

March 13, 2025

From: Deputy Commissioner Joe Thiel

To: Board of Regents

Please see below for an executive overview of the Request to Plan items that are being proposed for your review and action at the March 2025 meeting of the Board of Regents. These items have been submitted by the campuses and reviewed by the Chief Academic Officers of the Montana University System and community colleges. OCHE staff has reviewed the items and provided a short analysis below, relying on information submitted by the campuses. For more information and specific details on each item, please see the supporting documentation included on the Academic, Research, and Student Affairs Committee agenda.

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**Montana State University Bozeman**

**Request to plan a Bachelor of Science in Agricultural and Biosystems Engineering**

The proposed Agricultural and Biosystems Engineering program at Montana State University will integrate the expertise and resources of the College of Agriculture and the College of Engineering to address pressing agricultural and natural resource challenges. This interdisciplinary program will combine foundational engineering principles with applied agricultural sciences. Students will receive hands-on training through courses, research projects, internships with local farms/ranches, environmental industries, and agribusinesses, and experiential learning opportunities at MSU's Agricultural Experiment Station and engineering laboratories.

Agriculture accounts for a sizable portion of Montana's economy, and there is a growing demand for advanced engineering solutions to optimize resource use and improve productivity. Nationwide, agricultural and Biosystems engineering roles are expanding, with a 6-8% projected growth over the next decade. In Montana, agriculture is a central part of the state's economy, with over 28,000 farmers and ranchers relying on advancements in agricultural research and technology to maintain productivity and competitiveness.

This program will utilize existing investments and currently ongoing efforts to increase expertise in Precision Agriculture, Autonomous Systems, and Value-Added processing of agricultural products, along with the solid foundation in the College of Engineering to design and implement this program. No additional faculty FTE are needed to initiate this program, but additional support will be needed as enrollment increases.

Two new teaching labs are planned – one for precision agriculture and one for agricultural product processing. A legislative request for an initiative in value-added agriculture has been submitted for consideration in the 2025 legislative session, along with a request for a new precision agriculture field lab. The proposal for offering this program is not contingent on these legislative requests. The college will address additional needs as the program is developed and we anticipate some fundraising to support these needs once this request is approved.

No overlap has been found with existing programs, but there is an opportunity for interaction with the Applied Agriculture Technology program at MSU Northern with the potential for shared elective opportunities.

### **Request to plan a Bachelor of Science in Optics and Photonics Engineering**

The proposed degree would be administered within the Electrical and Computer Engineering department and would be an Accreditation Board for Engineering and Technology (ABET) program focusing on optical and photonics engineering.

Currently, over thirty optics-related companies reside within the Gallatin Valley with over 800 high-tech employees. The industry was ranked eighth in the Bozeman area by the 2021 University of Montana Bureau of Business and Economic Report. Nationally, the Bureau of Labor Statistics states that the job placement rates of electrical and electronics engineers are projected to rise 9% from 2023-2033.

The proposed degree is expected to attract approximately forty majors per year. The proposal requires two main added resources, 1) support teaching three new courses each year and 2) one new tenure-track faculty line.

The bulk of the required courses will come from physical sciences, mathematics & statistics, as well as electrical engineering. A cross-disciplinary optics minor with courses from the physics and chemistry departments already exists, also an A.A.S. in Photonics & Laser Technology from Gallatin College is available. Cooperation among all these organizations has been going on for some time. No similar engineering programs exist at Montana Tech or within the Montana University System.

### **University of Montana Missoula**

#### **Request to plan a Center for Hunting and Conservation**

This proposed center is part of the development of the W.A. Franke College of Forestry and Conservation's (FCFC) nationally renowned programs in wildlife biology and conservation research and education. Hunting is a central and critical part of the North American model for land management and conservation and remains a direct contributor to improved management of both lands and wildlife that inhabit them.

According to the Montana Bureau of Labor and Industry, hunting has an annual economic impact that exceeds \$100 million. This figure excludes employment opportunities that result from hunting within Montana, state, and federal agencies. Graduates of the Wildlife Biology program are employed across this sector in many ways and have a long history of shaping the landscape of hunting in Montana and nationally.

This Center is being supported through a partnership with the Rocky Mountain Elk Foundation (RMEF). A large gift from RMEF would help fund the physical space for the Center, designed to be part of the new FCFC building, and underwrite the core programming and staffing of the Center for the first major period of its existence.

#### **Request to plan an Institute for Positive Education**

The Institute for Positive Education at the Phyllis J. Washington College of Education will integrate the principles of positive psychology into teacher education, school counseling, and educational leadership at the University of Montana, throughout the state of Montana, and beyond.

The traditional deficit-and-remediation approach of identifying psychiatric diagnoses and providing treatments for specific problems can help individuals but is not adequate for addressing the current mental health crisis. By focusing on growing strengths, skills, and virtues, early outcomes suggest a reduction in behavioral and mental health problems among youth and adults in Montana.

Through the University of Montana Foundation, the Phyllis J. Washington College of Education has received a \$9.4M gift to fund the Institute for four years. The Institute will begin building on this initial funding through additional gifts and grants. The Institute will be a training and revenue resource for the University of Montana and the Phyllis J. Washington College of Education. The Institute will create positions contributing to teacher education across other disciplines.

### **Request to plan the Montana Clinical Translational Research Center**

With funding from the National Institutes of Health, the Montana Clinical and Translational Research Center (Montana CTRC) aims to build clinical and translational research capacity at the University of Montana and with its clinical and public health partner organizations. The goal is to directly address health disparity issues throughout the state and improve the health of Montana communities.

The Montana CTRC will directly address the significant health disparities and lack of healthcare infrastructure in Montana's rural and underserved areas. With 64.1% of the state's population living in nonmetro regions, Montana faces unique challenges such as limited access to specialty care, high mortality rates from cardiovascular disease and suicide, and a lack of healthcare professionals, particularly in rural counties. These challenges are exacerbated by a shortage of healthcare providers, with nearly all counties designated as Health Professional Shortage Areas.

Research funding is provided by the NIH over the next five years. An additional need for office space may develop as new staff and two new faculty are onboarded over the next five years.

### **Request to plan the Montana Public Health Training Center**

At the request of the Montana Department of Public Health and Human Services (DPHHS, the State Health Department), the MPHTC was created in 2019 to address the professional development needs of public health and healthcare professionals throughout Montana and our region. Exacerbated by the COVID-19 pandemic, the public health/healthcare workforce has faced significant external and internal challenges resulting in staff turnover more than two times greater than normal turnover. Talent loss and long-vacant positions impact public health service delivery and quality of services.

Offering training opportunities for Montana public health workers has proven to increase the knowledge, productivity, and performance of the public health workforce. Training opportunities provide evidence-based ways to meet the wants, needs, and requirements of Montana's health workforce. The MPHTC supports goals and objectives identified by the DPHHS, the Montana Public Health System Improvement Plan, and the Montana Public Health Workforce Development Plan.

Funding received from DPHHS covers most staff and personnel needs. As staff growth continues, additional space may be needed.

**Montana University System**  
**REQUEST TO PLAN – OCHE ANALYSIS**

**ITEM 217-2011-R0325****ITEM NAME:** Request to plan a Bachelor of Science in Optic and Photonic Engineering

OCHE ANALYSIS					
<b>Labor market outlook</b>	O*Net suggests that the employment of Photonic Engineers will grow 3% between 2023 and 2033, with projected job openings at ~10,000. Photonic Engineers' median wages are listed at \$111,000 annually.				
<b>Related programs / centers / institutes</b>	No duplications, but opportunities for collaboration with Gallatin College's AAS in Photonics and Laser Technology.				
<b>Budget Impact</b>	X	<b>LOW</b> <ul style="list-style-type: none"> <li>• Only incidental costs</li> </ul>	X	<b>MEDIUM</b>	<b>HIGH</b> <ul style="list-style-type: none"> <li>• substantial commitment of resources relative to institutional budget</li> </ul>
<ul style="list-style-type: none"> <li>• Support to teach three new courses each year</li> <li>• 1 new tenure-track faculty line</li> </ul>					
<b>CAO discussion and follow-up</b>					
<b>ARSA/BOR comment and direction for Level II proposal</b>					

**Montana University System**  
**REQUEST TO PLAN – OCHE ANALYSIS**

ITEM 217-2010-R0325

**ITEM NAME:** Request to plan a Bachelor of Science – Agricultural and Biosystems Engineering

OCHE ANALYSIS					
<b>Labor market outlook</b>	O*Net places Agricultural Engineering in a “Bright Outlook” category. With projected growth between 2023-2033 at 8%, equal to ~100 job openings between 2023-2033 in Montana. Average annual salary projected at \$88,750.				
<b>Related programs / centers / institutes</b>	No duplication, but opportunities for collaboration with MSU Northern’s Applied Agriculture Technology program.				
<b>Budget Impact</b>		<b>LOW</b> <ul style="list-style-type: none"> <li>• Only incidental costs</li> </ul>	<b>X</b>	<b>MEDIUM</b>	<b>HIGH</b> <ul style="list-style-type: none"> <li>• substantial commitment of resources relative to institutional budget</li> </ul>
Two new teaching labs – 1) precision ag and 2) ag product processing					
<b>CAO discussion and follow-up</b>	<b>Additional language was added for clarity around legislative requests.</b>				
<b>ARSA/BOR comment and direction for Level II proposal</b>					