universities and institutions worldwide. The program is expected to start with 12 students and increase to 24 or more yearly dependent upon capacity for the equitation programs. The new courses will be offered by adjunct faculty under an MOU with the partner organizations so no additional resources will be needed on our campus for this program.

   The program will use hands-on courses at either the Montana Center for Horsemanship or Haras de la Cense in France taught under an MOU with MSU and then online graduate courses in agricultural business, agricultural education, or animal and range sciences.

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 undergraduate horsemanship program is offered through UM Western so this collaboration would provide a pathway for students from UM Western to pursue a graduate degree at MSU.

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 program fits under MSU strategic plan 3.2.4 by creating this program to meet state and regional needs with attention to national trends as it addresses an important section of the Montana agricultural sector.
   - It addresses Goal 3.2 of the College of Agriculture strategic plan by expanding on opportunities for graduate training to address regional employer needs.
   - This meets the goal 1.2 for the MSU Academic Priorities and Planning Statement to expand high- quality graduate education.

Montana University System

REQUEST TO PLAN FORM

Signature/Date		
Chief Academic Officer:	DocuSigned by: Robert Mokwa 212A28411AC04BD...	12/4/2024 | 1:50 PM MST
Chief Research Officer*:		
Chief Executive Officer:	DocuSigned by: Waded Cruzado 7D6A4CE96C3F415...	12/4/2024 | 1:50 PM MST
Flagship Provost:**	DocuSigned by: Robert Mokwa 212A28411AC04BD...	12/4/2024 | 1:50 PM MST
Flagship President:**	DocuSigned by: Waded Cruzado 7D6A4CE96C3F415...	12/4/2024 | 1:50 PM MST

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

Montana University System

REQUEST TO PLAN FORM

ITEM 2012-R0325 **Meeting Date: March 2025**

Item Name: Request to establish a Masters of Science in Agricultural Sciences

Program/Center/Institute Title: **Masters of Science in Agricultural Sciences** Planned 6-digit CIP code: **01.9999**

Campus, School/Department: **College of Agriculture** Expected Final Submission Date: **May 2025**

Contact Name/Info: **Jennifer Thomson 994-6772**

Jennifer.thomson@montana.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.** This proposal is for a professional master's degree program in the College of Agriculture. This will be a course-based or non-thesis master's degree. It will provide an accelerated 12-month option for full-time graduate students as well as an alternative degree path for working professionals that require or desire additional education for professional advancement that does not require research experience. In addition, it would allow for students to enter programs that are currently limited by the availability of funding for graduate research and increase graduate student numbers. The program will be offered in a High-Flex or blended modality with in-person classes that allow remote student participation.

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 is a well-documented shortage of agricultural professionals with predicted growth in agricultural technologies (https://www.weforum.org/reports/the-future-of-jobs-report-2023/digest/) and the demand for agricultural and food science professionals, (https://www.bls.gov/ooh/life-physical-and-social-science/agricultural-and-food-scientists.htm) biological and agricultural technicians (https://www.bls.gov/ooh/life-physical-and-social-science/biological-technicians.htm) conservation scientists and foresters, (https://www.bls.gov/ooh/life-physical-and-social-science/conservation-scientists.htm) microbiologists (https://www.bls.gov/ooh/life-physical-and-social-science/microbiologists.htm) veterinarians (https://www.bls.gov/ooh/healthcare/veterinarians.htm) and animal care and service workers (https://www.bls.gov/ooh/personal-care-and-service/animal-care-and-service-workers.htm) all growing faster than expected nationally.

   In Montana, the anticipated growth for agricultural and food science professionals is strong with 14% growth expected between 2020 and 2030, microbiologists 22%, conservation scientists 14%, soil and plant scientists 15%, veterinarians 44%, veterinary technologists and technicians 45%, animal care and service workers 45% with over a thousand jobs expected before 2030 (https://www.onetonline.org). According to the USDA and Purdue University the anticipated demand for agricultural professionals is 59,500 per year with only 33,500 graduates being produced in the US resulting in a gap of 26,000 per year (https://www.purdue.edu/usda/employment/).

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3) **Describe any significant new resources (financial, staff, facility, new curricula) needed to launch and sustain the program/center/institute.** This program will make use of existing graduate course work across the College of Agriculture and provide opportunities to specialize in animal science, range science, agricultural economics, agricultural education, plant science, and crop science. No additional facilities or staff are requested but a new introductory course and new professional projects course will be developed to complement the currently available graduate coursework.

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 is a collaboration across all departments in the College of Agriculture and students will have access to a wide and varied curriculum. Initial plans will be options in Professional Horsemanship in partnership with the Montana Horsemanship Center (additional RTP attached), Animal and Range Science, and Plant Sciences and Plant Pathology. The program will provide the opportunity for students from the agricultural programs at MSU Northern and UM Western to pursue a graduate degree.

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 program fits under MSU strategic plan 3.2.4 by creating this program to state and regional needs with attention to national trends as it addresses an immediate shortage of agricultural professionals.
- It addresses Goal 3.2 of the College of Agriculture strategic plan by expanding on opportunities for graduate training with an accelerated track and to address regional employer needs.
- This meets the goal 1.2 for the MSU Academic Priorities and Planning Statement to expand high- quality graduate education.

Signature/Date

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Chief Academic Officer:	DocuSigned by: Robert Mokwa 212A28411AC04BD...	12/4/2024 | 1:49 PM MST
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*Center/Institute Proposal only
**Not applicable to the Community Colleges.

Montana University System

REQUEST TO PLAN FORM

ITEM 218-1501-R0525 **Meeting Date**

Request for authorization to plan standalone M.S. degrees in Mechanical Engineering and Civil Engineering that would replace the two options currently under General Engineering

Program/Center/Institute Title:	**M.S. Mechanical Engineering, M.S. Civil Engineering**	Planned 6-digit CIP code:	**14.1901**
Campus, School/Department:	**Montana Technological University, Lance College of Mines and Engineering**	Expected Final Submission Date:	**November 2025**
Contact Name/Info:	**Rick LaDouceur, rladuouceur@mtech.edu, 406-496-4186** **Mary MacLaughlin, mmaclaughlin@mtech.edu, 406-496-4655**		

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 Tech's existing M.S. degree in General Engineering has two options – Mechanical Engineering and Civil Engineering. The proposed new program is to instead offer standalone M.S. degrees in Mechanical Engineering and Civil Engineering that would replace the General Engineering – Mechanical Option M.S. degree and the General Engineering – Civil Option M.S.degree. Replacing the General Engineering M.S. Options with separate Mechanical Engineering and Civil Engineering M.S. degrees is consistent with changes made at the B.S. level in 2018. Like the General Engineering M.S. degree, the Mechanical Engineering and Civil Engineering M.S. degrees would have thesis and non-thesis options.

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).**

Offering standalone Mechanical Engineering and Civil Engineering M.S. degrees instead of the current General Engineering – Mechanical M.S. degree better meets the needs of students, industry, and Montana Tech. The name of the degree (Mechanical Engineering or Civil Engineering, as opposed to General Engineering) is important in job applications and job descriptions. Graduates are sometimes overlooked by prospective employers, because job postings frequently specify Mechanical Engineering or Civil Engineering as the degree requirement and do not list General Engineering. Replacing the General Engineering M.S. – Mechanical Option and Civil Option with a properly named Mechanical Engineering M.S. degree and Civil Engineering M.S. degree would enable graduates and prospective employers to more effectively connect with one another. Montana Tech is also expected to benefit from the change because prospective students will be more effectively recruited into named Mechanical Engineering and Civil Engineering programs than into a General Engineering program.

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

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None. Because the new program is essentially a renaming of an existing program, the curricula, courses, library, faculty, and research infrastructure are in place.

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).**

Past and current research collaborations in the Mechanical Engineering department are numerous between and among Montana Tech departments, the University of Montana-Missoula, Montana State University-Bozeman, and the Montana Bureau of Mines and Geology, and these collaborations will continue. The Civil Engineering department has a number of new faculty eager to build research collaborations within and external to Montana Tech. No new courses are required, and existing course sharing and research collaborations are expected to continue.

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 M.S. degrees in Mechanical Engineering and Civil Engineering fits Montana Tech's mission. The curriculum exists and is successful. Creating Mechanical Engineering M.S. and Civil Engineering M.S. aligns the B.S. and M.S. degree names and facilitates obtaining employment for mechanical engineering graduates. Like the current General Engineering M.S., the Mechanical Engineering and Civil Engineering M.S. will contribute to exemplary graduate education and research, blending theory with practice to enable program graduates to significantly impact their profession.

Signature/Date
Chief Academic Officer: 3/18/25
Chief Research Officer*:
Chief Executive Officer: 3/20/25
Flagship Provost:**
Flagship President:**

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