Board of Trustees

Committee on Academic and Student Affairs

Wednesday, November 15, 2023

3:30 - 5:00 PM

UW Conference Center

Salons A&B

Board of Trustees
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AGENDA

1. Consideration and Action:
    a. Notices of Intent
        - Bachelor of Arts in European Languages, Literature, and Film Studies
        - BAS Organizational Leadership Minor and Certificate
        - Health Leadership Minor and Certificate
        - Agribusiness Leadership Minor and Certificate
        - Nuclear Energy Science Undergraduate and Graduate Certificate
        - MS in Pre-Clinical Sciences
        - MS in Artificial Intelligence
        - MS in Quantum Information Science & Engineering
        - PhD in English

    b. Requests for Authorization
        - Bachelor of Science in Ranch Management and Agricultural Leadership

2. Information and Discussion: 2-Step Approval Process | UW regulation 1-1 *(Carman)*
3. Information and Discussion: Native American Affairs at UW *(Carman/Chestnut)*
4. Information and Discussion: Discussion with the College of Agriculture, Life Sciences and Natural Resources

AGENDA ITEM TITLE: **Notice of Intent: Bachelor of Arts in European Languages, Literatures, and Film Studies**, Carman, Turpen

SESSION TYPE:

☐ Work Session

☐ Information Session

☐ Other

☐ [Committee of the Whole – Items for Approval]

APPLIES TO STRATEGIC GOALS:

☒ Yes (select below):

- ☒ Institutional Excellence
- ☐ Student Success
- ☐ Service to the State
- ☐ Financial Growth and Stability

☐ No [Regular Business]

☒ *Attachments are provided with the narrative.*

EXECUTIVE SUMMARY:

UW's Department of Modern and Classical Languages submits this Notice of Intent to launch a new degree offering called "Bachelor of Arts in European Languages, Literatures, and Film Studies." The anticipated curriculum builds upon existing UW language minors and established humanities coursework in French, German, and Spanish, and will forge true interdisciplinary sharing and cross-listing of existing upper-level coursework from other departments. This B.A. uses existing resources much more effectively and provides meaningful opportunities for student learning. UW students will become informed international citizens, who develop effective multi-lingual and cultural communication expertise and problem-solving skills.

PRIOR RELATED BOARD DISCUSSIONS/ACTIONS:

None.

WHY THIS ITEM IS BEFORE THE BOARD:

University of Wyoming Regulation 2-119 requires that the Board approve all new degree programs and lays out the process for that approval. The Academic and Student Affairs committee will report to the Board on recommended action for approval of the Notice of Intent.

ACTION REQUIRED AT THIS BOARD MEETING:

Consideration for approval of the Notice of Intent, Bachelor of Arts in European Languages, Literatures, and Film Studies.

PROPOSED MOTION:

"I move to approve the Notice of Intent for the Bachelor of Arts in European Languages, Literatures, and Film Studies.

PRESIDENT'S RECOMMENDATION:

The President recommends approval.

Notice of Intent: BA in European Languages, Literatures and Film Studies

UW's Department of Modern and Classical Languages submits this Notice of Intent to launch a new degree offering called "Bachelor of Arts in European Languages, Literatures, and Film Studies." It gives basic information about anticipated learning outcomes and our plans to compile data on student and post-graduation demand. It also provides basic information about expected expenditures and how it aligns with UW's mission. This preliminary, conceptual proposal requests authorization by the Board of Trustees' Academic and Student Affairs Committee to plan a new Academic Program.

1. Proposed Academic Program: BA in European Languages, Literatures and Film Studies. Mode of delivery: In person, on-campus classes with optional On-line, Study Abroad and Community Engaged Experiential Learning.

2. Description of BA in European Languages, Literatures and Film Studies, Anticipated Curriculum and Student Learning outcomes:

The anticipated curriculum builds upon existing UW language minors and established humanities coursework in French, German, and Spanish, and will forge true interdisciplinary sharing and cross-listing of existing upper-level coursework from other departments. This B.A. uses existing resources much more effectively and provides meaningful opportunities for student learning. UW students will become informed international citizens, who develop effective multi-lingual and cultural communication expertise and problem-solving skills.

Language forms the foundation for subsequent learning. At UW, we understand that we form more meaningful and respectful relationships with our partners in the global economy and world affairs when we dialogue with them in their own languages. The core of the major builds upon a solid foundation of at least one European language (French, German, or Spanish) and develops linguistic and cross-cultural competencies across disciplines. Students expand beyond their base language and learn about the complexities and interconnectedness of European cultures. To critically investigate the idea of Europe, which is neither single nor unified, an open, pluralistic, multi- and interdisciplinary approach will be accomplished through courses that explore a wide range of fields including language, literature, film, philosophy, linguistics, history, politics, ethics, popular culture, humanities, and the performing and visual arts. Additionally, Education Abroad will be encouraged for all tracks.

Student Learning Outcomes:

As they move through the series of language courses, students will be able to:

-Reach progressively higher levels of understanding of the language and cultural components of the countries of study, with increased levels of proficiency in the target language(s) related to the subject matter.

-Demonstrate an increasingly advanced level of language proficiency in all areas of Speaking, Reading, Writing, Listening, Viewing and Communication. American Council of Teachers of Foreign Language (ACTFL) target levels for graduates will be Intermediate High proficiency in written and oral communication in one or more European languages.

-Use and apply their language skills to scholarly and theoretical research situations and be able to transfer these skills to practical situations requiring specific language expertise (business, legal, medical, tourism, etc).

As they move through the series of literature and film courses, students will be able to:

- Demonstrate ability to interrogate, critically analyze, and discuss European literary and film works in terms of genre, structure, theme, content and style, and compare and relate them to works written in other languages.
-Demonstrate understanding and critical thinking by evaluating literary and film products in light of historical and contemporary political, social, and cultural contexts.
-Demonstrate an increasingly advanced level of language proficiency in all areas of Speaking, Reading, Writing, Listening and Practical Communication.
-Demonstrate deep understanding of European culture, history, and humanities, including in a global context
- Demonstrate intercultural competence, including knowledge and appreciation of the human condition in different cultures in relation to each other and of cultural diversity and/or cultural evolution over time.

3. Course content and how the Academic Program may relate to other offerings: The BA in European Languages, Literatures, and Film Studies draws on MCL's well established expertise in language studies and European Literature and Film. We will build on current MCL offerings of upper-level courses taught in English (e.g. Critical Theory, German Romanticism, Introduction to Research, Gladiators in Cinema, Second Language Acquisition Pedagogy) and expand with new courses developed specifically for this degree (e.g. European Folktales, Fundamentals of Linguistics for Non-Linguists, Language for Specific Purposes). This new degree will also draw on existing coursework on European culture and film studies outside of MCL, strengthening our existing ties to History, SPPAIS (School for Politics, Public Affairs, and International Studies), Theater & Dance, and other programs supportive of this new degree. (Students in our current language majors may already take up to two courses outside of MCL.) Study Abroad opportunities will also allow us to draw from existing, well-supported resources. Moreover, there is no major or minor in film studies at UW, but many MCL professors incorporate film into their coursework. Rather than compete with other courses, this BA encourages an interdisciplinary confluence of existing coursework and resources. For example, students may take THEA 1000, Intro to Theater, TV and Film for their initiation into film studies, then move to LANG 4800 Advanced Study in European Film that draws upon our department's expertise in Classics, French, German, and Spanish Film. For a list of additional sample elective courses, see APPENDIX 1.

4. **Plan for obtaining a market analysis of anticipated student demand and enrollment, and a plan for evaluation and analysis of post-graduation employment market demand.** We will deploy a survey among current UW students and potential future students (our German faculty is the current president of the Wyoming Association of Language Teachers) evaluating demand for this degree. We will also review past enrollments of upper-level courses taught in English like those mentioned above to demonstrate demand for such courses. In addition, Jayne Pearce is amassing Grey's Data in relation to the various European languages included in this major (French, German, Spanish), the Humanities subject matter in literature and film studies, as well as similar European Studies majors.

Smaller language programs and budget constraints are not unique to UW, as can be seen by many institutions reorganizing their programs into broader European Studies frameworks. We predict that our new degree's cumulative, broad ranging, and interdisciplinary nature will have wider appeal and enrollment than stand-alone majors in individual languages. Similarly, the well-established literature core, coupled with innovative film studies courses, will increase student demand.

5. Preliminary budget. This new major will require $0 in new funding. To build from existing strengths and to foster more efficient course delivery, we are "sunsetting" the stand-alone majors in French and German. The shared interdisciplinary upper division classes above the minor level will form a wider European umbrella of coursework, while concomitantly drawing upon the additional strengths of award-winning Modern and Classical Languages faculty and other departments campus-wide to offer a wide range of proven upper division courses. By refocusing existing resources and faculty in Modern and Classical Languages, we will not need to hire additional full-time faculty. This more efficient use of existing courses, as well as drawing from and cross-listing with other departments' existing offerings, will enable us to fully utilize expertise and to maximize enrollments to capacity, rather than delivering over-specialized offerings at minimal enrollment.

This new degree will also uniquely position us to be a strong candidate for grants like the Department of Education's federally funded *European Studies Resource Center*, which again will strengthen our collaboration with other departments in the College of Arts and Sciences, especially SPPAIS (School for Politics, Public Affairs, and International Studies).

6. Proposed timeline for staged implementation over five years, including campus and Board review:

Sept 2023	Notice of Intent
Oct 2023	Dean, Provost, President Review
Nov 2023	BOT review
Dec 2023	Course Approval Process
Jan thru Aug 2024	Course and Major Approval through all levels, advertising, advising, recruitment, registration Participation in Saddle-up Faculty-led Study Abroad to Spain
Fall 2024 thru Spring 2025	Begin "teach out" of existing French and German declared majors, implement new courses using existing resources, and welcome new majors
Summer 2025	Faculty-led study abroad to Germany
Summer 2026	Faculty-led Study Abroad to France
Fall 2026 thru Spring 2027	complete "teach out" of existing French and German majors and graduate first majors in new BA
Summer 2027	Faculty-led multi-country European Study Abroad

7. Other required approvals, such as accreditation bodies and the Higher Learning Commission; Modern and Classical Languages successfully participated in UW's recent Higher Learning Commission review and will continue to meet all its accreditation standards. There is a CAPE (formerly NCATE) accreditation body for our language teaching majors that we jointly fulfill with the College of Education. It will not apply to this proposed major since it is not a teaching major. "Teach out" students who are currently French and German Education majors will be subject to all state and national accreditation and licensure requirements.

8. How the new Academic Program aligns with the University's mission, strategic plan, and existing academic degree program array. By fulfilling UW's missions of diversity, equity, inclusivity, globalization, internationalization and forging interdisciplinary connections with a wide range of existing academic degree programs, this new major: (Strategic Goal 1) Enhances

student success by equipping them with multiple language and cultural skills required for life, work, global citizenship and engagement that meet the needs of a changing world; (SG2) Pursues Institutional Excellence by nurturing a culture of diverse ideas and knowledge that promotes community and global engagement, development, and research nationally and internationally while strengthening relationships with UWs external partners at home and abroad; (SG3) Provides a supportive and caring community that values and includes all individuals and cultures on-campus and worldwide; (SG4) Engages with and serves the State of Wyoming through close ties with Wyoming Association of Language Teachers (WALT) since its president is our Associate Professor of German, Rebecca Steele, and 10 of our full time faculty members belong to the organization, present, and participate regularly in its annual meetings. These statewide connections with K-12 schools encourage early language learning through dual language immersion and target language coursework; (SG5) Cultivates Financial Stability and diversification by refashioning existing assets, growing enrollment, strengthening on-campus and global partnerships, and pursuing sustainable outside funding sources.

9. Rationale. Rather than duplicate existing programs, this degree in European Languages, Literatures, and Film builds upon existing minors, incorporates a wide range of existing campus-wide expertise and resources, and addresses the lack of a formal Film Studies major at UW. It prepares graduates to enter advanced degree programs in European Studies, French, German, Spanish, and Comparative Literature. The strong academic skills and professional orientation, along with transferable practical skills, are necessary to pursue successful careers in such fields as government service, international banking, law, journalism, management, public relations, publishing, teaching, translation, and tourism. Humanities graduates in general learn to express ideas clearly, do independent research, and think analytically and imaginatively—the required tools for success beyond the undergraduate career. Its innovative curriculum also positions UW favorably to secure outside funding from humanities-based entities such as the European Studies Resource Center.

APPENDIX 1: Sample ELECTIVE courses for "Bachelor of Arts in European Languages, Literatures, and Film Studies." Confirmation for all courses have been received from Adam Blackler in History, Stephanie Anderson and Nick Crane in SPPAIS, and Cecelia Aragon in Theater and Dance.

Respectfully submitted,
Joy Landeira
Department Head, Modern and Classical Languages

APPENDIX 1: Sample ELECTIVE courses for "Bachelor of Arts in European Languages, Literatures, and Film Studies":

Since the new major is built upon existing minors delivered in French, German and Spanish, the top tier of interdisciplinary campus-wide coursework will be delivered in English, or bilingually in English and the target language. For example, our existing course called "100 Years of French Film" can show films in French with English subtitles. Students who study French can view them in French, while English-speaking students can read the subtitles and view dubbed versions. In-class discussions will be in English, while teacher-graded materials like homework and essays can be in English or French, according to student needs.

Sample Modern and Classical Languages ELECTIVE courses for the new major:

European folk tales—the world's centerpiece for this literary type—can be taught in German, French, and/or English, reaching new groups of students who will benefit from the interdisciplinarity and internationalization of authentic course material that cuts across all disciplines and gives them new perspectives on world literature and culture. These ideas will energize our German program and students, and will draw new target audiences, including K-12 teachers, to this material that can be cross-listed with other departments. The projected outcomes speak directly to UW's mission of collaborative learning, exposing students to innovative scholarship and internationalization.

LANG 4300/5300 (dual listed): "Fundamentals of Linguistics for Non-Linguists." An introduction to fundamentals of linguistic study, including phonology, morphology, semantics, pragmatics, and syntax, looking also to computational, socio-cultural and teaching applications. This can be offered to different majors: English, Communication Disorders, Anthropology, Computer Science, etc, since it will be based in English with comparison to other languages.

LANG 2000 Intro to Languages for Specific Purposes + 3000 Language for Specific Purposes—Variable Topics. Language for Specific Purposes is an emerging subdiscipline within the discipline of Languages that emerges from the global changes that affect all professions (Sánchez-López, 2010), twenty-first-century globalization, and internationalization. With these courses, UW's Department of Modern & Classical Languages will equip students to be more competitive and to succeed in 21st century global economy in different fields of study within the U.S. and abroad. LANG 2000 and LANG 3000 will provide students with the necessary skills to communicate information and knowledge from a specific field that requires a foreign/secondary language within the U.S. and abroad.

Language for Specific Purposes courses assume that students have previous general knowledge of the target language and need to acquire language tools that support them to move forward in their professional field, e.g., business and tourism, engineering, healthcare, and law. They combine well with other majors and/or degrees offered at the University of Wyoming: health professions, law, business, and tourism. The course conforms to the World Readiness Standards for Learning Languages: communication, comparisons, cultures, connections and communities; and aims to increase students' competency across all these dimensions.

Sample Modern and Classical Languages ELECTIVE courses for the new major (cont.):

ELECTIVE Courses in Classics, all taught in English. All Classics courses are graded by discussion, short writing assignments, and a multi-staged research project centered around a primary text in translation. All upper division Classics courses read only primary texts in translation and peer-reviewed secondary sources, including various critical approaches.

CLAS 3050 Athenian Democracy examines democratic government in ancient Athens: its origins and development, its practical workings, how politics were conducted and power was gained and exercised, citizen participation, law courts, and evaluations of democracy in the ancient world and since. Cross listed with POLS/HIST 3050. *Prerequisite:* COM 2

CLAS 3160 "What Killed Socrates?" reexamines Socrates' trial in 399 BCE, widely regarded as a miscarriage of justice, in its total historic context, seeking to understand the reasons for Socrates' conviction. In the process, it will impart a broad understanding of the cultural, philosophical, political, and legal life of classical Athens. Cross listed with HIST/PHIL 3160. *Prerequisites:* COM 2

CLAS 4230 Greek Tragedy. Reading and discussion of major plays by Aeschylus, Sophocles, and Euripides, together with examination of the performance and social context of Greek drama, its use of traditional myths, and selected issues in contemporary scholarship on the tragedies. Cross listed with ENGL/THEA 4230. *Prerequisite:* COM 2.

CLAS 4990 Gladiators & Cinema focuses on Roman gladiators and their cinematic reception. It explores the contradiction between the low social status of gladiators and their ubiquity in Roman material and literary culture as representatives of Roman values. It examines those within and outside of the arena who critiqued the gladiatorial system or used its tropes to fashion a rhetoric of resistance to the Roman state. It investigates how global cinema draws upon ancient models of gladiators and Roman state-sponsored festival games to comment on contemporary concerns about the powers and practices of states, media, and corporations.

Sample Campus-wide ELECTIVE courses for the new major:

This truly interdisciplinary major builds on a strong language base and draws from a wide range of existing courses in other departments, including History, International Studies, and Theatre.

HIST 4990 Nazi Germany and the Holocaust
HIST 4990 History of the Holocaust in Central Europe (Study Abroad)
HIST 4990 Europe after 1945
HIST 4990 Weimar Germany: Hope and Tragedy
HIST 4990 Imperial Germany and Empire
HIST 4310 World War II in Europe
HIST 2280 Introduction to European Studies
HIST 1330 World History since 1500
INST 4215 European Union
INST 2280 Intro to European studies COM2
INST 4315 Memories of Holocaust in Europe
INST 4990 NATO and European Security.
INST Comparative Policing: Europol, Interpol and the USA.
THEA 1000 Intro to Theatre, Film and Television

Office of Academic Affairs
Dept. 3302 • 1000 E. University Avenue
Laramie, WY 82071
(307) 766-4286 • (307) 766-6476 • fax (307) 766-2606
www.uwyo.edu/acadaffairs

This form is to be used with all new degree/certificate proposals as outlined in the process on the Academic Affairs website at https://www.uwyo.edu/acadaffairs/degrees. Departments shall use this form to provide documentation of collaboration and support for any courses and/or resources that will be contributing to the new degree/certificate that are not within the home department.

Date: 10/20/2023

Name of Proposal: BA in European Languages

Department: Modern and Classical Languages

College: Arts and Sciences

The above-named degree/certificate proposal has been reviewed by the following departments/colleges and all appropriate courses and resources have been discussed prior to proposal submission:

Department Head	Signature
Department Head	Signature
J. Scott Turpen	Scott Turpen Digitally signed by Scott Turpen Date: 2023.10.20 07:47:02 -06'00'
Dean	Signature
Dean	Signature

Submitted on: _____(date)

By: _____

AGENDA ITEM TITLE: **Notice of Intent: BAS Organizational Leadership Minor & Certificate,** Carman, Pickett

SESSION TYPE:

☐ Work Session

☐ Information Session

☐ Other

☐ [Committee of the Whole – Items for Approval]

APPLIES TO STRATEGIC GOALS:

☒ Yes (select below):

- ☒ Institutional Excellence
- ☐ Student Success
- ☐ Service to the State
- ☐ Financial Growth and Stability

☐ No [Regular Business]

☒ *Attachments are provided with the narrative.*

EXECUTIVE SUMMARY: The Bachelor of Applied Science degree (BAS) is a completely online program designed for individuals who need or desire additional breadth in skills, knowledge, and professional expertise to enhance their capabilities in their own careers and in the organizations in which they work. The proposed certificate would allow students who already have completed their degree, are working on another degree, or need leadership skillsets to enroll in the organizational leadership program. With the certificate, we are reaching a population of potential students beyond UW, who are already in the workforce needing leadership support.

PRIOR RELATED BOARD DISCUSSIONS/ACTIONS:
None.

WHY THIS ITEM IS BEFORE THE BOARD:
University of Wyoming Regulation 2-119 requires that the Board approve all new degree programs and lays out the process for that approval. The Academic and Student Affairs committee will report to the Board on recommended action for approval of the Notice of Intent.

ACTION REQUIRED AT THIS BOARD MEETING:
Consideration for approval of the Notice of Intent, BAS Organizational Leadership Certificate.

PROPOSED MOTION:
"I move to approve the Notice of Intent for the BAS Organizational Leadership Certificate.

PRESIDENT'S RECOMMENDATION:
The President recommends approval.

Notice of Intent

Proposed Academic Program
BAS Organizational Leadership Minor & Certificate

Description of Proposed Minor & Certificate
The Bachelor of Applied Science degree (BAS) is a completely online program designed for individuals who need or desire additional breadth in skills, knowledge, and professional expertise to enhance their capabilities in their own careers and in the organizations in which they work. The proposed minor and certificate would allow for students who already have completed their degree, are working on another degree, or need leadership skillsets to enroll in the organizational leadership program. Both the certificate and minor will have the same courses, but will target different populations. With the minor, all students enrolled at UW can register for the minor. With the certificate, we are reaching a population of potential students beyond UW, who are already in the workforce needing leadership support.

Curriculum Outline & Learning Outcomes
BAS (Bachelor of Applied Science) SLO (Student Learning Outcome) 1: Students will learn and compare a variety of leadership and management theories that represent and reflect on organizational structures.
BAS SLO 2: Students will analyze and demonstrate how diversity in a workplace is necessary to produce results and innovative change.
BAS SLO 3: Students will explore ethical theories and understand how those theories are useful in approaching decisions that have moral implications.
BAS SLO 4: Students will demonstrate proficiency in verbal and written communication of information and research data as is needed to be successful within an organizational structure.
BAS SLO 5: Students will implement AI (Artificial Intelligence) tools and software in ethical and professional ways to bring resources and benefit to the organizational structure.

BAS Courses	Course Description
ORGL 3100 – Innovation & Creativity	Students will acquire knowledge through a survey of leading theories of organizational change. Students will learn the core principles of each theory, which involves inspiring positive changes in those led. The leader is vested in the success of every single member involved in the process. Students will begin to understand how to empower an organization to create, plan, and innovate to achieve success and produce positive results within its structure.

ORGL 4100 – Diversity & Change	Students will develop an understanding of complex organizational concepts required to run a successful, diverse team, including a basic foundation of common legal and regulatory compliance. Students will learn how to relate and apply concepts including organizational structure, management theories, common elements of industrial/organizational (I/O) psychology, and topics in human resource management (hiring and termination processes, conflict resolution strategies, etc.).
ORGL 4200 – Ethics in Organization	In order to foster critical reflection and more self-aware leadership, the course begins with a survey of three of the most influential moral theories: utilitarianism, deontology (Kantian ethics), and virtue ethics. We will then read and reflect about how context matters, that reasoning about the best course of action may be different in an institutional setting than in one's private life or a typical interpersonal setting. In addition, what kind of context also matters, such as in a public agency versus a not-for-profit versus a private corporation. In the final weeks of the semester, we will critically examine case studies of moral issues in a range of institutional settings.

- ***In addition to the three ORGL courses above, students enrolled in the certificate or minor would also take a minimum of three elective leadership courses, such as human resources, marketing, communication, non-profit grant writing, etc. as part of the 18 credit requirement.***

Market Analysis Plan

The BAS program currently enrolls an average of 100 students per academic year. The demand for the organizational leadership degree remains consistently high, as evidenced by the Gray Associate's Data, where Organizational Leadership holds the top ranking. To cater to this demand, offering a minor and certificate in leadership would be beneficial. This approach would allow students from all majors to access the leadership courses and provide individuals with a bachelor's degree or work experience, an opportunity to obtain an organizational leadership certificate, thereby acquiring essential skills in this field.

Budget - Funding, Expenses, Revenue, Faculty, Academic Professionals, Staff, etc.

Budget Category	Description	Ongoing, One Time, etc.
Funding	No funding necessary	n/a
Revenue	Each ORGL course	Ongoing

	enrollment would generate a percentage of revenue.	
Faculty	Adjunct instructors to teach duplicate sessions of ORGL 3100, 4100, and 4200 as necessary, dependent on enrollment each term.	Ongoing
Academic Professionals/Staff	Possible increase in advisor support.	One time hire
Other	n/a	n/a

5 Year Timeline

All coursework for the Organizational Leadership minor and certificate has been developed and is ready for implementation. Starting from the fall semester of 2024, registration will be open for the Organizational Leadership certificate and minor programs, assuming this proposal is successful. In the second year of the program, a comprehensive evaluation will be conducted, gathering feedback from students through surveys and course evaluations, in order to assess both student enrollment and course quality. In addition, we have a BAS advisory board who meets multiple times a year to oversee our program and contribute ideas and leadership expertise.

In the third year, the enrollment projections of students will be analyzed to make any necessary adjustments to the course offerings. This proactive approach will ensure that the program remains responsive to student needs and industry demands.

By the fourth and fifth years, another evaluation will be conducted to explore the possibility of introducing additional certificates or concentrations within the minor and/or program. This decision will be based on economic changes in leadership roles and required skills, ensuring that the program stays relevant and aligned with the evolving demands of the field.

Other Required Approvals - Accreditation Bodies/HLC
No other approvals are needed for this request.

University's Mission & Strategic Plan Evidence
Both the certificate and minor would align to the strategic plan and president's goals listed.

- Strategic Direction 1: Enhance academic, distance education, and advising programs to support student success and increased student enrollment with particular focus on recruitment, retention, and graduation rates.

- Strategic Direction 4: Prioritize and foster excellence in core areas of academics and research that are responsive to the needs of students, employers, and the State. Drive student success and enrollment growth through coordinated, cross-campus initiatives.

Rationale - Need for New Minor & Certificate

The minor and certificate in organizational leadership offer opportunities for a diverse range of students to explore courses in this field. These programs are designed not only for individuals who already hold a degree and seek to enhance their leadership skills but also for students pursuing other degrees who are interested in developing their abilities as leaders. Additionally, professionals with prior work experience who are looking to further develop their leadership competencies can greatly benefit from the certificate option. With their flexible structure and accessible nature, the minor and certificate in organizational leadership aim to reach a broad student population and contribute to the diversification of the BAS program and contribute to workforce development for the state of Wyoming and beyond.

UNIVERSITY OF WYOMING | Office of Academic Affairs

Office of Academic Affairs
Dept. 3302 • 1000 E. University Avenue
Laramie, WY 82071
(307) 766-4286 • (307) 766-6476 • fax (307) 766-2606
www.uwyo.edu/acadaffairs

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Date: October 20, 2023

Name of Proposal: Organizational Leadership

Department: BAS - UW Casper

College: UW Casper

The above-named degree/certificate proposal has been reviewed by the following departments/colleges and all appropriate courses and resources have been discussed prior to proposal submission:

Rochelle Green
Department Head

Rochelle Green
Signature

Department Head

Signature

Brent Pickett
Dean

Brent Pickett
Signature

Dean

Signature

Submitted on: 10/20/2023 (date)

By: Brent Pickett

AGENDA ITEM TITLE: **Notice of Intent: PHCY/BAS Health Leadership Minor & Certificate,** Carman, Pickett

SESSION TYPE:

☐ Work Session

☐ Information Session

☐ Other

☐ [Committee of the Whole – Items for Approval]

APPLIES TO STRATEGIC GOALS:

☒ Yes (select below):

- ☒ Institutional Excellence
- ☐ Student Success
- ☐ Service to the State
- ☐ Financial Growth and Stability

☐ No [Regular Business]

☒ *Attachments are provided with the narrative.*

EXECUTIVE SUMMARY: The Health Leadership Minor & Certificate would align closely with the University's mission. Healthcare services are an important part of Wyoming's economy. By helping to train the next generation of health service administrators, the program fits UW's mission to promote economic and community development. The minor and certificate will be entirely asynchronous, and thus is readily accessible to people across the state (and beyond). The core health service administration courses are based on rigorous scholarship and the application of knowledge, which are also parts of the University's mission.

PRIOR RELATED BOARD DISCUSSIONS/ACTIONS:
None.

WHY THIS ITEM IS BEFORE THE BOARD:
University of Wyoming Regulation 2-119 requires that the Board approve all new degree programs and lays out the process for that approval. The Academic and Student Affairs committee will report to the Board on recommended action for approval of the Notice of Intent.

ACTION REQUIRED AT THIS BOARD MEETING:
Consideration for approval of the Notice of Intent, PHCY/BAS Health Leadership Minor & Certificate.

PROPOSED MOTION:
"I move to approve the Notice of Intent for the PHCY/BAS Health Leadership Minor & Certificate.

PRESIDENT'S RECOMMENDATION:
The President recommends approval.

Notice of Intent

Proposed Academic Program
PHCY/BAS Health Leadership Minor & Certificate

Description of Proposed Minor & Certificate
The Health Leadership Minor & Certificate would align closely with the University's mission. Healthcare services are an important part of Wyoming's economy. By helping to train the next generation of health service administrators, the program fits UW's mission to promote economic and community development. The minor and certificate will be entirely asynchronous, and thus is readily accessible to people across the state (and beyond). The core health service administration courses are based on rigorous scholarship and the application of knowledge, which are also parts of the University's mission.

Curriculum Outline & Learning Outcomes

Health Leadership SLO (Student Learning Outcome) 1: Students will become better prepared to assume supervisory and other leadership roles within a healthcare organization.
Health Leadership SLO 2: Students will demonstrate knowledge of the theories and evidence of the qualities of a successful leader.
Health Leadership SLO 3: Students will incorporate organization design and process skills into healthcare settings to comprehensively assess and enhance the organization's performance.
Health Leadership SLO 4: Students will demonstrate the ability to communicate research data findings verbally and/or written within the healthcare organization structure.

Leadership Courses	Course Description
PHCY 4050 - Evolution of American Health	This course explores the professionalization of healthcare over the past century. The influence of computerized health information, and the trend toward empowerment of patients through the democratization of health services is also explored.
PHCY 4341 - Intro to Healthcare Quality	This course will provide an overview of healthcare quality and performance measurement. It will also provide a review of quality improvement strategies used in various healthcare settings.
PHCY 4441 - intro to Health Institution Leadership	This course provides undergraduates information through analysis of theory and application. The course will use discussion boards to highlight examples of leadership roles and discuss differences in types of leadership roles. Organizational, team, and individual dimensions of

	leadership are examined. Students assess their own leadership skills for strengths and areas to improve.
ORGL 3100 – Innovation & Creativity	Students will acquire knowledge through a survey of leading theories of organizational change. Students will learn the core principles of each theory, which involves inspiring positive changes in those led. The leader is vested in the success of every single member involved in the process. Students will begin to understand how to empower an organization to create, plan, and innovate to achieve success and produce positive results within its structure.
ORGL 4100 – Diversity & Change	Students will develop an understanding of complex organizational concepts required to run a successful, diverse team, including a basic foundation of common legal and regulatory compliance. Students will learn how to relate and apply concepts including organizational structure, management theories, common elements of industrial/organizational (I/O) psychology, and topics in human resource management (hiring and termination processes, conflict resolution strategies, etc.).
Elective Option Choose one 3 cr. course from the menu of courses.	PHCY 4241 Intro to Biopharm Reg Compliance PHCY 4141 Health Economics and Outcomes ORGL 4200 Ethical Issues and Organizations ORGL 4900 Capstone: Organizational Leadership in Practice (ORGL 3100/4100 - Prerequisites must be taken first) ORGL 4960 Internship (3-6 Credits)

Market Analysis Plan

The BAS program currently enrolls an average of 100 students per academic year, 12 of which were HSA concentration option students. The demand for the organizational leadership degree and health administration remains consistently high, as evidenced by the Grey's Associate Data, CIP code 52.0213, where Organizational Leadership holds the top ranking, and Health Services Administration and Health Management both have moderate demand. To cater to this demand, offering a minor and certificate in health leadership would reach students in health related bachelor degrees, and students in the healthcare field needing to prepare for leadership positions. This approach would allow students from all majors to access the health administration and organizational leadership courses and provide individuals with a bachelor's degree or work experience an opportunity to obtain a health leadership certificate, thereby acquiring essential skills in this field.

Budget - Funding, Expenses, Revenue, Faculty, Academic Professionals, Staff, etc.

Budget Category	Description	Ongoing, One Time, etc.
Funding	No funding necessary	n/a
Revenue	Each PHCY/ORGL course enrollment would generate a percentage of revenue.	Ongoing
Faculty	Adjunct instructors to teach duplicate sessions of the required courses.	Ongoing
Academic Professionals/Staff	Possible increase in advisor support.	One time hire
Other	n/a	n/a

5 Year Timeline

All coursework for the Health Leadership minor and certificate has been developed and is ready for implementation. Starting from the fall semester of 2024, registration will be open for the certificate and minor programs. In the second year of the program, a comprehensive evaluation will be conducted, gathering feedback from students through surveys and course evaluations, in order to assess both student enrollment and course quality.

In the third year, the enrollment projections of students will be analyzed to make any necessary adjustments to the course offerings. This proactive approach will ensure that the program remains responsive to student needs and industry demands.

By the fourth and fifth years, another evaluation will be conducted to explore the possibility of introducing additional certificates or concentrations within the minor and/or program. This decision will be based on economic changes in leadership roles and required skills, ensuring that the program stays relevant and aligned with the evolving demands of the field.

Other Required Approvals - Accreditation Bodies/HLC
No other approvals are needed for this request.

University's Mission & Strategic Plan Evidence
Both the certificate and minor would align to the strategic plan and president's goals listed.

- Strategic Direction 1: Enhance academic, distance education, and advising programs to support student success and increase student enrollment with particular focus on recruitment, retention, and graduation rates.
- Strategic Direction 4: Prioritize and foster excellence in core areas of academics and research that are responsive to the needs of students, employers, and the healthcare consumers. Drive student success and enrollment growth through coordinated, cross-campus initiatives.

Rationale - Need for New Minor & Certificate

The minor and certificate in health leadership offer opportunities for a diverse range of students to explore courses in this field. These programs are designed not only for individuals who already hold a degree and seek to enhance their leadership skills but also for students pursuing other degrees who are interested in developing their abilities as health leaders. After extensive collaboration with healthcare leaders, many of their employees have degrees or are seeking a health-related degree and need the basics to provide leadership support. Additionally, professionals with prior work experience who are looking to further develop their leadership competencies can greatly benefit from these programs. With their flexible structure and accessible nature, the minor and certificate in health leadership aim to reach a broad student population and contribute to the diversification of UW.

UNIVERSITY OF WYOMING
UW - Casper
125 College Dr., Casper, WY 82601
(307) 268-2713 • (307) 268-2416 (fax)
www.uwyo.edu/outreach/uwcasper

August 22, 2023

Dear Elliott,

I am writing to express my support for the Notice of Intent (NOI) for the new Health Leadership certificate and minor at the University of Wyoming. This proposal aligns with the university's strategic direction, focusing on enhancing distance education to boost student enrollment and addressing areas of academic excellence and need.

We are fully committed to supporting this new minor and certificate by offering the following courses as necessary:

1. ORGL 3100 - Leading Organizational Innovation and Creative Planning
2. ORGL 4100 - Diversity and Organizational Change
3. ORGL 4200 - Ethical Issues and Organizations
4. ORGL 4900 - Capstone: Organizational Leadership in Practice

We are grateful for the strong relationship and effective communication that will enable us to plan and provide the required sections for each of these courses. Importantly, this partnership will not require the creation of new courses; instead, it will involve adding additional sections. This initiative will expands academic opportunities for students at the University of Wyoming.

As always, my colleagues at UW Casper and myself value our collaboration. It's been a pleasure to work with you on this and other initiatives.

Sincerely,

Brent Pickett, PhD
Dean, UW at Casper

CASPER-NATRONA
COUNTY HEALTH DEPARTMENT

August 22, 2023

Rochelle McCoy, PhD
Director – Bachelor of Applied Science (BAS) Program
Organizational Leadership
University of Wyoming at Casper
UU 451 Union/University Building
Casper, WY 82601

To Whom it May Concern:

I recently had the opportunity to meet with Dr. McCoy in regards to the Organizational Leadership Program and learn more about the class offerings. She discussed the possibility of having a Health Leadership Minor and Certificate. I think that would be a tremendous asset to our healthcare community and a great option for the University of Wyoming students to expand their options.

I have my Master's in Occupational Therapy from 2000 and realized over 20 years ago that I wanted something more and started my work in the Public Health world. I was able to rise up through the different positions and have ended up as the Director of the Casper Natrona County Health Department since 2019. I have searched and completed several Leadership trainings but feel that a Health Leadership minor or certificate would be ideal for our community. Often the managers that I have on staff rise up due to longevity and experience but having a certificate like this would help give additional tools and credibility to their positions.

I believe that the Health Leadership Minor and Certificate would be very successful and a highly sought out opportunity for many healthcare providers.

If you have any questions or need any additional information, please let me know.

Respectfully,

Anna M. Kinder, MS, OT
Executive Director
Casper Natrona County Health Department
akinder@cnchd.org

Banner Health
Wyoming Medical Center

August 25, 2023

Dear Rochelle,

I am sending this letter in support of the new programming you are working on to have the Health Leadership curriculum available as a minor and a certificate program. We are excited by the potential opportunity for our employees who are interested in furthering their careers in leadership and believe that this will grow and enhance their skill set. Thank you for all you are doing to further the educational opportunities in our community!

Regards,

Shantel Moore, Director, HR

Banner Wyoming Medical Center

1233 East 2nd Street

Casper, WY 82601

307-577-2049

UNIVERSITY OF WYOMING | Office of Academic Affairs

Office of Academic Affairs
Dept. 3302 • 1000 E. University Avenue
Laramie, WY 82071
(307) 766-4286 • (307) 766-6476 • fax (307) 766-2606
www.uwyo.edu/acadaffairs

This form is to be used with all new degree/certificate proposals as outlined in the process on the Academic Affairs website at https://www.uwyo.edu/acadaffairs/degrees. Departments shall use this form to provide documentation of collaboration and support for any courses and/or resources that will be contributing to the new degree/certificate that are not within the home department.

Date: October 26, 2023

Name of Proposal: Health Leadership

Department: BAS/Pharmacy

College: UW-Casper

The above-named degree/certificate proposal has been reviewed by the following departments/colleges and all appropriate courses and resources have been discussed prior to proposal submission:

Rochelle Green
Department Head — Signature

Department Head — Signature

Elliott Sogol
Dean — Signature

Brent Pickett
Dean — Signature

Submitted on: 10/26/23 (date)

By: RG

Office of Academic Affairs
Dept. 3302 • 1000 E. University Avenue
Laramie, WY 82071
(307) 766-4286 • (307) 766-6476 • fax (307) 766-2606
www.uwyo.edu/acadaffairs

This form is to be used with all new degree/certificate proposals as outlined in the process on the Academic Affairs website at https://www.uwyo.edu/acadaffairs/degrees. Departments shall use this form to provide documentation of collaboration and support for any courses and/or resources that will be contributing to the new degree/certificate that are not within the home department.

Date: October 20, 2023

Name of Proposal: Organizational Leadership

Department: BAS - UW Casper

College: UW Casper

The above-named degree/certificate proposal has been reviewed by the following departments/colleges and all appropriate courses and resources have been discussed prior to proposal submission:

Rochelle Green	Rochelle Green
Department Head	Signature
Department Head	Signature
Brent Pickett	
Dean	Signature
Jacob Warren	Jacob Warren Digitally signed by Jacob Warren Date: 2023.11.01 10:44:13 -06'00'
Dean	Signature

Submitted on: 10/20/2023 (date)

By: Brent Pickett

AGENDA ITEM TITLE: Notice of Intent: AG/BAS Agricultural Business (AgBusn) Leadership Minor, Certificate, and Concentration, Carman, Pickett

SESSION TYPE:
☐ Work Session
☐ Information Session
☐ Other
☐ [Committee of the Whole – Items for Approval]

APPLIES TO STRATEGIC GOALS:
☒ Yes (select below):
- ☒ Institutional Excellence
- ☐ Student Success
- ☐ Service to the State
- ☐ Financial Growth and Stability

☐ No [Regular Business]

☒ *Attachments are provided with the narrative.*

EXECUTIVE SUMMARY: The AgBusn Minor & Certificate would align closely with the University's mission, especially given UW's founding as a land grant institution. Agriculture, economics, and leadership are all an important part of Wyoming's economy. By helping to train the next generation of agricultural leaders, the program fits UW's mission to promote economic and community development. The minor and certificate will be entirely asynchronous, and thus is readily accessible to people across the state (and beyond). The core Agriculture and Organizational Leadership courses are based on rigorous scholarship and the application of knowledge, which are also parts of the University's mission.

PRIOR RELATED BOARD DISCUSSIONS/ACTIONS:
None.

WHY THIS ITEM IS BEFORE THE BOARD:
University of Wyoming Regulation 2-119 requires that the Board approve all new degree programs and lays out the process for that approval. The Academic and Student Affairs committee will report to the Board on recommended action for approval of the Notice of Intent.

ACTION REQUIRED AT THIS BOARD MEETING:
Consideration for approval of the Notice of Intent, AG/BAS Agricultural Business Leadership Minor, Certificate, and Concentration.

PROPOSED MOTION:
"I move to approve the Notice of Intent for the AG/BAS Agricultural Business Leadership Minor, Certificate, and Concentration.

PRESIDENT'S RECOMMENDATION:
The President recommends approval.

Notice of Intent

Proposed Academic Program
AG/BAS Agricultural Business (AgBusn) Leadership Minor, Certificate, and Concentration

Description of Proposed Minor & Certificate
The AgBusn Minor & Certificate would align closely with the University's mission, especially given UW's founding as a land grant institution. Agriculture, economics, and leadership are all an important part of Wyoming's economy. By helping to train the next generation of agricultural leaders, the program fits UW's mission to promote economic and community development. The minor and certificate will be entirely asynchronous, and thus is readily accessible to people across the state (and beyond). The core Agriculture and Organizational Leadership courses are based on rigorous scholarship and the application of knowledge, which are also parts of the University's mission.

Curriculum Outline & Learning Outcomes

AgBusn Leadership SLO (Student Learning Outcome) 1: Students will become better prepared to assume supervisory and other leadership roles within ag-related organizations.
AgBusn Leadership SLO 2: Students will demonstrate knowledge of agribusiness concepts and exhibit the qualities of a successful leader.
AgBusn Leadership SLO 3: Students will incorporate organization design, agribusiness marketing, management, and finance concepts to comprehensively assess and enhance the organization's performance.
AgBusn Leadership SLO 4: Students will demonstrate the ability to communicate research data findings verbally and/or written within ag-related organizational structures.

Leadership Courses	Course Description
AGEC 4050, Agribusiness Marketing	Students develop a strategic marketing plan for an agricultural and food product. Content includes study of aspects of the global food industry influencing consumer demand; contemporary topics in food marketing and policy; agricultural supply marketing; marketing research methods; marketing profitability measures; pricing; new product information; branding; and industry competitive analysis. *AGEC1020 Prerequisite
AGEC 4060, Agribusiness Management	Applies quantitative, economic, financial, and managerial analysis to agribusiness sector. *AGEC 1020 and MATH 1400 Prerequisite

AGEC 4500, Agricultural Finance	Principles of financial management; compounding and discounting; leverage and capital budgeting and alternatives in resource control. *AGEC or ECON1020 Prerequisite
ORGL 3100 – Innovation & Creativity	Students will acquire knowledge through a survey of leading theories of organizational change. Students will learn the core principles of each theory, which involves inspiring positive changes in those led. The leader is vested in the success of every single member involved in the process. Students will begin to understand how to empower an organization to create, plan, and innovate to achieve success and produce positive results within its structure.
ORGL 4100 – Diversity & Change	Students will develop an understanding of complex organizational concepts required to run a successful, diverse team, including a basic foundation of common legal and regulatory compliance. Students will learn how to relate and apply concepts including organizational structure, management theories, common elements of industrial/organizational (I/O) psychology, and topics in human resource management (hiring and termination processes, conflict resolution strategies, etc.).
Elective Option Choose one 3 cr. course from the menu of courses.	ORGL 4200 Ethical Issues and Organizations ORGL 4900 Capstone: Organizational Leadership in Practice ORGL 4960 Internship (3-6 Credits)

Market Analysis Plan

The BAS Organizational Leadership program currently enrolls an average of 100 students per academic year, and the College of Agriculture currently enrolls 1,266 students per year. The demand for the organizational leadership degree and Agribusiness and Economics remains

consistently high, as evidenced by the Grey's Associate Data, CIP code 52.0213, where Organizational Leadership holds the top ranking, and CIP code 01.0102, Agribusiness / Agriculture Business Operations, has a moderate student demand. Business Management Economics, 52.0601, has a high student demand.
To cater to this demand, offering a minor, certificate, and BAS concentration in AgBusn Leadership would reach students in agriculture and business-related bachelor's degrees, and potentially students in the agriculture and business field needing to prepare for leadership positions. This approach would allow students from all majors to access the AgBusn and organizational leadership courses and provide individuals with a bachelor's degree or work experience an opportunity to obtain an AgBusn Leadership certificate, thereby acquiring essential skills in this field. The certificate will serve mid-career potential students with associate degrees to provide opportunity in advancement for their profession.

At Casper College, AY 2020-2021, 48 students graduated in ag-related majors, with about a third of those getting *applied* associates (for which Org Leadership and the new minor would be an especially good fit). CC's enrollment overall has declined the past several years, but the number of ag-related graduates has stayed consistent. For instance, in AY 2018-2019, they graduated 46 persons in this area. Since CC is a large feeder for UW-Casper, having a consistent number of students in ag-related majors, could increase enrollment for the new BAS concentration, minor/and or certificate.

Budget - Funding, Expenses, Revenue, Faculty, Academic Professionals, Staff, etc.

Budget Category	**Description**	**Ongoing, One Time, etc.**
Funding	Marketing expenses	Ongoing
Revenue	Each AGEC/ORGL course enrollment would generate a percentage of revenue. For the six courses, if there was one more section of each per year, this would be 150 students' times three credits, totaling 450 credits. 450 times $160 per credit hour and 70% of that would be $50,400 divided between ORGL and AGEC.	Ongoing
Faculty	The CPM position allocated in Aug 2023 will be expected to teach several of the	Ongoing

	ORGL/AGEC courses. Adjunct instructors will teach additional duplicate sessions of the required courses.	
Academic Professionals/Staff	Possible increase in advisor support if student numbers justify this.	Ongoing
Other	n/a	n/a

5 Year Timeline

All of the courses already exist and are scheduled to be taught in a regular sequence. The proposed minor and certificate simply draw together two sets of courses, from AgBusn and ORGL, in a new configuration. Starting from the fall semester of 2024, registration will be open for the certificate, minor, and concentration. In the second year of the program, a comprehensive evaluation will be conducted, gathering feedback from students through surveys and course evaluations, to assess both student enrollment and course quality.

In the third year, the enrollment projections of students will be analyzed to make any necessary adjustments to the course offerings. This proactive approach will ensure that the program remains responsive to student needs and industry demands.

By the fourth and fifth years, another evaluation will be conducted to explore the possibility of introducing additional certificates or concentrations within the minor and/or program. This decision will be based on economic changes in leadership roles and required skills, ensuring that the program stays relevant and aligned with the evolving demands of the field.

Other Required Approvals - Accreditation Bodies/HLC
No other approvals are needed for this request.

University's Mission & Strategic Plan Evidence

Both the certificate and minor would align to the strategic plan and president's goals listed.

- Strategic Direction 1: Enhance academic, distance education, and advising programs to support student success and increase student enrollment with particular focus on recruitment, retention, and graduation rates.
- Strategic Direction 4: Prioritize and foster excellence in core areas of academics and research that are responsive to the needs of students, employers, and the healthcare consumers. Drive student success and enrollment growth through coordinated, cross-campus initiatives.

Rationale - Need for New Minor & Certificate

The minor and certificate in AgBusn Leadership offer opportunities for a diverse range of students to explore courses in this field. These programs are designed not only for individuals who already hold a degree and seek to enhance their leadership and agribusiness skills but also for students pursuing other degrees who are interested in developing their abilities as leaders in agriculture related fields. After extensive conversations with people in the agriculture industry, it is clear there is demand for building leadership skills to increase job advancement. The proposed minor and certificate will provide many benefits to agri-related businesses across the state, region, and nation. Additionally, professionals with prior work experience who are looking to further develop their leadership competencies can greatly benefit from these programs. With their flexible structure and accessible nature, the minor and certificate in AgBusn Leadership aim to reach a broad student population and contribute to the diversification of UW.

College of Agriculture, Life Sciences and Natural Resources
Agricultural and Applied Economics

Benjamin S. Rashford, Department Head
Department of Agricultural and Applied Economics
Dept. 3354 • Agriculture Building •
1000 E. University Ave., Laramie, WY 82071-3354
(307) 766-6474 • fax (307) 766-5544 • www.uwyo.edu/agecon

October 18, 2023

Rochelle Anne McCoy, Ph.D.
Director, Bachelor of Applied Science Program
Organizational Leadership
University of Wyoming at Casper

Dear Rochelle,

Please accept this letter as support for the Bachelor of Applied Science (BAS) Program at the University of Wyoming at Casper. This program is vitally important in educating Wyoming residents, especially those who are site-bound and/or have already progressed in their professional career track. Specifically, the College of Agriculture, Life Sciences and Natural Resources and the Department of Agricultural and Applied Economics will support the BAS Program by teaching the courses listed below in an on-line modality using existing/already approved teaching resources. These courses will be primarily used by students enrolled in the UWC BAS Program.

- AGRI 4050, 3 credits, Agribusiness Marketing
- AGRI 4060, 3 credits, Agribusiness Management
- AGRI 4500, 3 credits, Agricultural Finance

We appreciate our relationship and the robust communications we have which allow us to plan the appropriate number of sections to offer.

Sincerely,

Benjamin S. Rashford

UNIVERSITY OF WYOMING | Office of Academic Affairs

Office of Academic Affairs
Dept. 3302 • 1000 E. University Avenue
Laramie, WY 82071
(307) 766-4286 • (307) 766-6476 • fax (307) 766-2606
www.uwyo.edu/acadaffairs

This form is to be used with all new degree/certificate proposals as outlined in the process on the Academic Affairs website at https://www.uwyo.edu/acadaffairs/degrees. Departments shall use this form to provide documentation of collaboration and support for any courses and/or resources that will be contributing to the new degree/certificate that are not within the home department.

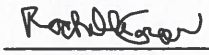
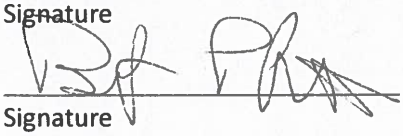
Date: October 20, 2023

Name of Proposal: Agribusiness Leadership

Department: BAS UW Casper

College: UW Casper

The above-named degree/certificate proposal has been reviewed by the following departments/colleges and all appropriate courses and resources have been discussed prior to proposal submission:

Rochelle Green	
Department Head	Signature
Department Head	Signature
Brent Pickett	
Dean	Signature
Dean	Signature

Submitted on: _____(date)

By: _____

AGENDA ITEM TITLE: **Notice of Intent: Undergraduate and Graduate Certificates in Nuclear Energy Science**, Carman, Krutka

SESSION TYPE:
☐ Work Session
☐ Information Session
☐ Other
☐ [Committee of the Whole – Items for Approval]

APPLIES TO STRATEGIC GOALS:
☒ Yes (select below):
- ☒ Institutional Excellence
- ☐ Student Success
- ☐ Service to the State
- ☐ Financial Growth and Stability

☐ No [Regular Business]

☒ *Attachments are provided with the narrative.*

EXECUTIVE SUMMARY:
Other nuclear science and engineering-focused certificate programs do exist in the U.S., but given Wyoming's unique status as a first in the deployment of next-generation nuclear power systems, it is critical that UW creates more opportunities for its students in the state. By establishing an undergraduate and graduate nuclear-focused certificate at UW, we will be able to tailor the design and delivery of material to emphasize technologies slated for deployment in Wyoming and other opportunities surrounding the nuclear supply chain. An on-campus nuclear program at UW will help drive student interest in the field and connect students with exciting opportunities in the state.

NOIs are being submitted concurrently for both an undergraduate and graduate nuclear energy science certificate. While the subject matter of these certificate programs will be similar and rely on the same selection of dual-listed courses, these programs will be differentiated by placing additional requirements on students pursuing the graduate certificate. In each course, graduate students will be expected to complete additional assignments demonstrating the deeper level of understanding and rigor expected of students pursuing a degree at the masters/doctoral level and the capability to independently research topics in the field.

PRIOR RELATED BOARD DISCUSSIONS/ACTIONS:
None.

WHY THIS ITEM IS BEFORE THE BOARD:
University of Wyoming Regulation 2-119 requires that the Board approve all new degree programs and lays out the process for that approval. The Academic and Student Affairs committee will report to the Board on recommended action for approval of the Notice of Intent.

ACTION REQUIRED AT THIS BOARD MEETING:
Consideration for approval of the Notice of Intent, Undergraduate and Graduate Certificates in Nuclear Energy Science.

PROPOSED MOTION:
"I move to approve the Notice of Intent for Undergraduate and Graduate Certificates in Nuclear Energy Science."

PRESIDENT'S RECOMMENDATION:
The President recommends approval.

University of Wyoming
School of Energy Resources
College of Engineering and Physical Sciences
Nuclear Energy Research Center (NERC)
Notice of Intent
Date: 10/16/2023
Undergraduate Certificate in Nuclear Energy Science

Context and Rationale

In recent years, TerraPower made an announcement about a Natrium Nuclear Plant being built in Kemmerer, Wyoming. At the time the University of Wyoming offered limited instructional options related to nuclear energy. In fact, as TerraPower searched for interns, they found that UW students were not competitive due to a lack of basic nuclear energy knowledge (although TerraPower opted to hire UW students despite this issue).

To support the development of a 'nuclear energy collaboration and training program', the Wyoming legislature appropriated $2 million to the School of Energy Resources in the 2022 legislative session. Using some of this financial support, the School of Energy Resources (SER) launched the Nuclear Energy Research Center (NERC) via a competitive RFP to find faculty to lead the center. Caleb Hill, Associate Professor in Chemistry and JE Warren Chair in Energy and Environmental Policies, and Tara Righetti, SER Professor of Law and Occidental Chair in Energy and Environmental Policies, were selected as the inaugural co-directors of NERC, recognizing the need for a multi-disciplinary approach to nuclear energy instruction and scholarship. As part of their ongoing work, they have been leading discussions on the educational and instructional needs surrounding nuclear energy in Wyoming. The first step to increase nuclear-specific coursework is the 'Fundamentals of Nuclear Energy' course, which is being taught by an SER adjunct faculty member and funded by Idaho National Lab. The initial offering of this course has 24 students enrolled, demonstrating demand.

While the offering of this course is an improvement, UW students currently have limited access to formal coursework in nuclear science, engineering, and policy. This undoubtedly puts our students at a disadvantage for securing positions with nuclear-focused companies and national labs. Establishing a nuclear-focused certificate to supplement existing undergraduate and graduate degree programs would be an effective way to serve UW students interested in employment within the nuclear field and make UW students more competitive for careers in the nuclear sector in Wyoming and beyond.

While SER and the College of Engineering and Physical Sciences (CEPS) would undertake additional research on the benefits and needs under if the NOI is approved, there are near term employment opportunities for which obtaining the proposed certificate would make UW graduates more competitive. For example, for the TerraPower facility being built in Kemmerer, long-term operations will create 250-300 permanent positions, 20% of which are expected to require an undergraduate degree. While that demonstration plant may provide a near term opportunity for some graduates in Wyoming, there is substantial employment in the region, including Idaho National Laboratory and other national laboratories.

Target Audience

We anticipate this certificate would be of interest to current and future students at UW. Students interested in this certificate would largely be expected to be pursuing highly technical degrees, or non-traditional students looking for new career opportunities. There are considerable opportunities in the nuclear industry for chemical, civil, mechanical, and electrical engineers, chemists, and other highly relevant disciplines. NERC will work to expand the list of available courses through discussions with relevant departments (mechanical and chemical engineering, chemistry, physics, school of computing, etc.) and future faculty hires with nuclear interests. Expansion to include 6-8 electives should be easily achievable within a few years. With this number of available course options, students should be able to complete the certificate requirements within 2-3 semesters. We will encourage all courses to be dual listed at the undergraduate and graduate levels so that the certificate can serve both undergraduate and graduate students at UW.

If this NOI is approved, SER and CEPS will further evaluate demand for the proposed certificate. This will be done by obtaining placement rate data from comparable programs across the US, analyzing the number of job postings with relevant requirements, and documenting support from relevant industrial partners (e.g., TerraPower and BWXT).

Relationship to Other Offerings/Demand

Other nuclear science and engineering-focused certificate programs do exist in the U.S., but given Wyoming's unique status as a first in the deployment of next-generation nuclear power systems, it is critical that UW creates more opportunities for its students in this area. By establishing nuclear-focused certificates (both at the undergraduate level and graduate level) at UW, we will be able to tailor the design and delivery of material to emphasize technologies slated for deployment in Wyoming and other opportunities surrounding the nuclear supply chain. An on-campus nuclear program at UW will help drive student interest in the field and connect students with exciting opportunities in the state.

This NOI is being submitted concurrently with an NOI for a graduate nuclear energy science certificate. While the subject matter of these certificate programs will be similar and rely on the same selection of dual-listed courses, these programs will be differentiated by placing additional requirements (as noted in the graduate level submission) on students pursuing the graduate certificate compared to their undergraduate counterparts. In each course, graduate students will be expected to complete additional assignments demonstrating the deeper level of understanding and rigor expected of students pursuing a degree at the masters/doctoral level and the capability to independently research topics in the field.

Curricular Description

Students in this undergraduate certificate program would complete the coursework in a two-year cycle. Courses will be offered on a set rotation to accommodate completion in two years. Courses can be completed in any order, which allows a student to enter the program at any time and not get 'off cycle'. Due to alignment with existing technical degree offerings already at UW, it is highly likely students would already meet any pre-requisites from courses in their primary major for required courses. If the courses become popular and start meeting capacity with full waitlists, CEPS may look to expand the

frequency in which the courses are offered. The list of optional coursework would accommodate students in a variety of CEPS majors.

The undergraduate certificate program would require students to take five 3-credit hour courses (15 total credits= 6 required, and 9 elective credits) at the undergraduate level fitting with their current degree program.

First, would be a two-course series that encapsulates nuclear science and reactor engineering and is required of all students:

- *ERS 4***/ME 5*** Nuclear Energy Physics* - Nuclear physics, radioactive decay, nuclear fission and fusion, neutron transport, criticality conditions, reactor kinetics.
    - *Prerequisites: MATH 2205, PHYS 1220*
- *ERS 4***/ME 5*** Nuclear Power Systems* - Analysis of current and emerging reactor designs, plant configurations, thermal hydraulics, reactor operation, and fuel cycle management.
    - *Prerequisites: MATH 2205, PHYS 1220*

Students would complement this core series with 3 relevant electives (9 credits) offered by a variety of departments across campus. Possible offerings could include (but are not limited to):

- *CHEM 5200 - (Special Topics) Nuclear Fuel Cycles* - Overview of processes employed in nuclear fuel cycles including mining, milling, conversion, enrichment, fuel fabrication, interim storage, reprocessing, and disposal.
    - *Prerequisites: CHEM 1030*
- *CHEM 5100 - (Special Topics) Nuclear Materials* - An overview of materials commonly employed in nuclear systems and their interactions with radiation.
    - *Prerequisites: CHEM 1030*
- *ERS 4*** Law and Nuclear Technology* - This class explores legal and policy frameworks applicable to development and deployment of nuclear technologies, including international law, state and federal regulations, and the role of nuclear in a net-zero economy.
- *CHEM 5200 - (Special Topics) Nuclear Forensics* - Overview of analytical techniques commonly employed in the characterization of nuclear materials.
    - *Prerequisites: CHEM 1030*

The "distributed" model proposed here will enable NERC to leverage nuclear-relevant expertise that currently exists across a variety of fields at UW. The primary need which must be addressed to establish this program is faculty qualified to develop and offer the core nuclear engineering series.

Budget

No new employees are needed to support this certificate program. SER is responsible for obtaining funding to support the development of this certificate program.

The cost of these undergraduate and graduate certificates will vary, depending on expertise at the University of Wyoming. SER's Nuclear Energy Research Center is currently recruiting a new faculty member who will teach one or more courses offered in this certificate. Although the certificate still needs to be developed, for the purposes of the NOI, we are estimating that the cost of administering the certificate will be approximately $50,000/yr for lecturers – for both the proposed undergraduate and

graduate certificates. Administration and curriculum development for the certificate is the responsibility of the co-directors of the Nuclear Energy Research Center, which is already funded by the SER. Currently SER is engaged with philanthropic and private sector who may consider supporting this certificate through funding an endowment. The certificate will not be finalized if sufficient funding sources cannot be maintained, including advising professionals.

Timeline

The intent is to launch this certificate, pending final BOT approval and entry into the 24-25 catalog, in the fall of 2024. Any new undergraduate courses for AY 24-25 would be taught under special topics placeholders, and Course Approval Proposals (CAP's) would be pursued and submitted to have the courses listed correctly in the 25-26 catalog.

Other Necessary Approvals

Beyond UW approvals, there are no additional pieces, such as specialized accreditation or licensure considerations. UW will notify the Higher Learning Commission of this new undergraduate certificate, but that is unlikely to prompt any changes or specialized review.

Alignment with University Mission

This proposed certificate aligns with every aspect of the UW Mission, "We honor our heritage as the state's flagship and land-grant university by providing accessible and affordable higher education of the highest quality; rigorous scholarship; the communication and application of knowledge; economic and community development; and responsible stewardship of our cultural, historical and natural resources." This would feature the highest quality faculty in this area of research and practice, and this topic is already impacting Wyoming's economy and communities.

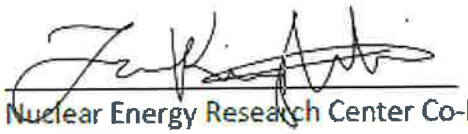
This proposed certificate also aligns well with the UW Strategic Plan by providing the resources UW students need to find success in the nuclear field upon graduation (Enhancing Student Success) and by establishing a program which can directly engage with the growing nuclear sector in Wyoming (Engage with and Serve the State of Wyoming, Cultivate Financial Stability/Diversification).

Learning Outcomes

The Nuclear Energy Science Undergraduate Certificate is intended to prepare students to engage with the nuclear sector through the following learning outcomes.

1. Students will apply fundamental concepts of nuclear physics relevant to the production of nuclear energy.
2. Students will describe and analyze a variety of existing and emerging nuclear reactor designs.
3. Students will explain the basic steps in open and closed nuclear fuel cycles and draw contrasts between the two with regards to waste generation and proliferation concerns.
4. Students will identify key challenges associated with the stability of materials in reactor environments.
5. Students will apply techniques and analyze data commonly employed in the analysis of nuclear material.
6. Students will outline key legal and policy issues related to the deployment of nuclear energy technologies.

Approvals

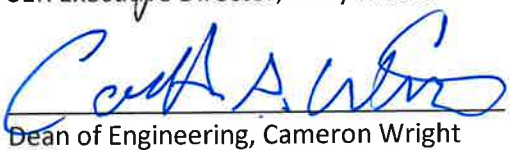


Nuclear Energy Research Center Co-Director, Tara Righetti

Nuclear Energy Research Center Co-Director, Caleb Hill

SER Executive Director, Holly Krutka

SER Academic Director, Kami Danaei



Dean of Engineering, Cameron Wright

University of Wyoming
School of Energy Resources
College of Engineering and Physical Sciences
Nuclear Energy Research Center (NERC)
Notice of Intent
Date: 10/16/2023
Graduate Certificate in Nuclear Energy Science

Context and Rationale

In recent years, TerraPower made an announcement about a Natrium Nuclear Plant being built in Kemmerer, Wyoming. At the time the University of Wyoming offered limited instructional options related to nuclear energy. In fact, as TerraPower searched for interns, they found that UW students were not competitive due to a lack of basic nuclear energy knowledge (although TerraPower opted to hire UW students despite this issue).

To support the development of a 'nuclear energy collaboration and training program', the Wyoming legislature appropriated $2 million to the School of Energy Resources in the 2022 legislative session. Using some of this financial support, School of Energy Resources (SER) launched the Nuclear Energy Research Center (NERC) via a competitive RFP to find faculty to lead the center. Caleb Hill, Associate Professor in Chemistry and JE Warren Chair in Energy and Environmental Policies, and Tara Righetti, SER Professor of Law and Occidental Chair in Energy and Environmental Policies, were selected as the inaugural co-directors of NERC, recognizing the need for a multi-disciplinary approach to nuclear energy instruction and scholarship. As part of their ongoing work, they have been leading discussions on the educational and instructional needs surrounding nuclear energy in Wyoming. The first step to increase nuclear-specific coursework is the 'Fundamentals of Nuclear Energy' course, which is being taught by an SER adjunct faculty member and funded by Idaho National Lab. The initial offering of this course has 24 students enrolled, demonstrating demand.

While the offering of this course is an improvement, UW students currently have limited access to formal coursework in nuclear science, engineering, and policy. This undoubtedly puts our students at a disadvantage for securing positions with nuclear-focused companies and national labs. Establishing a nuclear-focused certificate to supplement existing undergraduate and graduate degree programs would be an effective way to serve UW students interested in employment within the nuclear field and make UW students more competitive for careers in the nuclear sector in Wyoming and beyond.

While SER and the College of Engineering and Physical Sciences (CEPS) would undertake additional research on the benefits and needs if the NOI is approved, there are near term employment opportunities for which obtaining the proposed certificate would make UW graduates more competitive. For example, for the TerraPower facility being built in Kemmerer, long-term operations will create 250-300 permanent positions, 20% of which are expected to require an undergraduate degree. While that demonstration plant may provide a near term opportunity for some graduates in Wyoming, there is substantial employment in the region, including Idaho National Laboratory and other national laboratories.

Target Audience

We anticipate this certificate would be of interest to current and future students at UW. Students interested in this certificate would largely be expected to be pursuing highly technical degrees, or non-traditional students looking for new career opportunities. There are considerable opportunities in the nuclear industry for chemical, civil, mechanical, and electrical engineers, chemists, and other highly relevant disciplines. NERC will work to expand the list of available courses through discussions with relevant departments (mechanical and chemical engineering, chemistry, physics, school of computing, etc.) and future faculty hires with nuclear interests. Expansion to include 6-8 electives should be easily achievable within a few years. With this number of available course options, students should be able to complete the certificate requirements within 2-3 semesters. We will encourage all courses to be dual listed at the undergraduate and graduate levels so that the certificate can serve both undergraduate and graduate students at UW.

If this NOI is approved, SER and CEPS will further evaluate demand for the proposed certificate. This will be done by obtaining placement rate data from comparable programs across the US, analyzing the number of job postings with relevant requirements, and documenting support from relevant industrial partners (e.g., TerraPower and BWXT).

Relationship to Other Offerings/Demand

Other nuclear science and engineering-focused certificate programs do exist in the U.S., but given Wyoming's unique status as a first in the deployment of next-generation nuclear power systems, it is critical that UW creates more opportunities for its students in the state. By establishing an undergraduate and graduate nuclear-focused certificate at UW, we will be able to tailor the design and delivery of material to emphasize technologies slated for deployment in Wyoming and other opportunities surrounding the nuclear supply chain. An on-campus nuclear program at UW will help drive student interest in the field and connect students with exciting opportunities in the state.

This NOI is being submitted concurrently with an NOI for an undergraduate nuclear energy science certificate. While the subject matter of these certificate programs will be similar and rely on the same selection of dual-listed courses, these programs will be differentiated by placing additional requirements on students pursuing the graduate certificate. In each course, graduate students will be expected to complete additional assignments demonstrating the deeper level of understanding and rigor expected of students pursuing a degree at the masters/doctoral level and the capability to independently research topics in the field.

Curricular Description

Students seeking this Graduate level certificate could complete the coursework in a two-year cycle. Courses will be offered on a set rotation to accommodate completion in two years. Enrollment in the program would be open to any student pursuing an M.S. or Ph.D. degree in a relevant discipline upon approval by their thesis/dissertation committee; or someone who has already completed a graduate level program in a technical field and wishes to add this certificate to their credentials. Due to alignment with existing technical degree offerings, it is highly likely students would already meet any pre-requisites from courses in their primary major. Courses can be completed in any order, which allows a student to enter the program at any time and not get 'off cycle'. If the courses become popular and start meeting

capacity with full waitlists, CEPS may look to expand the frequency in which the courses are offered. The list of optional coursework would accommodate students in a variety of CEPS majors.

The graduate level certificate program would require students to take five 3-credit hour courses (15 total credits= 6 required, and 9 elective credits) at the graduate level fitting with their current degree program.

First, would be a two-course series that encapsulates nuclear science and reactor engineering and is required of all students:

- *ERS 5***/ME 5*** Nuclear Energy Physics* - Nuclear physics, radioactive decay, nuclear fission and fusion, neutron transport, criticality conditions, reactor kinetics.
- *ERS 5***/ME 5*** Nuclear Power Systems* - Analysis of current and emerging reactor designs, plant configurations, thermal hydraulics, reactor operation, and fuel cycle management.

Students would also complement this core series with 3 relevant electives (9 credits) offered by a variety of departments across campus. Possible offerings could include (but are not limited to):

- *CHEM 5200 - (Special Topics) Nuclear Fuel Cycles* - Overview of processes employed in nuclear fuel cycles including mining, milling, conversion, enrichment, fuel fabrication, interim storage, reprocessing, and disposal.
- *CHEM 5100 - (Special Topics) Nuclear Materials* - An overview of materials commonly employed in nuclear systems and their interactions with radiation.
- *ERS 5*** Law and Nuclear Technology* - This class explores legal and policy frameworks applicable to development and deployment of nuclear technologies, including international law, state and federal regulations, and the role of nuclear in a net-zero economy.
- *CHEM 5200 - (Special Topics) Nuclear Forensics* - Overview of analytical techniques commonly employed in the characterization of nuclear materials.

The “distributed” model proposed here will enable the certificate to leverage nuclear-relevant expertise that currently exists across a variety of fields at UW. The primary need, which must be addressed to establish this program, would be to find faculty qualified to develop and offer the core nuclear engineering series. NERC would explore this further if this NOI is approved.

Budget

No new employees are needed to support this certificate program. SER is responsible for obtaining funding to support the development of this certificate program.

The cost of these nuclear graduate and undergraduate certificates will vary, depending on expertise at the University of Wyoming. SER’s Nuclear Energy Research Center is currently recruiting a new faculty member who will teach one or more courses offered in this certificate. Although the certificate still needs to be developed, for the purposes of the NOI, we are estimating that the cost of administering the certificate will be approximately $50,000/yr for lecturers – for both the proposed undergraduate and graduate certificates. Administration and curriculum development for the certificate is the responsibility of the co-directors of the Nuclear Energy Research Center, which is already funded through SER. Currently, SER is engaged with the philanthropic and private sectors who may consider supporting these

certificates through funding an endowment. The certificate will not be finalized if sufficient funding sources cannot be identified and maintained, including advising professionals.

Timeline

The intent is to launch this certificate, pending final BOT approval and entry into the 24-25 catalog, in the fall of 2024. Any new courses for AY 24-25 would be taught under special topics placeholders, and Course Approval Proposals (CAP's) would be pursued and submitted to have the courses listed correctly in the 25-26 catalog, rather than continuing to use special topics courses. The exception to this being ERS 5000+ will always take place in special topics courses only, unless SER is ever allowed to fully offer graduate level programs, and then CAP's would be submitted at that time.

Other Necessary Approvals

Beyond UW approvals, there are no additional approval requirements, such as specialized accreditation or licensure considerations. UW will notify the Higher Learning Commission of this new graduate certificate, but that is unlikely to prompt any changes or specialized review.

Alignment with University Mission and Strategic Plan

This proposed certificate aligns with every aspect of the UW Mission, "We honor our heritage as the state's flagship and land-grant university by providing accessible and affordable higher education of the highest quality; rigorous scholarship; the communication and application of knowledge; economic and community development; and responsible stewardship of our cultural, historical and natural resources." This would feature the highest quality faculty in this area of research and practice, and this topic is already impacting Wyoming's economy and communities.

This proposed graduate level certificate also aligns well with the UW Strategic Plan by providing the resources UW students need to find success in the nuclear field upon graduation (Enhancing Student Success) and by establishing a program which can directly engage with the growing nuclear sector in Wyoming (Engage with and Serve the State of Wyoming, Cultivate Financial Stability/Diversification).

Learning Outcomes

The Nuclear Energy Science Graduate Certificate is intended to prepare students to engage with the nuclear sector through the following learning outcomes.

1. Students will apply fundamental concepts of nuclear physics relevant to the production of nuclear energy.
2. Students will describe and analyze a variety of existing and emerging nuclear reactor designs. Additionally, students will demonstrate the ability to create and analyze their own designs.
3. Students will explain the basic steps in open and closed nuclear fuel cycles and draw contrasts between the two with regards to waste generation and proliferation concerns. Students will demonstrate an advanced understanding of key challenges in the chemical and isotopic separation of materials.
4. Students will identify key challenges associated with the stability of materials in reactor environments and utilize relevant modeling and experimental techniques to study related phenomena.

5. Students will apply techniques and analyze data commonly employed in the analysis of nuclear material. Students will design experiments independently to answer specific analytical questions related to nuclear material.
6. Students will outline key legal and policy issues related to the deployment of nuclear energy technologies and demonstrate the ability to argue for or against a given position.

Approvals

Nuclear Energy Research Center Co-Director, Tara Righetti

Nuclear Energy Research Center Co-Director, Caleb Hill

SER Executive Director, Holly Krutka

SER Academic Director, Kami Danaei

Dean of Engineering, Cameron Wright

AGENDA ITEM TITLE: **MS in Preclinical Sciences Notice of Intent**, Ahern/Rasco/Warren/Seville/Navratil

SESSION TYPE:

☐ Work Session

☐ Information Session

☐ Other

☒ [Committee of the Whole – Items for Approval]

APPLIES TO STRATEGIC GOALS:

☒ Yes (select below):

- ☐ Institutional Excellence
- ☒ Student Success
- ☒ Service to the State
- ☐ Financial Growth and Stability

☐ No [Regular Business]

☒ *Attachments are provided with the narrative.*

EXECUTIVE SUMMARY:

The College of Agriculture, Life Sciences, and Natural Resources and the College of Health Sciences propose a new Master of Science in Preclinical Sciences, with a primary academic home in the former. The proposed degree program will comprise a one-year non-thesis MS that will be delivered primarily in-person with a community-based supervised experiential learning project throughout the State of Wyoming. Professional health schools increasingly want applicants to demonstrate they possess a variety of real-world skills and experiences, therefore, a significant portion of students who apply to health professional schools take a "gap year" after graduation to increase clinical experience, advance their research skills, or explore ethical and humanitarian aspects of health and medicine. The program would target those interested in human medicine (Medical, Dental, Physician Assistant (PA), Optometry), biomedical research/grad school, teaching, and animal health (Veterinary Medicine).

PRIOR RELATED BOARD DISCUSSIONS/ACTIONS:

Not applicable.

WHY THIS ITEM IS BEFORE THE BOARD:

A Notice of Intent to the Board will allow the program proposers to complete review internally with the shared-governance bodies (Faculty Senate, ASUW, and Staff Senate), and Academic Forum (Deans and Directors). Academic Affairs and the School of Graduate Education support the degree proposal. The Request for Authorization will be submitted for the Board's consideration and approval later in the Spring of 2024.

ACTION REQUIRED AT THIS BOARD MEETING:

Approval of the Notice of Intent for the MS in Pre-Clinical Sciences.

PROPOSED MOTION:

I move to approve the Notice of Intent for the MS in Pre-Clinical Sciences.

PRESIDENT'S RECOMMENDATION:

The President recommends approval.

Notice of Intent- Proposed New Master's Degree in Preclinical Sciences

Proposed Academic Program Name and the mode of delivery:
The one-year Plan B (non-thesis) Master of Science (MS) in Preclinical Sciences (PCS) will be delivered primarily on campus with a community-based supervised experiential learning project (either outreach or research in rural health) throughout the State of Wyoming. The program would target those interested in human medicine (Medical, Dental, Physician Assistant (PA), Optometry), biomedical research/grad school, teaching, and animal health (Veterinary Medicine). New courses will be developed, but the program will largely utilize graduate courses that already exist in campus programs. The MS in PCS will reside in the College of Agriculture, Life Sciences, and Natural Resources (CALSNR) in collaboration with the College of Health Sciences.

Rationale for MS in Preclinical Sciences:
Professional health schools increasingly want applicants to demonstrate they possess a variety of real-world skills and experiences, therefore, a significant portion of students who apply to health professional schools take a "gap year" after graduation to increase clinical experience, advance their research skills, or explore ethical and humanitarian aspects of health and medicine. Indeed, the Association of American Medical Colleges (AAMC) notes that the average age of a first-year medical student is 24. Thus, gap/bridge year programs are popular and important avenues students utilize to maximize personal and professional growth. Unfortunately, no one year programs exist on UW's campus for pre-clinical students to explore. Health focused gap year programs are offered by several of UW's peer and competitor institutions and UW students who are interested in university sponsored gap/bridge programs must leave the state. To meet the needs of pre-professional health students at UW, the MS in PCS would be an interdisciplinary collaboration with the School of Pharmacy, CALSNR, (Zoo/Phys, MOLB), and the WWAMI medical school and the newly planned PA degree program. The AAMC predicts a shortage of as many as 122,000 physicians by 2032, this is in addition to a shortage of health professionals at all levels. Taken together, the MS in PCS is well positioned to positively impact the physician/health provider pipeline in Wyoming and beyond.

Program Description:
The one-year MS program in PCS will consist of a Fall and Spring Semester that would each have 16 credits of graduate course work. The goal of the program is to give students a competitive advantage for their careers in Professional health disciplines and other Biomedical and veterinary science related areas.

Core Classes include:
Graduate Physiology course
Advanced Biochemistry (MOLB 5600)
Preparation for Careers in Clinical Science
Pharmacology (PHCY 6230)

Required Capstone (select one of the following):
Rural Community Outreach
Biomedical Rural Health Research

Elective Offering (based on career interest):
Wilderness Medicine/First Responder Certification (ENR 5980)
Immunology (MOLB 5400)
Circadian and Sleep Physiology (ZOO 5735)
Mammalian Genomics (ZOO 5737)
Mechanisms of Hormone Action (ZOO 5736)
Structure/Function of the Nervous System (ZOO 5100)
Microbial Genetics (MOLB 5440)
Advanced Molecular Cell Bio (MOLB 5670)
Graduate Reproductive Biology
Principles of Mammalian Reproduction (ANSC 5120)
Mammalian Endocrinology (ANSC 5260)
Maternal, Infant and Adolescent Nutrition (FCSC 5044)
Therapeutic Nutrition 1: Nutrition Assessment and Diagnosis (FCSC 5210)

Epidemiology (MICR 5001)
Mammalian Pathobiology (MICR 5130)
Principles of Healthcare Quality (PHCY 5341)
Infectious Disease (PHCY 6054)

Student Learning Outcomes:
The interdisciplinary Master's degree would provide advanced knowledge and skills in:
Human systems physiology and anatomy, biochemistry, and microbiology
Pathobiology of human health and disease
Pharmacological treatments to disease
Real world clinical application and community-based learning opportunities
Effective written/oral communication skills (for application preparation and interviewing)
Develop skills to balance the pace and rigor of professional school curriculum

Existing Program Alignment:
The MS in PCS is an interdisciplinary program that synergizes expertise across CALSNR including Physiology, Molecular Biology, Microbiology, Nutrition, health and wellbeing and the etiology of disease. Departments involved include: Animal Science, Family and Consumer Science, Molecular Biology, Pharmacy, Veterinary Sciences, Zoology & Physiology. The program also integrates clinical expertise from the School of Pharmacy and the WWAMI program in Health Sciences. The MS in PCS would be an attractive option for students who have a wide range of BS degrees, including (but not exclusive to): Physiology, Molecular Biology, Biology, Microbiology, Animal/Vet Science, Nutrition and Kinesiology.

To facilitate student placement in professional health programs, the MS in PCS has established a linkage partnership with WWAMI that can guarantee Wyoming students who complete the program an interview for medical school. The program is also in the process of establishing a linkage partnership with University of Northern Colorado's (UNC) new Osteopathic College of Medicine (DO school) opening in Fall of 2025. An aspiring goal will also include establishing a linkage agreement with the newly planned PA school at UW. In doing so, the MS in PCS is well positioned to serve as a pipeline for enhancing student enrollments to the PA program.

Unnecessary duplication of existing programs:
The proposed MS in PCS would allow students to develop skills necessary for careers as health care professionals yet, no one-year graduate programs like the MS in PCS exist at UW. Thus, students interested in gap year programs are leaving the state of Wyoming; thus, taking tuition dollars and highly needed entry-level health professionals with them. Collectively, the MS in PCS fills a well needed niche to benefit pre-professional health students while they remain enrolled at UW without any unnecessary duplication of the program across campus. The first 4+1 program in a health discipline is Kinesiology that has an exercise sports science, health promotion, and education focus, and is not *specifically structured* to provide students with a solid foundation in the biomedical sciences and the study skills necessary for success in postgraduate studies at the doctoral level in medicine (MD /DO), dental medicine, PA, or in basic and applied/translational research (PhD). The second is a 4+1 in Dietetics specifically designed to prepared students to practice as dieticians.

Market Analysis:
According to Gray Associates' data, student demand is *strong* for programs in Preclinical Sciences/Biomedical Science. Data revealed high google search volume, international page views, overall program completions and new student enrollments. Employment demand and wages are strong. The Bureau of Labor Statistics mean wage is $88,059. In addition, there is the potential for strong demand from international students. Academic program searches by potential international students have risen 28 percent year-over-year and the program searches predominantly focus on the master's award level, with areas in the medical field as top hits.

Preliminary budget:

Academic year	2025-26	2026-27	2027-28
EXPENSES			
GA support			
Graduate Assistantships	$27,875	$27,875	$27,875
Instructional support			
Instruction overload	$20,000	$20,000	$20,000
Academic Professional Lecturer		$89,024	$89,024
Admin Support			
Admin Staff	$63,000	$63,000	$63,000
Program Director	$15,000	$15,000	$15,000
Operating Budget	$5,000	$5,000	$5,000
Total	**$130,875**	**$219,899**	**$219,899**
REVENUE			
Enrollment Targets (Resident)	7	10	16
UW Tuition (resident)	$17,536	$17,536	$17,536
Subtotal Revenue	$122,752	$175,360	$280,576
Enrollment Targets (Non-Resident)	1	2	4
UW Tuition (non-resident)	$37,088	$37,088	$37,088
Subtotal Revenue	$37,088	$74,176	$148,352
Total	**$159,840**	**$249,536**	**$428,928**
Net	**$28,965**	**$29,637**	**$209,029**

Implementation Timeline:

- November 2023 – Proposal presented at Board of Trustees meeting
- December 2023- Feasibility study and pro forma budget submitted to Academic Affairs
- January 2024 – Present feasibility study for campus review
- February 2024 – Materials for the Request for Authorization and Letter of Commitment submitted for review to the Provost's Office
- May 2024 – Request for Authorization and Letter of Commitment submitted for review to the Board of Trustees
- July 2024 – CARFs submitted
- Summer 2024- Website building/Marketing of program
- Fall 2024- Degree Evaluation built with Registrar
- January 2025- Applications to MS in PCS program open
- Spring 2025 – Administrative staff position search initiated/completed
- June 2025 – Applications to Plan B program reviewed/Acceptances sent
- August 2025- First year delivery of Plan B Preclinical master's degree
- Spring 2026- Evaluation of Program and enrollment trajectories

Mission Alignment: Alignment with UW's mission: The proposed MS in PCS aligns with UW's mission by preparing individuals to be health care providers who serve communities throughout Wyoming and the US. Specifically, it advances UW's pre-health education to be innovative, interdisciplinary, and collaborative.

Alignment with UW's strategic plan: We believe the MS in PCS program aligns with the current strategic goals of student success and service to the Wyoming community.
Student Success and Service to Wyoming: The MS in PCS program not only offers a strong foundational knowledge in biomedical science, it also develops vital critical thinking and communication skills involving the application of that knowledge. The rigorous coursework and a capstone experience in community outreach or rural health challenge students' thinking as they consider a career in a clinical field, making them particularly well prepared to take on advanced medical studies. The rural health component (research and outreach) of the program also engages students with diverse populations across the state and enhances student motivation for the practice of human or animal medicine. Additionally, the MS in PCS has the capacity to grow UW enrollments, from both domestic and international populations, and keeps UW graduates in the state of Wyoming. As indicated by the Gray Associate's data and the AAMC, there is a high need for physicians and other health professionals in Wyoming and nationally. Collectively, the MS in PCS will play a critical role in educating future professionals who can provide quality health care and are more likely to remain the state to practice.

Office of Academic Affairs
Dept. 3302 • 1000 E. University Avenue
Laramie, WY 82071
(307) 766-4286 • (307) 766-6476 • fax (307) 766-2606
www.uwyo.edu/acadaffairs

This form is to be used with all new degree/certificate proposals as outlined in the process on the Academic Affairs website at https://www.uwyo.edu/acadaffairs/degrees. Departments shall use this form to provide documentation of collaboration and support for any courses and/or resources that will be contributing to the new degree/certificate that are not within the home department.

Date: 10/15/2023

Name of Proposal: MS - Preclinical Science

Department: Zoology/Physiology

College: CALSNR

The above-named degree/certificate proposal has been reviewed by the following departments/colleges and all appropriate courses and resources have been discussed prior to proposal submission:

Robert Scott Seville
Department Head

Scott Seville Digitally signed by Scott Seville Date: 2023.10.19 18:16:29 -06'00'
Signature

_____
_ Department Head

_____
Signature

Barbara Rasco
_ Dean

Barbara Rasco Digitally signed by Barbara Rasco Date: 2023.10.20 07:40:58 -06'00'
Signature

Jacob Warren
_ Dean

Jacob Warren Digitally signed by Jacob Warren Date: 2023.10.20 08:27:58 -06'00'
Signature

Submitted on: 10/2023 (date)

By: B Rasco

AGENDA ITEM TITLE: **MS in Artificial Intelligence Notice of Intent.**
Ahern/Wright/Allen/Shader

SESSION TYPE:
☐ Work Session
☐ Information Session
☐ Other
☒ [Committee of the Whole – Items for Approval]

APPLIES TO STRATEGIC GOALS:
☒ Yes (select below):
- ☐ Institutional Excellence
- ☒ Student Success
- ☒ Service to the State
- ☐ Financial Growth and Stability

☐ No [Regular Business]

☒ *Attachments are provided with the narrative.*

EXECUTIVE SUMMARY:
The College of Engineering and Physical Sciences and the School of Computing are proposing a new Master of Science in Artificial Intelligence (AI). This program will be focus on advanced study and research in the field of AI including Explainable AI. It is designed to equip students with the necessary knowledge, skills, and expertise to understand, develop, and apply AI technologies in various disciplines.

PRIOR RELATED BOARD DISCUSSIONS/ACTIONS:
Not applicable.

WHY THIS ITEM IS BEFORE THE BOARD:
A Notice of Intent to the Board will allow the program proposers to complete review internally with the shared-governance bodies (Faculty Senate, ASUW, and Staff Senate), and Academic Forum (Deans and Directors). Academic Affairs and the School of Graduate Education support the degree proposal. The Request for Authorization will be submitted for the Board's consideration and approval later in the Spring of 2024.

ACTION REQUIRED AT THIS BOARD MEETING:
Approval of the Notice of Intent for the Master of Science in Artificial Intelligence.

PROPOSED MOTION:
I move to approve the Notice of Intent for the Master of Science in Artificial Intelligence.

PRESIDENT'S RECOMMENDATION:
The President recommends approval.

College of Engineering
and Applied Science
Electrical Engineering
and Computer Science

RE: M.S. in Artificial Intelligence

October 13, 2023

Dear Vice Provost Ahern,

Attached is a Notice of Intent, along with supporting materials, for a new MS in Artificial Intelligence degree that will collaboratively housed in Electrical Engineering and Computer Science and the School of Computing.

Sincerely,

Bryan L. Shader

Bryan Shader
Interim Department Head
Electrical Engineering and Computer Science

Notice of Intent
Master of Science (MS) in Artificial Intelligence (AI)
Department of Electrical Engineering & Computer Science and School of Computing
October 3, 2023

1. Program:

Master of Science (MS) in Artificial Intelligence (AI), offered initially in-person and eventually on-line.

2. Description:

The Artificial Intelligence (AI) Master's degree program will be a graduate program focusing on advanced study and research in the field of AI including Explainable AI. It is designed to equip students with the necessary knowledge, skills, and expertise to understand, develop, and apply AI technologies in various disciplines. The program will require students to complete a project or a thesis.

The proposed degree will be a joint venture between the Electrical Engineering and Computer Science department, and the School of Computing. Other departments may wish to include this MS program as part of their offerings (e.g., there are on-going discussions with Mathematics & Statistics).

Curriculum Outline:

- Core Courses (12 credits): Introduction to Artificial Intelligence; Machine Learning; Data Mining; and Computer Vision
- Elective Courses (12 credits): Including: Statistics for AI; Language Processing; Deep Learning; additional discipline-specific AI courses.
- Research Courses (4 credits): Project or thesis
- Seminar Courses (2 credits): External speakers and student-led seminars

Learning Outcomes:

- Understanding of AI Fundamentals
- Proficiency in AI Techniques and Tools
- Ability to Design and Implement AI Systems
- Research and Critical Thinking Skills
- Ethical and Responsible AI Practices
- Communication and Collaboration

- Discipline-Specific Applications
- Lifelong learning to keep abreast of trends in AI

3. Relevance of Academic Program:

The demand for AI professionals has been rapidly increasing in recent years. AI technologies are being rapidly adopted by the majority of industries, including energy, agriculture, healthcare, finance, retail, manufacturing, and transportation. The growth of AI is expected to continue in the coming years, leading to an increasing number of job openings. AI technologies such as deep learning, natural language processing, and computer vision are continually advancing, creating new possibilities for AI applications, and driving the need for skilled professionals.

The two-year program will consist of coursework, research projects, and practical applications of AI. The program will require 30 credits. Each student will successfully complete a project, or a research thesis approved and overseen by the student's thesis committee.

4. Market Analysis:

The Office of Online & Continuing Education has generated a market analysis from Gray Associates' data, (see the attached appendix). The report provides initial information on program demand, projected enrollment, equality evaluation, and graduate employability. An MS program with a focus on AI will provide a new pathway into computing careers for students. This program will be attractive to international students being recruited by UW's agreement with Shorelight. We will make a concerted effort to provide data focused on enhancing Wyoming's desire to diversify its economy and keep alumni in Wyoming and driving innovation. A few items from the market analysis are:

- Nationwide graduate level completion numbers in this area from 2019 to 2021 increased by 54.107%. This is significant
- Student demand for this program is strong nationally. Completions in this region are strictly (100%) at the master level, while in the national market 6% of the completions are at the bachelor level, 10% at the post-baccalaureate certificate, 78% at the master, and 6% at the PhD award level.
- There is strong 1-year and 3-year historic employment growth. Bureau of Labor Statistics is also suggesting strong 10-year future employment growth in this area.

5. Preliminary budget:

Assuming that current needs for faculty in Electrical Engineering & Computer Science (EECS) are met through the CPM process and joint hires with the School of Computing, minimal additional resources are needed to initiate this program; however the program will benefit from additional faculty hires in artificial intelligence across the university who can provide a comprehensive set of elective courses, application-centric courses in artificial intelligence, and more research opportunities in artificial intelligence. Sustainability and growth costs will need to be determined during program review periods. Self-sustaining funding will be pursued. Strategic funding for other AI initiatives that further support this program are being addressed in different venues.

Use of current resources:

- Faculty and instructional staffing (current EECS and Math-Stat faculty teaching established courses, SoC new hires teaching proposed COMP courses, and encourage other departments to offer more computing-based options within their curriculum),
- Program administration and staff support (EECS and SoC leadership are committed to this program and the use of internal resources to help support its development as well as providing academic program coordination, administrative support, marketing coordination, and office associate staffing),
- Technology resources (use of current teaching spaces and available technology will be adequate to get the program established). In particular the computing resources of the NCAR Wyoming Supercomputing Center and the Advanced Research Computing Center will provide education allocations to support AI classes and training.

Need for new resources: Added resources are not initially needed, but program growth may require additional coordination not covered by current resource load. Projected program revenue will be used to support these costs.

Total projected additional revenues due to added course requirements for the MS in AI, assuming a minimum of 10 students per year is calculated below. We are not including any indirect costs due to the wide variability in graduate students' needs.

- Per resident student in program at $359/graduate credit * 30 credits = $10,770
- Per non-resident students in program at $1,074/graduate credit * 30 credits = $32,220
- Estimate: 5 resident students and 5 non-resident each year = $214,950 additional tuition

6. Timeline:

- Fall 2023: Notice of Intent and Feasibility Study with Budget submitted for consideration. Campus Reviews (Faculty Senate, ASUW, Staff Senate, Deans and Directors, Executive Council). Request for Authorization and Letter of Commitment from Provost submitted for Board of Trustees approval.
- Spring 2024: Program updates in the UW ACALOG Catalog. CAP submissions for new courses submitted through UW Curriculog system. Admissions and website inclusion and updates.
- Spring 2024-Summer 2024: Ability of students to apply for admission into program.
- Fall 2024: Cohort #1 of students start program.
- Fall 2025: Cohort #2 of students start program.
- Fall 2026: Cohort #3 of students start program.
- Spring 2026: Graduation of Cohort #1 students. Program completion data collection to begin.
- Fall 2027: Cohort #4 of students start program.
- Spring 2027: Graduation of Cohort #1 and #2 students. Continuation of collecting program completion data. Start collection of employer survey data.

7. Approvals:

The curriculum will be informed and evaluated by a joint curricula committee and will adopt best practices for computing curricula as outlined in the report "CC2020 Paradigms for Global Computing Education" by the international recognized Association for Computing Machinery.

8. Alignment and Rationale:

The master's program aligns with UW's strategic research, education and innovation plans and supports UW's efforts to accelerate its role as an engine of economic development.

An MS in AI is needed for UW to prepare its students for careers in a rapidly evolving labor market, as indicated by the following points.

- AI technology is one of the fastest-growing industries in the world with a forecasted annual average growth rate of 37.3% between 2023 and 2027. AI technology is integrated into businesses that span every aspect of our consumer lives. According to Bureau of Labor Statistics analysis (see https://www.bls.gov/opub/mlr/2022/article/growth-trends-for-selected-occupations-considered-at-risk-from-automation.html) AI will add between $13 and $16 trillion to worldwide economic output by 2030, and AI will lead to unimaginable innovations in the sciences, engineering, and medicine. AI applications in material science, natural resources and environmental sciences, agriculture and energy are critical for Wyoming's economy.
- There is great concern about job loss due to the increased use of AI. While AI related advances are projected to eliminate many current jobs, AI is also projected to create around 97 million new jobs. A widely cited scenario estimates that 47 percent of jobs are susceptible to automation between 2010 and 2030. AI degree programs and curricula help future-proof UW students and position them with the skills and experiences needed for successful careers in the AI transformed labor market.
- Educating and training staff will be the biggest reason the global AI market does not grow even faster. The most significant challenge that companies worry about regarding implementing AI is that staff do not have the necessary skills.

UNIVERSITY OF WYOMING

College of Engineering and Physical Sciences

WORKING FOR WYOMING & THE WORLD

Cameron H. G. Wright, Ph.D., P.E. | **Dean**
Dept. 3295 | 1000 E. University Ave. | Laramie, WY 82071-2000
Tel. 307.766.4992 | Fax 307.766.4444 | www.uwyo.edu/ceas

October 6, 2023

TO: University of Wyoming Board of Trustees

SUBJ: Support for M.S. in Artificial Intelligence Degree Program

I write this today to express my support and commitment for the proposed new M.S. in Artificial Intelligence submitted by the Electrical Engineering and Computer Science (EECS) department. The college and the university will benefit from having this degree as a choice for our students, and it can help fill a growing need for "in demand" workforce both in Wyoming and elsewhere. The EECS department is energized by the possibility of offering this proposed degree, as it builds on strengths of recent hires in the EECS department. The area of focus for this proposed degree is one for which students have consistently shown a strong interest, and my confidence is high that students will be attracted to this degree program. I predict that a significantly larger number of our own undergraduates will stay on at UW for graduate work here at UW in order to pursue this degree.

An attractive aspect of this degree program is that it will provide a pathway for STEM (science, technology, engineering, and math) students without a BS in computer science to pursue a graduate degree in an area often thought of as computer science.

I conclude that this new proposed degree program is in the best interests of the University of Wyoming and this college, and has a high probability of growing our graduate student population by providing more pathways into computing-related careers.

I recommend approval of this proposed degree program.

Best regards,

Cameron H. G. Wright
Carrell Family Dean
Professor of Electrical and Computer Engineering

UNIVERSITY OF WYOMING | School of Computing

4083, Engineering Building : 1000 E. University Ave. : Dept. 3395 : Laramie, WY 82071-2000 : 1(307) 766-5299 : uwyo-soc@uwyo.edu

October 12, 2023

Dear Board of Trustees,

I am writing to express my enthusiastic support for the development of a Master of Science Degree program in Artificial Intelligence at the University of Wyoming (UW) through the Electrical Engineering and Computer Science (EECS) department. As someone deeply passionate about the field of AI and its potential to shape the future, I believe that such a program is not only timely but also essential to prepare students for the challenges and opportunities in this rapidly evolving field.

Artificial Intelligence has become an integral part of various industries, revolutionizing the way we live, work, and interact with the world. It has applications in healthcare, finance, education, autonomous systems, and more. Given the increasing demand for AI professionals, it is crucial that educational institutions like UW offer a comprehensive program that equips students with the knowledge and skills needed to excel in this domain.

Here are a few reasons why I believe the establishment of a master's degree program in Artificial Intelligence is of paramount importance:

1. **Meeting Industry Demand:** The AI industry is growing at an unprecedented rate, and there is a pressing need for highly skilled AI professionals. A specialized program at UW would help meet this demand.
2. **Interdisciplinary Approach:** AI is inherently interdisciplinary, drawing from computer science, mathematics, neuroscience, and other fields. A dedicated program would facilitate a holistic understanding of AI and foster collaboration among departments. The School of Computing is particularly supportive of interdisciplinary programs and looks forward to collaborating with EECS on this endeavor.
3. **Cutting-Edge Research:** In UW's drive for research excellence. A Master's program would encourage research in AI, fostering innovation and contributing to the global body of knowledge.
4. **Preparation for Future Challenges:** AI has the potential to shape the future in profound ways. By offering this program, UW will undoubtedly be at the forefront of preparing students to address the ethical, societal, and technical challenges AI presents.
5. **Economic Growth:** AI is not only a technological revolution but an economic one. Graduates of this program would be poised to contribute to economic growth and innovation, which is a statewide initiative.

I firmly believe that UW has the resources, expertise, and commitment to deliver an exceptional master's degree program in Artificial Intelligence. This program would not only benefit the institution but also contribute significantly to the field of AI and society as a whole.

I am more than willing to support this initiative in any way possible, whether through participation in advisory committees, networking with AI professionals, or assisting with curriculum development. If you require any further information, please do not hesitate to contact me at gdallen@uwyo.edu.

Thank you for considering the importance of this program, and I look forward to witnessing the positive impact it will have on the future of AI education.

Sincerely,

Gabrielle Allen
Director
School of Computing

College of Engineering
and Applied Science
Electrical Engineering
and Computer Science

RE: Letter of Support for M.S. in Artificial Intelligence

September 13,

Dear Board of Trustees,

I am writing to express my support and commitment for the new M.S. in Artificial Intelligence submitted by the Electrical Engineering and Computer Science department for approval. This is a timely program, builds on strengths of recent hires, and its focus will be attractive to students. In particular, it will provide a pathway for STEM students without a BS in computer science to pursue a graduate degree in computer science. I believe this new degree program is in the best interest of the University of Wyoming and will help grow our student population

Sincerely,

Bryan L. Shader

Bryan Shader
Interim Department Head
Electrical Engineering and Computer Science

Office of Academic Affairs
Dept. 3302 • 1000 E. University Avenue
Laramie, WY 82071
(307) 766-4286 • (307) 766-6476 • fax (307) 766-2606
www.uwyo.edu/acadaffairs

This form is to be used with all new degree/certificate proposals as outlined in the process on the Academic Affairs website at https://www.uwyo.edu/acadaffairs/degrees. Departments shall use this form to provide documentation of collaboration and support for any courses and/or resources that will be contributing to the new degree/certificate that are not within the home department.

Date:

Name of Proposal:

Department:

College:

The above-named degree/certificate proposal has been reviewed by the following departments/colleges and all appropriate courses and resources have been discussed prior to proposal submission:

_____	_____
Department Head	Signature
_____	_____
Director	Signature
_____	_____
Dean	Signature
_____	_____
Dean	Signature

Submitted on: _____(date)

By: _____

AGENDA ITEM TITLE: **MS in Quantum Information Science and Engineering**, Ahern/Wright/Allen/Shader/Tang

SESSION TYPE:

☐ Work Session

☐ Information Session

☐ Other

☒ [Committee of the Whole – Items for Approval]

APPLIES TO STRATEGIC GOALS:

☒ Yes (select below):

- ☐ Institutional Excellence
- ☒ Student Success
- ☒ Service to the State
- ☐ Financial Growth and Stability

☐ No [Regular Business]

☒ *Attachments are provided with the narrative.*

EXECUTIVE SUMMARY:

The College of Engineering and Physical Sciences and the School of Computer prose a new Master of Science degree in Quantum Information Science and Engineering. This program will focus on the theoretical and practical aspects of quantum computing and quantum engineering. It is designed to give students a deep understanding of the fundamental principles of quantum mechanics and their applications in quantum information, quantum security, quantum communication and sensing, quantum computation, and quantum machine learning.

PRIOR RELATED BOARD DISCUSSIONS/ACTIONS:

Not applicable.

WHY THIS ITEM IS BEFORE THE BOARD:

A Notice of Intent to the Board will allow the program proposers to complete review internally with the shared-governance bodies (Faculty Senate, ASUW, and Staff Senate), and Academic Forum (Deans and Directors). Academic Affairs and the School of Graduate Education support the degree proposal. The Request for Authorization will be submitted for the Board's consideration and approval later in the Spring of 2024.

ACTION REQUIRED AT THIS BOARD MEETING:

Approval of the Notice of Intent for the Master of Science in Quantum Information Science and Engineering.

PROPOSED MOTION:

I move to approve the Notice of Intent for the Master of Science in Quantum Information Science and Engineering.

PRESIDENT'S RECOMMENDATION:

The President recommends approval.

College of Engineering
and Applied Science
Electrical Engineering
and Computer Science

RE: Letter of Support for M.S. in Quantum Information Science and Engineering

October 13, 2023

Dear Vice Provost Ahern,

Attached is a notice of intent and supporting materials for a new MS degree in Quantum Information Science & Engineering. This program is a collaborative effort between the Astronomy & Physics department, the Electrical Engineering and Computer Science department, and the School of Computing.

Sincerely,

Bryan L. Shader

Bryan Shader
Interim Department Head
Electrical Engineering and Computer Science

Notice of Intent

Master of Science (MS) in Quantum Information Science & Engineering (QISE)

Department of Electrical Engineering & Computer Science, Department of Physics and Astronomy, and School of Computing

October 3, 2023

1. Program:

Master of Science (MS) in Quantum Information Science and Engineering (QISE), offered in-person and with the intention to offer fully online in the future.

2. Description:

The Quantum Information Science (QIS)E Master's degree program will be a postgraduate program focusing on the theoretical and practical aspects of quantum computing and quantum engineering. It is designed to give students a deep understanding of the fundamental principles of quantum mechanics and their applications in quantum information, quantum security, quantum communication and sensing, quantum computation, and quantum machine learning Curriculum Outline:

- Core Courses (12 credits): Quantum mechanics, quantum computing, quantum algorithms, and quantum hardware.
- Elective Courses (12 credits): quantum error correction, quantum machine learning, quantum sensing, quantum communication, quantum simulations, quantum security, and additional discipline-specific QIS courses.
- Research Courses (4 credits): Project/Thesis
- Seminar Courses (2 credits): External speakers and student-led seminars

Learning Outcomes:

- Knowledge of Quantum Mechanics
- Proficiency in Quantum Computing
- Expertise in Quantum Information Theory
- Familiarity with Quantum Hardware and Technology
- Ability to Conduct Research
- Problem Solving Skills
- Communication and Presentation Skills
- Ethical and Responsible Conduct
- Collaboration and Teamwork
- Lifelong Learning

3. Relevance of Academic Program:

The exponential growth in the information processing demand of classical computers is unsustainable. Computers based on current semiconductor technology will eventually be complemented or surpassed by emerging quantum technologies, such as quantum computers. In recent years, developing novel technologies for quantum computation has been not only an urgent need but also a technology race all around the world. On the other hand, as the global quantum technology race begins, national quantum programs and decade-long quantum strategies are increasingly being announced by governments worldwide. To maintain economic competitiveness, sustain national security, and fuel transformative scientific advancement in a time of rapidly expanding interest and investment in quantum Information Science and Engineering (QISE), relevant education and sustainable workforce development efforts are becoming increasingly critical, particularly in rural regions of the country like Wyoming.

The purpose of a Quantum Information Science and Engineering academic program is to provide students with a comprehensive education in quantum computational science, focusing on quantum computing, quantum communication, quantum information theory, and quantum hardware. Overall, a Quantum Information Science and Engineering academic program aims to foster the growth of knowledge, skills, and innovation in the field, preparing students to make significant contributions to the development and application of quantum technologies.

The program will consist of two years of coursework and research projects/thesis. The program will consist of 30 required credits. Students must complete an accepted research thesis or project approved by the student's thesis committee.

4. Market Analysis:

The Office of Online & Continuing Education has generated a market analysis from Gray Associates' data. This provides initial information on program demand, projected enrollment, equality evaluation, and graduate employability. An MS program with a focus on QISE will provide a new pathway into computing careers for students. This program will be attractive to international students being recruited by UW's agreement with Shorelight. We will make a concerted effort to provide data focused on enhancing Wyoming's desire to diversify its economy and keep alumni in Wyoming and driving innovation. A few items from the market analysis are:

- The University of Colorado in Boulder and the University of New Mexico are the only regional or semi-regional higher education institutions that have entered this arena. This presents an opportunity for the University of Wyoming.
- This is an emerging and growing field.
- There is strong 1-year and 3-year historic employment growth. Bureau of Labor Statistics also suggests strong 10-year future employment growth in this area.

5. Preliminary budget:

The need for new resources for this program's initialization is minimal. Sustainability and growth costs will need to be determined during program review periods. Self-Sustaining funding will be encouraged. Strategic funding for other QISE initiatives that would work in conjunction with this program may be addressed in different formats.

Use of current resources: Faculty and instructional staffing (current EECS, Physics, and Math faculty teaching established courses, SoC new hires teaching proposed computing courses, and encourage other departments to offer more Quantum computing based options within their curriculum), Program administration and staff support (EECS, Physics and SoC leadership is committed to this program and the use of internal resources to help support its development as well as providing academic program coordinator, administrative associate, marketing coordinator, and office associate staffing to do so), and Technology resources (use of current teaching spaces and Available technology should be adequate to get the program established).

Need for new resources: Initial new resources are not needed, but program growth may require coordination not covered by current resource load. Projected program revenue will be used to support these costs.

Total projected additional revenues due to added course requirements for the MS degree, assuming a minimum of 10 students per year is calculated below. We are not including any indirect costs due to the wide variability in graduate students' needs.

- Per resident student in program at $359/graduate credit * 30 credits = $10,770
- Per non-resident students in program at $1,074/graduate credit * 30 credits = $32,220
- Estimate: 5 resident students and 5 non-resident each year = $214,950 additional tuition

6. Timeline:

- Fall 2023: Notice of Intent and Feasibility Study with Budget submitted for consideration. Campus Reviews (Faculty Senate, ASUW, Staff Senate, Deans and Directors, Executive Council). Request for Authorization and Letter of Commitment from Provost submitted for Board of Trustees approval.
- Spring 2024: Program updates in the UW ACALOG Catalog. CAP submissions for new courses submitted through the UW Curriculum system. Admissions and website inclusion and updates.
- Spring 2024-Summer 2024: Ability of students to apply for admission into program.
- Fall 2024: Cohort #1 of students start program.
- Fall 2025: Cohort #2 of students start program.
- Fall 2026: Cohort #3 of students start program.
- Spring 2026: Cohort #1 students may be graduating. Program completer data collection to begin.
- Fall 2027: Cohort #4 of students start program.

- Spring 2027: Cohort #1 and #2 students may be graduating. Continuation of collecting program completer data. Start collection of employer survey data.

7. Approvals:

The curriculum will be informed and evaluated by a joint curricula committee and will adopt best practices for computing curricula as outlined in the report "CC2020 Paradigms for Global Computing Education" by the internationally recognized Association for Computing Machinery.

8. Alignment and Rationale:

This program aligns with UW's community, state, and global workforce preparation mission. This education will create a forward-focused learning that will foster the growth of advanced Quantum Computing. This program also aligns with UW's strategic plan via all four of the University of Wyoming's goals in the Five-Year Strategic Plan (Breaking Through).

In summary, the rationale for a QISE program lies in the transformative potential of quantum computing, the increasing interest and investment in the field, the shortage of skilled professionals, the interdisciplinary nature of the field, the research and innovation opportunities it offers, its potential impact on various industries, and the long-term technological advancement it can drive. Such a program prepares individuals to be at the forefront of this emerging technology and make significant contributions to its development and application.

UNIVERSITY OF WYOMING

College of Engineering and Physical Sciences

WORKING FOR WYOMING & THE WORLD

Cameron H. G. Wright, Ph.D., P.E. | **Dean**
Dept. 3295 | 1000 E. University Ave. | Laramie, WY 82071-2000
Tel. 307.766.4992 | Fax 307.766.4444 | www.uwyo.edu/ceas

October 6, 2023

TO: University of Wyoming Board of Trustees

SUBJ: Support for M.S. in Quantum Information Science and Engineering Degree Program

I write this today to express my support and commitment for the proposed new M.S. in Quantum Information Science and Engineering (QISE) submitted by the Electrical Engineering and Computer Science (EECS) department. This is an emerging high-interest area for our students, and the truly interdisciplinary nature of the proposed degree (involving EECS, Physics, Math, and SoC) makes it very attractive. The college and the university will benefit from having this degree as a choice for our students, and it can help fill a growing need for "in demand" workforce both in Wyoming and elsewhere.

The EECS department is energized by the possibility of offering this proposed degree, as it builds on strengths of recent hires in the EECS and Physics departments, as well as the SoC. The area of focus for this proposed degree is one for which students have shown an increasing interest, and my confidence is high that students will be attracted to this degree program. I predict that a significantly larger number of our own undergraduates will stay on at UW for graduate work here at UW in order to pursue this degree.

I conclude that this new proposed degree program is in the best interests of the University of Wyoming and this college, and has a high probability of growing our graduate student population by providing more pathways into computing-related careers.

I recommend approval of this proposed degree program.

Best regards,

Cameron H. G. Wright
Carrell Family Dean
Professor of Electrical and Computer Engineering

UNIVERSITY OF WYOMING

Department of Physics & Astronomy
Department 3905
1000 East University Avenue
Laramie, WY 82071
phone: (307) 766-6150
fax: (307) 766-2652

October 10, 2023

Re: Master of Science in Quantum Information Science & Engineering

To: Academic Affairs

The Department of Physics and Astronomy strongly support a Master of Science (MS) in Quantum Information Science & Engineering (QISE).

Quantum computing represents the next horizon of computing. McKinsey Research indicates that there is currently only one qualified candidate for every three quantum jobs and that in the next several years less than 50% of quantum jobs will be filled (https://www.mckinsey.com/featured-insights/mckinsey-explainers/what-is-quantum-computing). Recent findings from the Gay Associates database also suggest that, not only is quantum computing an emerging and growing field, it also presents an opportunity for the University of Wyoming. The University of Colorado in Boulder and the University of New Mexico are the only regional or semi regional higher education institutions that have entered this arena with some minor's programs in QISE. Therefore, establishing a Master of Science degree in Quantum Information Science & Engineering at UW is both timely and badly needed.

The Department of Physics and Astronomy is firmly committed to making this new degree program a success. Our faculty and lecturers will be interacting with faculty from other departments on course developments. In particular, we will apply our expertise in the development of courses related to quantum mechanics and quantum hardware and technologies. Our administrative staffs are also committed to providing resources to help support its development, coordination, and marketing.

I'd like to point out that the Department of Physics & Astronomy has already established a strong research program in QISE. We have recently received a 5 year $5M grant from NSF to expand capability in quantum materials and devices research, focusing on 2D material based Josephson junction qubit. In addition, one of the goals of this project is the workforce development in QISE. So there is a great alignment between the NSF grant and the proposed MS degree in QISE. The grant will provide training opportunities to the students pursuing the proposed the MS degree in QISE. Indeed, there is a great synergy between our faculty and those in Electrical Engineering & Computer Science, Mathematics & Statistics and the School of Computing.

Again, the proposed MS degree program in QISE is timely and will serve the needs of Wyoming students. We strongly support and are committed to making this new degree program a success. Your favorable consideration is greatly appreciated.

Jinke Tang, Professor and Head
Department of Physics & Astronomy
Email: jtang2@uwyo.edu

College of Engineering
and Applied Science
Electrical Engineering
and Computer Science

RE: Letter of Support for M.S. in Quantum Information Science and Engineering

September 13, 2023

Dear Board of Trustees,

I am writing to express my support and commitment for the new M.S. in Quantum Information Science and Engineering (QISE) submitted by the Electrical Engineering and Computer Science department, Astronomy and Physics department and the School of Computing, for approval.

This is a timely program, catalyzed by a major grant at UW in QISE, builds upon strengths of planned hires over the coming years, and its focus will be attractive to students. It will position UW students to be leaders in what promises to be the major technological driver for the next 20-40 years.

I believe this new degree program is in the best interest of the University of Wyoming and will help grow our student population

Sincerely,

Bryan L. Shader

Bryan Shader
Interim Department Head
Electrical Engineering and Computer Science

UNIVERSITY OF WYOMING | School of Computing

4083, Engineering Building : 1000 E. University Ave. : Dept. 3395 : Laramie, WY 82071-2000 : 1(307) 766-5299 : uwyo-soc@uwyo.edu

October 12, 2023

Dear Board of Trustees,

I am writing this letter in strong support of the development of a master's degree Program in Quantum Information Science and Engineering at the University of Wyoming (UW) through the Physics and Astronomy department. As a passionate advocate for the field of quantum information science and someone deeply committed to the advancement of education, I wholeheartedly endorse the proposal to establish this program within our institution.

Quantum information science is a rapidly growing and transformative field at the intersection of physics, computer science, and mathematics. With the potential to revolutionize computing, cryptography, and communication, quantum information science has garnered significant attention and investment worldwide. As we stand on the brink of a new era in technological advancement, it is crucial for academic institutions to meet the demand for qualified professionals in this field.

I believe that UW is uniquely positioned to offer a master's degree Program in Quantum Information Science and Engineering for several reasons:

1. **Reputation and Expertise**: UW has a strong Physics and Astronomy department focused on academic excellence and a strong track record in the related fields of mathematics and computer science. Leveraging this reputation can attract top-tier faculty and students to this program.
2. **Interdisciplinary Approach**: Quantum information science is inherently interdisciplinary, requiring expertise in physics, computer science, and mathematics. UW has foundational resources necessary to provide a comprehensive and interdisciplinary curriculum that the School of Computing is eager to collaborate with.
3. **Research Opportunities**: The program can tap into the ongoing research initiatives and collaborations in quantum information science and engineering within our institution. This would provide students with valuable hands-on research experience and access to cutting-edge technology.
4. **Industry and Government Partnerships**: UW's land grand status has the potential to establish strong partnerships with industry leaders and government agencies involved in quantum technology research and development, creating opportunities for internships, funding, and job placements for program graduates.
5. **Addressing the Skills Gap**: The demand for quantum information scientists/engineers is outpacing the current supply. By establishing this program, UW can play a pivotal role in bridging this skills gap, contributing to the growth of the quantum technology sector.

I believe that by developing a master's degree Program in Quantum Information Science and Engineering, UW can make a significant contribution to both the academic community and the broader technological landscape. The skills and knowledge imparted by this program will empower students to become leaders in quantum technology research, development, and applications, ultimately contributing to the advancement of science and technology.

I am excited about the potential impact of this program, and I am willing to offer my support in any way I can, whether through guest lectures, collaboration on research projects, or networking with relevant organizations. I look forward to the opportunity to witness the growth and success of the master's degree program in Quantum Information Science and Engineering at UW.

Thank you for your commitment to excellence in education and your consideration of this proposal. Please feel free to contact me if you have any questions or need further information regarding my endorsement.

Sincerely,

Gabrielle Allen
Director
School of Computing

Office of Academic Affairs
Dept. 3302 • 1000 E. University Avenue
Laramie, WY 82071
(307) 766-4286 • (307) 766-6476 • fax (307) 766-2606
www.uwyo.edu/acadaffairs

This form is to be used with all new degree/certificate proposals as outlined in the process on the Academic Affairs website at https://www.uwyo.edu/acadaffairs/degrees. Departments shall use this form to provide documentation of collaboration and support for any courses and/or resources that will be contributing to the new degree/certificate that are not within the home department.

Date: October 20, 2023

Name of Proposal: MS in QISE

Department: EECS, A&P, SoC

College: CEPS

The above-named degree/certificate proposal has been reviewed by the following departments/colleges and all appropriate courses and resources have been discussed prior to proposal submission:

Bryan Shader, EECS	Bryan L Shader
Department Head	Signature
Jinke Tang, Physics & Astronomy	
Department Head	Signature
Gabrielle Allen, School of Computing	
☒ Director	Signature
Cam Wright, CEPS	
Dean	Signature

Submitted on: 10/20/2023 (date)

By: Bryan Shader

AGENDA ITEM TITLE: **PhD in English Notice of Intent**, Ahern/Turpen/Kinney

SESSION TYPE:
☐ Work Session
☐ Information Session
☐ Other
☐ [Committee of the Whole – Items for Approval]

APPLIES TO STRATEGIC GOALS:
☒ Yes (select below):
- ☐ Institutional Excellence
- ☒ Student Success
- ☒ Service to the State
- ☐ Financial Growth and Stability

☐ No [Regular Business]

☒ *Attachments are provided with the narrative.*

EXECUTIVE SUMMARY:
The College of Arts & Sciences is proposing a new PhD in English with an emphasis on the Public Humanities. The English PhD will be an interdisciplinary program with close ties to the successful master's programs the department already has in place. The program will provide concentrations is English Language and Literature, Rhetoric, Composition, and Writing Studies (SIP 23.13), and Creative Writing (CIP 23.1302), but all tracks will engage in public humanities scholarly projects and programming. If implemented, this program will contribute to UW's goal of achieving Carnegie R1 status. Currently, UW lacks any PhD programs in the humanities. Given Carnegie R1 criteria, this is a significant barrier to the university's goal, and the creation of the new English Doctoral Program in the Public Humanities will help UW achieve R1.

PRIOR RELATED BOARD DISCUSSIONS/ACTIONS:
Not applicable.

WHY THIS ITEM IS BEFORE THE BOARD:
A Notice of Intent to the Board will allow the program proposers to complete review internally with the shared-governance bodies (Faculty Senate, ASUW, and Staff Senate), and Academic Forum (Deans and Directors). Academic Affairs and the School of Graduate Education support the degree proposal. The Request for Authorization will be submitted for the Board's consideration and approval later in the Spring of 2024.

ACTION REQUIRED AT THIS BOARD MEETING:
Approval of the Notice of Intent for the PhD in English.

PROPOSED MOTION:
I move to approve the Notice of Intent for the PhD in English.

PRESIDENT'S RECOMMENDATION:
The President recommends approval.

English Department, Box 3353
1000 East University Avenue
Laramie, Wyoming 82070

Notice of Intent: English Doctoral Degree in the Public Humanities

October 2023

A. Name of proposed Academic Program and model of delivery: The English Doctoral Degree in the Public Humanities will be an on-campus program with traditional residential delivery. The official degree name with be PhD in English, with tracks in English Language and Literature (CIP 23.01), Rhetoric, Composition, and Writing Studies (SIP 23.13), and Creative Writing (CIP 23.1302), but all tracks will engage in public humanities scholarly projects and programming. The National Endowment for the Humanities Division of Public Programs defines public humanities projects as those that "bring the ideas of the humanities to life for general audiences through public programming."[1] This focus on public engagement signals a crucial and often unconsidered challenge of work within the academy. While housed at universities, the primary work of public humanities programs must be to engage those outside of campus—locally, state-wide, nationally, and globally.

B. Program description and outline of curriculum and learning outcomes: The English Doctoral Degree in the Public Humanities will be an interdisciplinary program with close ties to the successful master's programs the department already has in place. For over a decade, English has been planning a PhD, and we are excited that the administration has committed itself to bring this plan to fruition. Our vision is to develop a distinctive humanities doctorate focused on the public sphere: as the National Humanities Alliance notes, public humanities work seeks to extend the humanities beyond the ivory tower by engaging the public in conversations that inform contemporary debates, magnify community perspectives, preserve local cultures, and expand educational access.[2] Such programs are the cutting edge of humanities education, because in addition to focusing on community engagement and thereby strengthening humanities programming statewide, they have the added benefit of preparing graduates for jobs beyond the academy.

Our curriculum will expose students to multiple career paths and require their collaboration with the public sector, with doctoral candidates entering public life as part of their academic work. Innovative features will include internships in state agencies, schools, nonprofits, arts organizations, historical preservation societies, and local businesses; community-focused coursework and dissertations; and interdisciplinary partnerships with professionals within and outside UW. We imagine the program equipping graduates for career paths including museum curation, non-profit administration, public advocacy, environmental stewardship, public health activism, and Wyoming tourism, cultural heritage, and more, as well as traditional academic positions focused on teaching, research, and creative activity. Learning outcomes will include being able to demonstrate expertise in public humanities programming; being able to read, interpret, and write about a diverse range of public interests; understanding how texts inform culture; participating in critical civic discourses; being outstanding writers, communicators, and teachers of writing and communication; and being able to transfer these skills into a wide array of cultural and interdisciplinary contexts. Indeed, while the program will be housed in the English Department, we welcome participation by all graduate faculty on campus. Although we imagine particular synergies with Anthropology, Art, History, Modern and Classical Languages, Philosophy and Religious Studies, and the School of Culture, Gender, and Social Justice, the program will also engage a broad mixture of non-A&S units, including the Haub School of Environment and Natural Resources, the College of Health Sciences, and the School of Computing, plus cross-disciplinary hubs such as the American Heritage Center, Coe Library, and the UW Art Museum.

[1] https://www.neh.gov/grants/public/public-humanities-projects
[2] https://nhalliance.org/

C. Content and relation to other Academic Programs/offerings: Mirroring our already successful master's-level programs, the doctoral program will emphasize interdisciplinary research in 1) creative writing, 2) literary studies, and 3) rhetoric, composition, and writing studies, with all three tracks involved in the community-focused scholarship of the public humanities. Our pedagogical objectives are to produce both excellent teacher-scholars and public-sector professionals who can engage the wider Wyoming community—that is, graduates who can take on leadership roles in the public humanities around the state and region. We will offer hands-on student learning, community-based internships, and a flexible program of study that supports a wide range of job placements.

The English PhD in the Public Humanities builds on current department successes. Over the last several years, English has reshaped our master's programs to include a new capstone option, the public-facing thesis portfolio, which allows students to tailor their theses to career tracks in government, the non-profit sector, K-12 and community college education, cultural tourism, and so on. Buoyed by this innovative thesis option, the state-funded residential MA program recently received twice our highest past total of applications, indicating the high demand for this kind of innovative study. Further, both MA and MFA students in our on-campus programs receive state-of-the art preparation to teach first-year writing and other lower-level USP COM courses. We also offer a three-year, tuition-driven distance MA degree popular among secondary teachers and other working professionals in Wyoming and nationwide. This program has grown from a dozen students in 2012, to a cohort today of over 30 students. Beyond our two MA programs, the on-campus MFA in creative writing has a two-decade history as a nationally ranked program known for interdisciplinary excellence. In short, a PhD in English would expand our department's already significant contributions to the university's graduate programming and research mission and, by extension, further grow UW's presence around the state, nation, and world.

We also want to emphasize that English is a financially prudent department that has a long history of responsibly managing our resources while also expanding into new markets. Because of the success of our online MA, for example, English has the revenue generation capacity to independently fund many master's assistantships, and we also contribute over $50k each year of Foundation funds to support our graduate programs. Further, because of their advanced standing, doctoral students will be able to teach one-third more courses annually than master's-level students, including the often-bottlenecked 4000-level USP COM3 courses that master's-level students are not qualified to teach. In short, the addition of PhD students to our department will allow us to virtually eliminate the temporary faculty positions that support our COM3 courses, yielding an upwards of $145,000 annually to sync back into the doctoral program[3]. Such savings can be used to offset the costs of the program, including supporting the proposed staff coordinator position required to run a statewide internship program, recruit students nationally, and create the kind of multimedia presence necessary to successfully fundraise our public humanities initiatives.

D. Market analysis of student enrollment, post-graduation market demand, and overall market analysis plan: Given that approximately 60 talented students are already enrolled in our master's-level programs, we are optimistic that the department will likewise attract highly qualified doctoral students. Surveys from our MA programs and Wyoming community college faculty indicate substantial interest in an English PhD at UW, and Gray Associates data ranks the PhD in English the most favorably of all humanities disciplines on campus. Our department's current graduate programs and undergraduate major have also been recognized by SR Education Group and College Factual as being among the best in the nation, which suggests success for both recruitment and job placements. What's more, the national Council of Graduate Schools offered us praise and encouraged our public humanities PhD plan when we formally consulted with them: as they argued, our ideas represent the future of humanities education, as jobs in the public sector for humanities PhDs far outnumber traditional jobs in the academy. Indeed, many PhD programs—recognizing the declining numbers of traditional academic jobs available for graduates across the academic disciplines—are hoping to pivot to more public-facing scholarship and work. Sadly, however, the rate of change in established doctoral degrees is slow given their long histories of

[3] As our 5-Year Graduated Budget Request for Ongoing Salary and GTA Costs notes in our Appendix, in addition to cost savings from eliminating two full-time temporary instructor lines traditionally used to staff COM 3 courses, English will continue to contribute substantial dollars annually from revenue generated by our online MA to support department-funded GTA lines, though now at the doctoral level.

conventional programming. By contrast, our public-facing PhD will disrupt traditional programs and serve as a national exemplar from its inception. Should this Notice of Intent be approved, we will use the already available data as well as a thorough study of regional and national English doctoral trends to secure the evidence necessary to present to the Board.

E. Preliminary budget, including potential funding sources, projected expenses and revenues, and faculty, GTA, and coordinator lines: If given purview, we can keep our on-campus graduate programs roughly the same size but reallocate some of our current master's-level assistantships into twelve PhD lines, which is the baseline number needed to grow a nationally competitive program. This will mean only a modest infusion of new money for PhD assistantships (again, see Appendix), rather than starting from scratch. Where we will need substantial new financial support, however, is in faculty and staff lines. As our recent department self-study spells out, while our faculty has shrunk by 33% in the past decade, our productivity as measured by course offerings, revenue, degree tracks, and structured collaborations has actually increased over the same period. As our FTEs and credit hour generation demonstrate, we are among the most financially efficient departments on campus, but we will require new lines and predicted retirement replacements to responsibly stand up a PhD. In addition to the attached new budget needs (again, see Appendix), we also wish to emphasize our existing funding sources. At present, the department is prepared to convert roughly $145k annually in existing budget dollars to support the doctoral program by eliminating two full-time temporary instructors. Further, UW English already devotes over $150k annually in department revenue and Foundation money to fund graduate teaching assistants, the lion's share of which is generated from our successful low-residency online MA program. Perhaps most promisingly, the Mellon Foundation has recently invited our department to pursue an $800k seed grant for developing our public humanities initiatives, dollars that will likewise allow us to expedite the hiring of additional faculty required to stand up the doctoral program. In short, English has a long and successful history of entrepreneurial programming and fundraising, and we will continue to put those dollars back into our programs.

F. Proposed timeline for staged implementation over five years, including campus and Board review: English will submit this Notice of Intent during Fall Semester 2023. Assuming campus and Board approval is timely, we anticipate welcoming our first class of doctoral students in AY 2024-2025. Our five-year staged implementation includes four additional tenure-line hires and one new program coordinator but does not account for any additional replacement hires due to faculty separations or retirements. As such, should faculty attrition take place, crucial lines must be replaced. To offer the coursework necessary for an English PhD as well as support the cultural preservation and community programming consistent with UW's land grant mission, English will need to make at minimum new tenure-line hires in 1) Creative Writing and the Public Humanities, 2) Indigenous Studies and Environmental Humanities, 3) African American Studies and Digital Humanities, and 4) Technical Communication and Public Advocacy. As appropriate, these hires could hold joint appointments with the School of Culture, Gender, and Social Justice; the Haub School; the School of Computing; or other units. To grow a mid-sized, four-year program with a minimum of twelve funded students, then, we plan to admit three per year, thus reaching our doctoral student quota of twelve by Fall 2027.

G. Information on other required approvals, such as HLC accreditation bodies: English has no national accrediting body, but UW English consistently wins top scores for the assessment of our USP programs, our undergraduate major, and our graduate programs, as well as national recognition for the quality and affordability of these programs. This is in no small part because several English faculty are specialists in assessment, and we will continue to meet the highest standards for university accreditation should the PhD program come to fruition.

H. Evidence of UW mission and strategic plan alignment: An English PhD in the Public Humanities will be central to UW's attainment of Carnegie Community Engagement Classification and R1 status, and we believe our proposal is a cost-efficient way of investing in UW as a national hub for innovation in humanities education and research. But more, developing a doctoral program in English satisfies several needs simultaneously. At the department level, it fulfills a long held and rigorously researched intent to offer such a program; at the college level, it provides new growth and interdisciplinary direction for a college that is undergoing a significant restructuring; and at the university level, it raises our prestige as a research institution and community-engaged land grant university, enhancing our chances of attaining R1 designation. If entrepreneurial thinking, educational

attainment, and research status are among UW's goals, then the PhD in English provides a critical step in achieving them.

As our recent department self-study illustrates, the proposed PhD supports all four of President Seidel's pillars. The program will be **digital** in its emphasis on the public and digital humanities; on professional, technical, and digital rhetoric and communication; and on film, media, and digital culture. The PhD will be **diverse, inclusive, and global** in an array of contexts, including participation in Saturday University, UW in Scotland and the Center for Global Studies, and collaborations with Wyoming Institute for Humanities Research, the School of Culture, Gender, and Social Justice, and the School of Computing, among others. Finally, the program will continue the department's long history of **interdisciplinarity** and **entrepreneurialism**. Given the funding models and innovations that we have created, supporting the PhD in English will raise already established standards of doctoral excellence in our evolving college of arts, humanities, and social sciences and across other colleges.

I. A rationale that clearly defines the need for the new Academic Program: As this Notice of Intent establishes, there is a strong need for a humanities PhD at UW, with Gray Associates data, national endorsements, and the English Department's already established graduate programs suggesting that interest in a PhD will be high. What's more, there is no other PhD program in the humanities on campus, which both confirms there will be no duplication of existing programs and—unless remedied—undermines UW's attainment of R1 status. As we have already established, this public-facing PhD will disrupt traditions associated with outdated doctoral education elsewhere, be an engine for progress across campus and the state and serve as a national exemplar from its inception. The English Department is looking ethically and inventively to the future of doctoral education with the proposed English PhD in the Public Humanities, and we respectfully request the endorsement of the Board and the larger UW community.

Appendix: Five-Year Graduated Budget Plan for English PhD

See attached, 2-page spreadsheet.

Office of Academic Affairs
Dept. 3302 • 1000 E. University Avenue
Laramie, WY 82071
(307) 766-4286 • (307) 766-6476 • fax (307) 766-2606
www.uwyo.edu/acadaffairs

This form is to be used with all new degree/certificate proposals as outlined in the process on the Academic Affairs website at https://www.uwyo.edu/acadaffairs/degrees. Departments shall use this form to provide documentation of collaboration and support for any courses and/or resources that will be contributing to the new degree/certificate that are not within the home department.

Date: 10/20/2023

Name of Proposal: PhD in English

Department: English

College: College of Arts and Sciences

The above-named degree/certificate proposal has been reviewed by the following departments/colleges and all appropriate courses and resources have been discussed prior to proposal submission:

Kelly Kinney Department Head	Kelly Kinney Digitally signed by Kelly Kinney Date: 2023.10.20 08:19:57 -06'00' Signature
_____ Department Head	_____ Signature
J. Scott Turpen Dean	Scott Turpen Digitally signed by Scott Turpen Date: 2023.10.20 07:43:31 -06'00' Signature
_____ Dean	_____ Signature

Submitted on: 10/20/23 (date)

By: Kelly Kinney

AGENDA ITEM TITLE: <u>Request for Authorization</u>, <u>Bachelors of Science Ranch Management and Agricultural Leadership (RMAL) ,</u> Carman, Rasco

Last name of those presenting

SESSION TYPE:

☐ Work Session

☐ Information Session

☐ Other

☐ [Committee of the Whole – Items for Approval]

APPLIES TO STRATEGIC GOALS:

☒ Yes (select below):

- ☐ Institutional Excellence
- ☐ Student Success
- ☒ Service to the State
- ☐ Financial Growth and Stability

☐ No [Regular Business]

☒ *Attachments are provided with the narrative.*

EXECUTIVE SUMMARY:

The BS RMAL degree integrates many of the existing courses and faculty expertise of academic departments within the College of Agriculture, Life Sciences and Natural Resources (CALSNR). This program will be administered at the College level with resources and recognition shared among all participating departments. The degree is profoundly interdisciplinary, as the objective is for students to develop a foundational level of competency in animal production, agricultural business operations, forage production, and rangeland and soil management as well as developing critical competencies in leadership, communications, human resources management, and technology. The proposed degree has completed the review process and we seek approval of the Request for Authorization. A letter of commitment from Provost Carman is included.

PRIOR RELATED BOARD DISCUSSIONS/ACTIONS:

The Trustees approved a Notice of Intent for this degree in November 2022.

WHY THIS ITEM IS BEFORE THE BOARD:

University of Wyoming Regulation 2-119 requires that the Board approve all new degree programs and lays out the process for that approval. The Academic and Student Affairs Committee will report to the Board on recommended action for approval of the new degree program.

ACTION REQUIRED AT THIS BOARD MEETING:

Consideration for approval of the Request for Authorization for the Bachelors of Science Ranch Management and Agricultural Leadership.

PROPOSED MOTION:

"I move to approve the Request for Authorization for the Bachelors of Science Ranch Management and Agricultural Leadership."

PRESIDENT'S RECOMMENDATION:

The President recommends approval.

UNIVERSITY
OF WYOMING

Office of Academic Affairs
1000 E. University Avenue
Dept. 3302, 312 Old Main
Laramie, WY 82071
307.766.4286 • fax: 307.766.2606

October 20, 2023

Board of Trustees:

This letter serves as a Letter of Commitment for the Bachelor of Science in Ranch Management and Agricultural Leadership (RMAL) Degree

Needs
The RMAL degree integrates many of the existing courses and faculty expertise of academic departments within the College of Agriculture, Life Sciences and Natural Resources (CALSNR). This program will be administered at the College level with resources and recognition shared among all participating departments. The degree is profoundly interdisciplinary, as the objective is for students to develop a foundational level of competency in animal production, agricultural business operations, forage production, and rangeland and soil management as well as developing critical competencies in leadership, communications, human resources management, and technology.

The initial offerings of this program are in response to feedback collected during listening sessions conducted with ranch managers, absentee owners, family ranchers, legislators, representatives from agencies working with agriculture, and students. These sessions yielded a high level of engagement and feedback on a statewide scale.

In addition, a 2022 USDA report noted that available employment opportunities in the food, agriculture, renewable natural resources and the environment sector will remain steady and strong. Between 2020 and 2025, they expect an average of 7,900 annual job openings for new graduates.

Requirements
The B.S. curriculum is 122 credit hours designed to be completed within a four-year period. This includes a topics course each spring (Seminar Series) that will help reinforce critical connections between a student's coursework, industry challenges, and future employment.

The B.S. degree plan has been constructed with the flexibility to accommodate an additional nine credit hours (beyond the 122). These open periods could be filled with three specific School of Energy courses (eight credit hours total), that in combination with

the courses already laid out in the RMAL Degree Plan, result in a Land Administration Certificate. (The new block tuition model allows this pathway for a student at no additional cost.)

Resources
Currently, the CALSNR has utilized endowments for all funds related to launching the RMAL program, including salaries and the Spring Seminar Series. As of fall 2022, the RMAL program had already received endowments of $1.5M from Farm Credit Services of America as well as $1.5M in Wyoming legislative match money for ranch and range management. Partial funds from the S1.5M Y Cross Ranch Endowment were and will also be available. Since fall of 2022, three additional endowments of $100K each have been received, and additional donors have expressed a keen interest in supporting this application-based program, including a pending signed pledge with a match of $500K. These funds allow us the ability to ensure that all internships for example will be paid through a combination of endowment dollars and internship host funds. Currently, an estimated $323,000 per year is available for the Ranch Management and Agricultural Leadership Program.

Three new CALSNR faculty with teaching responsibilities in RMAL have been proposed via the CPM process. Much like Extension faculty, these individuals will have a departmental home but have responsibilities for teaching RMAL courses as part of their overall teaching assignments. These individuals will focus on teaching RMAL associated courses, program administration will be the responsibilities of the Director and Associate Director. The Director and Associate Director may teach some of the RMAL courses.

Timeline
The present implementation timeline is designed to enable students to enroll in this degree program in the Fall 2024.

Campus Review
I affirm that the university community, including the Executive Team, Deans and Directors, Faculty Senate, Staff Senate and ASUW, have been provided the opportunity to review and present feedback on the proposed program.

Best,

Kevin Carman
Provost and Executive Vice President

New Degree or Certificate Proposal Feasibility Study Template

Feasibility Study for the Ranch Management and Agricultural Leadership Program

Executive Summary

Degree or Certificate Title: Bachelor of Science in Ranch Management and Agricultural Leadership (RMAL)

Level of Degree or Certificate: Bachelor of Science

Delivery Mode(s): Integration of formal and informal learning experiences, including campus-based lectures and seminars, experiential learning, engagement with industry professionals, and internships. individual courses may be delivered online.

Estimated Startup Cost of Degree: Endowment and other College funds have been used to support and Interim Director, an Associate Director, and a temporary Program Coordinator.

Anticipated Launch Date: Fall 2024

Description: The RMAL degree integrates many of the existing courses and faculty expertise of academic departments within the College of Agriculture, Life Sciences and Natural Resources (CALSNR). This program will be administered at the College level with resources and recognition shared among all participating departments. The degree is profoundly interdisciplinary, as the objective is for students to develop a foundational level of competency in animal production, agricultural business operations, forage production, and rangeland and soil management as well as developing critical competencies in leadership, communications, human resources management, and technology.

In addition, there will also be a Masters in Ranch Management and Agricultural Leadership (RMAL) that will utilize the *Quick Start* model with a Plan B requirement focused on developing specific strategies to address one of the many complex challenges faced by contemporary ranch, rangeland, natural resource, and agri-business managers. Our master's program has an anticipated launch date of Fall 2024 (pending student interest) or Fall 2025.

Future components of the degree (e.g., certificates and other micro-credentials) will be delivered in conjunction with the UW College of Agriculture, Life Sciences, and Natural Resources Faculty, other UW Faculty members, UW Extension personnel, and industry professionals.

Vision (Why was this program developed?)

To graduate students deliberately prepared to take on the challenges of working in the agricultural industry and through developed leadership skills, advance that industry and enhance the quality of life in the West.

Mission (How will we get there?)

By meeting the needs of students and the industry through delivery of a distinctive learning program that provides for the synthesis of knowledge and experiences, combined with opportunities to develop, and grow the behavioral skills necessary for successful performance and leadership.

Table of Contents

Feasibility Study Required Contents:

Overview and Description of Degree or Certificate, Purpose, Strategic Play Overlay

Describe and outline:

- The degree's objectives

The nature of ranch management and agricultural leadership today requires professionals to have an integrated understanding across a broad array of disciplines, while demonstrating strong interpersonal skills that allow for effective teamwork, collaboration, and development and retention of talent. The Ranch Management and Agricultural Leadership program is designed to meet those needs through a commitment to interdisciplinary instruction and numerous applied and experiential activities, both formal and informal.

We propose to develop multiple pathways for RMAL in response to the diverse needs of students. See Appendix A for an overview of current and future elements of the program.

The B.S. curriculum is 122 credit hours designed to be completed within a four-year period. This includes a topics course each spring (Seminar Series) that will help reinforce critical connections between a student's coursework, industry challenges, and future employment.

The B.S. degree plan has been constructed with the flexibility to accommodate an additional nine credit hours (beyond the 122). These open periods could be filled with three specific School of Energy courses (eight credit hours total), that in combination with the courses already laid out in the RMAL Degree Plan, result in a Professional Land Management Concentration ('landman'). (The new block tuition model allows this pathway for a student at no additional cost.) These open elective credit hours could also be used by a student who is interested in the Quick Start masters, as they will be required to start some of that course work during their junior and senior years in order to complete the master's degree in one calendar year after completion of the BS degree.

The proposed degree plan also fulfills the OPM's (U.S. Government's Office of Personnel Management) occupational requirements for a number of federal positions. This opens up opportunities for students to work for federal agencies by qualifying for 14 different *Job Series*, including the very prescriptive Rangeland Management Specialist "series 454".

For future consideration are the certificate and endorsement programs that will allow both existing practitioners and students the opportunity for credentialed, and/or non-formal learning experiences, thus balancing the research with the lived experience.

Planning is also underway for a separate Master of Science in Ranch Management and Agricultural Leadership; an advanced program track for a select group of students that have already received a bachelor's and have two plus years of professional experience and want to grow their skills set. This track will allow a student to graduate with a Master of Science in Ranch Management.

The goal of the program and each of its degrees is to produce individuals who are work-place ready and uniquely qualified. Graduates will have technical expertise and practical experience in the core disciplines of Animal Production, Business & Operations Management, Forage Production, Rangeland

and Soil Management, and Leadership, as well as the skills necessary to thrive in today's working environment.

Broadly defined, RMAL will be characterized by interdisciplinary intersections of business operations, resource utilization and production, law and policy, leadership and management, and problem solving. Participants will:
1) develop the skills, knowledge, and practical experience to be successful in a wide variety of agriculture and natural resources based careers;
2) develop the behavioral skills and emotional intelligence to be valuable employees and leaders;
3) hone an interdisciplinary and collaborative approach to problem solving;
4) excel in innovative and critical thinking;
5) learn how to identify, evaluate, and use resources for effective decision-making;
6) develop leadership and communication skills that will benefit their employers and communities; and
7) develop mentorships and professional networks relevant to their career objectives.

Core pillars of the student experience will be the interdisciplinary nature of instruction, numerous applied and experiential activities, and opportunities to integrate those experiences throughout the program in the pursuit of more developed critical thinking and improved problem solving. We will structure the educational experiences to:
1) enable continuous, high-quality student-to-faculty, student-to-practitioner, and peer-to-peer learning;
2) provide experiential, hands-on problem solving reflecting real world, contemporary, and emerging challenges;
3) create opportunities for practitioners, as well as faculty across UW, to participate in interdisciplinary educational opportunities.

- It's fit with the college's current offerings

Approximately 52% (63 credit hours) of the undergraduate program already exist within the CALSNR, another 25% (30 credit hours) exist in other colleges, and 24% (29 credit hours) will be new courses specific to the learning objectives for RMAL students. (Note that these 29 new RMAL credit hours deviate by six when compared to Appendix B's total new credit hours, as six (6) of the new credit hours listed there represent three credit hours in Agricultural Economics and three credit hours in Computing.)

RMAL content will leverage the technical core offerings of Animal Production, Business & Operations Management, Forage Production, Rangeland and Soil Management, and Leadership. Additional topical core areas will include collaboration and facilitation, communications, ethics, human resources management, civic learning, democratic engagement, professional & personal development, research and decision analysis, and technology and computational applications in agriculture. This content could appear in distinct courses or interwoven into the RMAL curriculum, and will include collaborating with faculty outside of CALSNR. The key component of the RMAL degree is the opportunity for students to weave a subset of disciplines and topics into applied practice, problem solving, and advancement of the industry.

There will also be an instructor support component that incentivizes and supports faculty in their development of innovative approaches to interdisciplinary collaboration, in-depth integration, experiential learning, and team teaching. This component will utilize resources from the ECTL, and also hopes to leverage research and innovation coming out of the Trustees Education Initiative. To meet our goals, we will encourage and support teaching in the RMAL curriculum which is innovative, experiential, collaborative, and relevant to real world challenges. Our hope is that this engagement-focused pedagogy will be of benefit to all.

And finally, we take to heart the concept that "The World Needs More Cowboys" and its hallmarks of curiosity, boldness, authenticity, and outside thinking. We envision the program itself as a breakthrough in an interdisciplinary approach that takes the most passionate and knowledgeable in their fields, and provides them the tools to become amazing co-instructors, integrating topics with application and experience on a new level.

RMAL was designed to avoid competition and redundancy with existing programs where possible. Our program as envisioned complements our current curriculum and takes relevant components from our existing disciplines and combines them with applicable components from disciplines outside the CALSNR. The interdisciplinary mandate in RMAL will allow students to develop proficiency, not expertise, in the broad range of topics they will need as ranch managers, in agribusiness, and as leaders in the agricultural and natural resource fields. This will allow those students who historically had to select an area of expertise to work in the ranch and agricultural fields - but were left without a background in a number of other key topic areas - to have a broader range of knowledge and skills to take to market.

- The rationale for the program, and niche/gap the degree or certificate will fill.
    - Why will it appeal to students?
    - To employers?
    - Graduate schools?

This program represents the specifically expressed needs of students, employers, and stakeholders throughout Wyoming and the region. These needs were identified through multi-year listening sessions and structured engagement events in several Wyoming communities. The RMAL program fulfills our mission of improving the lives of individuals, businesses, and communities within the state. The competencies identified for this program are increasingly valued throughout the agribusiness industry, and by NGOs, biotech, and state and federal agencies. Providing interdisciplinary content and essential skill development in the ranch and agribusiness arenas will add an essential dimension to UW's College of Agriculture, Life Sciences, and Natural Resources programs.

STUDENT APPEAL

RMAL will recruit and retain students that are seeking authentic real-world experiences in an interdisciplinary setting. Employers in these fields have been very candid in articulating the need for employees with essential skills in communication, collaboration, problem-solving, management, and leadership. The goal of this program is to meet the needs expressed by those employers, and our students, by moving beyond traditional single focused disciplines and being very intentional in combining disciplines with experiential and applied learning to produce solid and diverse practitioners.

Part of the appeal to learners will be the number of options based on content needed. The multiple elements being developed for RMAL; the bachelor's track, the Quick Start (4+1), the Spring Seminar series, the certificate/endorsement plans delivered in conjunction with the college faculty, UW Extension personnel, and industry professionals, and the two year Maser of Science in RMAL, as well as multiple in-formal learning opportunities, are begin designed to fit the diverse level of needs represented by all our learners. This variety will appeal to a broader pool of students and provide different levels of opportunity for individuals to advance their skill sets depending upon their career aspirations.

The B.S. degree is focused on the interdisciplinary needs of those students with RMAL career objectives. This interdisciplinary, experiential learning, 4-yr degree also allows students to engage in discovery across multiple core areas without a specific disciplinary focus.

The Quick Start (4+1) option for a Master's degree will provide more robust content in the area of people management, Human Resources knowledge, and Managerial Accounting. It will also allow a student to engage in upper-level coursework in a focus area as determined by their Plan B problem statement. This could mean additional course work in property and contract law, environmental and land use regulations, and energy and emerging economic opportunities for example.

There are also future plans for an advanced program track for a select group of students who have already received a bachelor's and have two plus years of professional experience and want to grow their skills set. This pathway will allow them to graduate with a Master of Science in Ranch Management. In addition, we will develop certificate and endorsement programs that will allow both existing practitioners and students the opportunity for credentialed, and/or non-formal learning experiences, thus balancing the research with the lived experience.

The current proposed degree plan also fulfills the OPM's occupational requirements for a number of federal positions. This opens up opportunities for students to work for federal agencies by qualifying for 14 different *Job Series*, including the more difficult to obtain "series 454". This eligibility increases the number of jobs available to our students after graduation.

0454- Rangeland Management Specialist - most important and hardest to qualify for
0455- Rangeland Technician
0401- Natural Resources Management Specialist
0457 - Soil Conservationist
0487- Animal Scientist
0421 - Plant Protection Specialist
0459- Irrigation Systems
1145 - Ag Program Specialist
1146- Ag Marketing Specialist
1161- Crop Insurance Specialist
1165- Ag Loan Specialist
1850- Ag Warehouse Inspector
1863- Food Inspector
1980- Commodity Grader

(This list does not include potential state government jobs).

As was mentioned earlier, with room in their 4-year schedule for an additional nine credit hours that can be taken in conjunction with the 122 credit hours laid out in the RMAL Degree Plan, students can complete the requirements and receive the Professional Land Management Concentration ('landman'). The new block tuition model allows this pathway for a student at no additional cost.

The curriculum for the Bachelor of Science was developed in part with feedback from community colleges interested in facilitating 2+2 options for their graduates. Community colleges both within and outside of Wyoming have expressed interest in the RMAL program, including Casper College, Central Wyoming College, Eastern Wyoming College, Gillette College, Laramie County Community College, Northwest College, and Snow College of Utah among others.

Also, under consideration for future years would be a minor designed for students in disciplines who will be working with ranchers and other agricultural producers, where work in their chosen field would benefit from the students' learning more about the challenges and opportunities in production agriculture and related operations.

EMPLOYER APPEAL

One of the key themes from the statewide listening sessions was the disconnect between our disciplinary-focused graduates, and the interdisciplinary imperative to being a successful ranch manager, rangeland manager, or agribusiness professional. Another theme was the difficulty in hiring individuals with effective interpersonal and leadership skills.

These concerns are supported by a 2022 Wiley (multinational publishing, education and research company) study that found significant skill gaps and workplace demand for employees with the following:

- Strategic thinking and analytical skills
- Problem-solving skills
- Digital communication skills
- Leadership skills
- Time management skills
- Ability to adapt to change.

This program addresses the obvious need for producing better prepared students. But it also addresses the related need of retaining those good employees. The behavioral and leadership skills developed in both the BS curriculum and the seminars will support managers and employers in creating cultures that will contribute to retaining those more skilled employees.

The same study found that many of these technical and 'soft' skills had a shelf life of two to five years. The Seminar Series, and the future certificate and endorsement programs supports the need for continuous learning and keeping current with technological advances.

The program is also positioned to respond to shifting in the regional workforce from a preponderance of extractive industries to a focus on renewables. The interdisciplinary opportunities and access to the work being done in the School of Energy will help meet this current trajectory impacting workforce demands in Wyoming.

GRADUATE SCHOOL APPEAL

It is important to note that this program is not being established to set students up for graduate studies in a specific core science discipline, the attributes we are targeting are those that would make a successful graduate student in a range of disciplines; students will be best poised for moving into programs with more applied thinking such as leadership or business.

RMAL itself will have two graduate school options built into it. A Quick Start option for enrolled RMAL undergraduates and an advanced program track for a select group of students that have already received a bachelor's and have two plus years ranching experience and wish to grow their skills set. Both tracks will allow them to graduate with a Master of Science in Ranch Management.

- How the degree will support UW's Strategic Plan, and the relevant college's strategic plan

This program itself is aligned with President Seidel's four strategic pillars: Interdisciplinary, Digital, Entrepreneurial, and Inclusive. Specifically, the success of the RMAL Program not only leverages, but will depend upon impactful collaboration with the College of Business (COB), School of Computing (SOC), School of Energy Resources (SER), and the Ellbogen Center for Teaching and Learning (ECTL), as well as with the CALSNR's disciplines of Agricultural Business, Animal and Veterinary Science, Rangeland Ecology and Watershed Management, and Plant Sciences.

As described earlier, the undergraduate curriculum has been designed to allow for nine additional credit hours that can be used for earning the Professional Land Management Concentration through the School of Energy Resources or taking courses towards their Quick Start. Space has also been created within the degree plan for a specific course featuring computing in agribusiness. Incorporating an understanding of computing and its applications, as well as exposing students to technological and energy advances impacting the industry will support the development of innovative problem solving.

This multifaceted approach to problem solving can also be a catalyst for entrepreneurial pursuits. Program advisors and faculty can direct students to the CEI's (Center for Entrepreneurship and Innovation) resources and to courses on entrepreneurial strategies, ideation, innovation, and implementation. The Quick Start program could also have an ENTR (Entrepreneurship) focus if it was relevant to the selected Plan B problem topic. This content would also prepare students to be better *intrapreneurs* in their organizations, contributing to new products, approaches, services, and fostering growth and innovation for the industry overall.

The term *Ranch of the Future* has been gaining in popularity to indicate a commitment to a future focus on technology in agriculture. CALSNR has a number of faculty who have been conducting applicable research in this area for some time, and the results of that research are incorporated into the courses RMAL students will be taking in the core four in CALSNR. This creates a link between research and application for actual producers, and for students who will go on to work in AG related fields. The applied nature of the program will support students in discovering the value, and balance, between the research and the lived experience of producers and operators.

In keeping with the Governor's Wyoming Innovation Partnership, the program will offer opportunities for developing advanced leadership and behavioral skills integrated with our core agricultural

curriculum, better preparing participants to excel in the workforce, as well as supporting managers and businesses in creating cultures that will be able to retain a more competent workforce. These skills can be acquired through the BS degree as well as through certification offerings that can be earned by stakeholders and community college students, as well as UW students.

Learning Outcomes

Describe and outline the learning outcomes of the degree or certificate, focusing on the core competencies you expect graduates to exhibit and accumulate as they complete the degree or certificate.

Overall, the desired outcomes for an RMAL student are:

- The ability to synthesize science-based information related to agricultural endeavors.
- The ability to demonstrate a level of self and situational awareness sufficient to collaborate, problem solve, and lead others in organizational and community settings.

To attain this, there are six key discipline (technical) areas related to knowledge that will be assessed:

1. Animal Production
   1.1. Applies reproductive management practices that optimize reproductive efficiency of domesticated livestock.
   1.2. Applies nutrient management practices that optimize feed efficiency of domesticated livestock.
   1.3. Demonstrate basic knowledge of terms and concepts in animal science and apply this knowledge to new problems and situations.
   1.4. Compare and contrast the management of livestock, uses, and policies across a diversity of ranch management issues.
   1.5. Investigate and discuss topics that influence the management of domestic livestock.
2. Business/Operations Management
   2.1. Apply principles of economic theory to common agricultural production problems.
   2.2. Interpret and solve problems in farm and ranch management.
   2.3. Demonstrate how basic economic principles and social values are applied in the management of farms and ranches.
   2.4. Demonstrate basic knowledge of terms and concepts in business and apply this knowledge to new problems and situations.
3. Forage Production
   3.1. Review scientific concepts associated with basic principles of forage production that drive agroecosystem functions and services.
   3.2. Demonstrate basic knowledge of terms and concepts in forage crop science and apply this knowledge to new problems and situations.
   3.3. Investigate and discuss current topics that influence the management of forage crops.
   3.4. Learn field identification of important forage crops and become familiar with the use of these forage crops in a western U.S. ranch setting.
4. Rangeland Management

4.1. Apply scientific method (question, hypothesis, prediction, test) to rangeland conservation and management problems.
4.2. Apply ecological theory and patterns, such as climate change or grazing competition, to predict outcomes of rangeland conservation and management actions.
4.3. Apply an understanding of human expectations from rangelands to mitigate societal impacts of change on rangelands.
4.4. Compare and contrast the ecology, uses, and policies across a diversity of rangelands.

5. Soil Management
   5.1. Demonstrate how basic sciences are applied in the management of soils.
   5.2. Understand the basic physical, chemical, and biological properties of soil.
   5.3. Learn field identification of important physical soil attributes and become familiar with the U.S. classification scheme for soils.
   5.4. Demonstrate basic knowledge of terms and concepts in soil science and apply this knowledge to new problems and situations.
6. Leadership
   6.1. Knows basic leadership theories.
   6.2. Can identify their own leadership potential.
   6.3. Knows and understands the impact of leadership on culture.
   6.4. Knows and understands the impact of leadership on organizational development and performance.
   6.5. Knows and understands the individual, group, and organizational processes that affect employee behavior at work.

There are an additional six competencies that reflect the growth of skills and abilities in the following areas:

1. Communications
   1.1. Practices effective written and oral communications.
   1.2. Demonstrates ability to speak to an audience or group coherently.
   1.3. Can effectively collaborate with others.
   1.4. Understands techniques and application of negotiation.
   1.5. Understands the concepts of conflict transformation.
   1.6. Can effectively engage in conflict management.
2. Data analysis
   2.1. Vets and evaluates information for source and accuracy.
   2.2. Ability to find and use relevant data in analysis.
   2.3. Synthesizes multiple sources of information when considering a situation.
   2.4. Demonstrates a sense of informational literacy; ability to find, evaluate, organize, use, and communicate information in various formats.
3. Critical thinking
   3.1. Can identify and articulate the problem or question.
   3.2. Knows how to gather data, perspectives, and arguments.
   3.3. Analyzes and evaluates data.
   3.4. Can identify assumptions or biases in sources and self.
   3.5. Can assign value or establish significance and relevance of data.

3.6. Identifies conclusions, their strengths and weaknesses, and can make an informed decision.

4. Problem solving
   4.1. Identifies and articulates the problem accurately.
   4.2. Identifies factors that led to the current situation with the intent of finding a solution.
   4.3. Focuses on what can be done or knows how to reframe assumptions of what can't be done.
   4.4. Asks questions, demonstrates curiosity and inquisitiveness.
   4.5. Demonstrates creativity and a willingness to think outside the box.
   4.6. Engages with others for the purpose of collaborative problem solving.
   4.7. Demonstrate persistence in the face of roadblocks.
5. Self-awareness
   5.1. Understands the concept of Emotional Intelligence and its impact on human interaction.
   5.2. Knows their own individual talents and strengths and how to apply those to a challenge.
   5.3. Understands their own personality and tendencies and can recognize how those play out in team settings and human interactions.
   5.4. Knows their own biases and how to navigate or mitigate so as to avoid them from becoming liabilities.
6. Leading others
   6.1. Demonstrates a sense of self-awareness and understands their own leadership strengths and style.
   6.2. Demonstrates the ability to be authentic.
   6.3. Demonstrates ability to develop trust with stakeholders and teammates.
   6.4. Uses appropriate techniques and demonstrates ability to conduct difficult or courageous conversations.
   6.5. Demonstrates ability to inspire and/or motivate others.
   6.6. Understands how to develop and make the most of the talents and strengths of others.

For the B.S./M.S. Quick Start (4+1) element, knowledge and/or competency in the following will also be addressed:

1. Managerial skills
   1.1. Communicates clear and attainable expectations and outcomes
   1.2. Provides actionable feedback
   1.3. Implements feedback and communication plans with employees
   1.4. Conducts difficult conversations
2. Human Resources knowledge
   2.1. Understands and can implement recruitment and retention strategies
   2.2. Knows Local, State and Federal Law related to employment
3. Managerial accounting
   3.1. Define cost accounting concepts
   3.2. Evaluate the nature of costs in a given business situation and identify the drivers behind those costs
   3.3. Organize cost information according to the decision-making needs of the organization
   3.4. Apply activity-based costing (ABC) and recognize circumstances and decisions for which ABC systems are relevant

3.5. Address common "what-if" questions using cost-volume-profit (CVP) analysis and apply CVP in a variety of scenarios
3.6. Evaluate capital budget alternatives and apply managerial accounting concepts to management decision making
3.7. Analyze the effectiveness of short-run decision models
3.8. Apply key types of financial performance measurement tools to analyze financial statements

4. Focus area
   4.1. Will vary based on technical focus as dictated by committee and subject matter of the Plan B challenge

It should be noted that to get the outcomes we want, we will need to change expectations about how content is taught (applied and experiential) and take a different look at how we credit and compensate team and inter-disciplinary teaching.

Curriculum Map and Program Structure

For undergraduate degrees: Map out the four-year plan for the expected course sequence, including USP courses, college requirements, and degree requirements.

For certificates or graduate degrees: Map out the expected course sequence for the degree or certificate.

Be sure to notate which courses are existing and which are new. Describe whether each course will be available in Laramie, Casper, other sites, and/or online.

Curriculum Map

See Appendixes B, C, and D (Degree Plan by Semester, Quick Start Degree Plan by Semester, and Degree Plan by Discipline) for the curriculum mapping.

In terms of curriculum content, we propose to leverage inclusivity by engaging with industry practitioners, successful traditional and non-traditional ranch and agricultural enterprises, and the wide-ranging expertise of UW faculty across schools. The RMAL program intends to follow the interdisciplinary model in both coursework, experiential learning, and internships.

Unless otherwise noted (on the Course Descriptions appendix), all RMAL courses will be taught in Laramie. Pre-existing courses will maintain their current delivery mode and location.

Additional Components of RMAL Program Structure

Internships

A key component for students will be the internships. Students are strongly encouraged to participate in three separate internship experiences. Each experience addresses a different facet or perspective a student will need to have to create a well-rounded vision/experience of Ranching in the West.

Ensuring an impactful experience will depend upon…

- Clear expectations for both the intern and host as to content and output (documented expectations that they can use with the student to determine outcomes and learning objectives along with expectations
- Opportunities for training and support for our hosts/mentors

For example, we want an intern placed for the summer with an agency to have multiple experiences where they will learn from professionals about the range of activities- for example: two weeks weed and invasive plant management, two weeks wildlife experience, two weeks with the hydrologist, etc., not 8 weeks spraying weeds.

Internships could include but are not limited to

- An agency internship where the student will get experience with the tasks, challenges, and collaborations inherent to the agency.
- An agribusiness internship where the student will get experience with the skills, analysis, and relationship building that is part of being an industry supporting producers and operators.
- A ranch management internship that will allow the student to connect virtually with a ranch manager and shadow them as they create and manage budgets, conduct workforce activities including planning, hiring, and compensation determinations, as well as a week onsite in the spring for calving for example.

These types of internships will provide vital experience in practicing and assessing the soft skills introduced in the curriculum.

Our donors and stakeholders understand that for many of the students seeking an RMAL degree, time out of class is often committed to working to fund education or support family operations. Therefore, we anticipate that these internships will involve compensation.

Spring Seminar Series

A topics course has already been developed and is in its second year. The focus of this course is to expose students to the scope of activities associated with Ranching in the West and the challenges and opportunities professionals face. Attendees include University students, community college students, producers, and other interested individuals involved in operations connected to agriculture. Presenters are a mix of researchers, industry practitioners, and subject matter experts as determined by the topic. The purpose is to 1) provide information and options for area ranchers (and other supporting businesses) that will improve their operations, and 2) to expose students to real world challenges in the industry while providing an opportunity for them to interact with ranchers, ag business folks, and other industry practitioners. The spring seminar series is completing its second year with positive feedback from both community members and student attendees.

Course Descriptions

Provide short course descriptions for new courses, including possible modes of delivery.

See Appendix E.

Assessment Plan

> Describe how the learning outcomes outlined above will be met through the proposed curriculum. How will student work be evaluated, and at which points, in the context of the overall assessment of learning outcomes?

Appendix F shows the courses that will contribute to each competency. For Core Technical Knowledge, the student will need a cumulative grade of a **C** or higher in the courses that fall under that competency. For the Skill and Ability competencies, students will need to demonstrate growth year over year through experiential activities, self-reflections, and writings, as well as achieving a **C** or higher in the courses contributing to the development of that particular competency.

Appendix G is a map (or Supplemental Assessment Tool) to keep track of and ensure that the desired knowledge and competencies are being introduced and reinforced throughout the curriculum.

SOAR, the University's web-based application providing students with high impact learning experiences, will be an invaluable tool in assigning and tracking activities that will foster student development. Its badges and activities can be embedded into Canvas course shells, making it easier for faculty and students to access additional resources. (In addition, the university's pre-existing contract with Linked In Learning allows supplemental content to be embedded into SOAR pathways and badges.) SOAR Events and Tasks (Activities) will be assigned as part of course work where appropriate. These could be anything from on-line learning modules, events such as a Stockgrowers Meeting or a campus presentation of some kind, or an activity designed to utilize recent learnings. Follow up exercises or reflections will be assigned on the particular learnings/activities, and the instructor and/or Career Readiness Counselor & Job Placement Coordinator will track progress based on the particular competency. SOAR can also be used to track competency development as a student moves through an internship. This tool will allow students to keep connecting the dots between the content of their courses and its application and use in future career endeavors. It also allows students to generate a report of their badges and development milestones to share with a prospective employer. These are workplace and behavioral competencies that don't show up on a university transcript but still hold value with employers.

Degree Program Evaluation

> Explain how the program will be evaluated. Will you use exit surveys of graduates, employer surveys, mid- or end-of-program feedback through focus groups or surveys, etc.? Remember that by policy, all new degree will be evaluated within 5 years of startup, so this will help you in gathering artifacts upon which that evaluation can be based.

As the program progresses, a steering committee made up of faculty, stakeholders, and program administration will review content and outcomes to ensure the degree program is adaptive and keeps pace with industry progress and needs. Our evaluation strategy also includes the tracking of post-grad employment placement that can also be used by the steering committee to ensure the program is meeting its desired outcomes. (For example, data provided by internship hosts, surveys from alumni employers, and other relevant sources can be used to determine if the goals of the program and student outcomes and success are being met.)

New Resources Required

Describe new resources required, including:

- Faculty and instructional staffing
- Program administration and staff support
- Technology
- Library and digital resources
- Marketing
- Support

Three new CALSNR faculty with teaching responsibilities in RMAL have been proposed via the CPM process. Much like Extension faculty, these individuals will have a departmental home but have responsibilities for teaching RMAL courses as part of their overall teaching assignments. In addition, some courses may be taught by RMAL's Director and Associate Director.

The program will rely heavily on interdisciplinary instruction. However, this concept has not always been successful, in part because of misunderstandings related to resources expended. For example, if three faculty from three different disciplines come together to teach a truly interdisciplinary course, it historically has been seen as 1/3 an allocation of a resource for each faculty, when in fact, the time/resource requirements to prepare, synthesize, negotiate content, organize, and deliver the content from the three different disciplines is the same as, or sometimes greater than, if the instructor was teaching the course alone. RMAL proposes that credit and compensation be granted accordingly and that instructors do not find themselves penalized in their evaluations or in the RP&T process, but rather are rewarded for their involvement.

There are three new positions associated with this program. Following is information about the Director and Associate Director positions. The program will also hire an Office Associate.

***Interim* Director, Ranch Management and Agricultural Leadership Program**

Job Purpose:

This position is responsible for acting as the public face of the program. They will also keep program development moving forward until the program is officially kicked-off and a permanent Director is hired. Responsibilities will include fund-raising activities, lobbying, relationship development for purposes of advancing the program and its initiatives, stakeholder engagement, and supervision, guidance and evaluation of the Associate Director.

Director, Ranch Management and Agricultural Leadership Program

Job Purpose:

This position is responsible for acting as the public face of the program, including

- development and fund-raising activities
- relationship development for purposes of advancing the program and its initiatives
- stakeholder engagement
- leading/liaisoning with the steering committee
- lobbying as required

Other responsibilities include but are not limited to

- support Associate Director in development of a comprehensive plan for delivery and assessment of program objectives and goals
- determination of overall resource allocations
- ensure the quality of the program and implementation of the pillars; interdisciplinary, applied and experiential activities, overall integration, and student development in the identified workplace competencies
- ensure all activities and resource allocations align with the program's mission
- supervision and evaluation of the Associate Director, and any other assigned RMAL personnel
- lead development of future initiatives, including but not limited to
    - the 2-year master's program
    - certificates (added to an active degree program)
    - endorsements (available outside of, or during, the degree program)
    - micro-credentials (available to community members and practitioners)
- opportunity to teach one RMAL course per semester

Position will also monitor the curriculum, faculty participants, and affiliate instructors to ensure strong [deep] integration between the technical disciplines and required competencies of the program, interceding when necessary.

In addition to an education in or experience with ranching, a successful candidate will be able to articulate the skills they possess that best support their ability to

- Demonstrate strong leadership skills and coalesce their team around the mission and vision, while ensuring all operations align with core commitments
- Energize and engage a highly diverse constituency around the RMAL Vision
- Identify meaningful data points to evaluate the program's effectiveness and make course corrections as necessary.

Associate Director, Ranch Management and Agricultural Leadership Program

Job Purpose:

This position is responsible for day-to-day delivery of the program with oversite from the Director. Responsibilities include but are not limited to

- develop a comprehensive plan for delivery and assessment of program objectives and goals (with input from Director)
- implement goals and objectives for the program and staff, and revise as necessary
- provide supervision, guidance, and evaluation of Academic Director, Career Readiness Counselor & Job Placement Coordinator, Internship Coordinator, and Office Associate
- develop and maintain appropriate structures for delivery and sustainability of the program
- develop, or oversee the development of, all RMAL courses to ensure that required content, interdisciplinary pedagogy, and applied and experiential activities are included
- oversee evaluation and assessment activities, and report on results to the appropriate stakeholders and steering committee

- maintain program commitment to innovative approaches to integration, assimilation, and application of student learning
- mentor RMAL students
- monitor student experience and implement course (path/program) corrections as necessary
- work with institutional marketing to keep program website current and relevant
- provide advising oversite; communicating information and providing training about the program as necessary with CALSNR advising team
- identify and develop relationships inside and outside the university for purposes of advancing the program and its initiatives
- manage overall relationships with community colleges
- coordinate and participate in student recruitment strategies
- delivery of up to 7 credit hours per semester of RMAL courses
- develop and support the development and delivery of RMAL informal learning events, educational programs, and engagement activities.

Focus will be on the undergraduate degree program, with consideration and planning for future opportunities in Quick Start, 2-year masters, and certificate programs.

A successful candidate will be able to articulate the skills they possess that best support their ability to

- Manage and lead a team with a focus on culture, using the same principles we are imparting to our students
- Create and maintain a student centric environment
- Identify creative and engaging formal and nonformal programs that will not only attract students, but increase the value of their educational experience
- Manage day-to-day operations that contain many moving parts

A note regarding faculty resources and interdisciplinary credit and support: RMAL recognizes that teaching into the RMAL program or delivering courses that are part of the overall degree plan could require substantial additional work on the part of instructors. Several strategies are being considered depending upon an instructor's level of participation.

Financial Considerations Related to the Program

See workbook **RMAL_Budget_Pro-forma**. These spreadsheets were prepared based on the formats provided by the Budget Office.

Currently, the CALSNR has utilized endowments for all funds related to launching the RMAL program, including salaries and the Spring Seminar Series. As of fall 2022, the RMAL program had already received endowments of $1.5M from Farm Credit Services of America as well as $1.5M in Wyoming legislative match money for ranch and range management. Partial funds from the S1.5M Y Cross Ranch Endowment were and will also be available. Since fall of 2022, three additional endowments of $100K each have been received, and additional donors have expressed a keen interest in supporting this application-based program, including a pending signed pledge with a match of $500K.

These funds allow us the ability to ensure that all internships for example will be paid through a combination of endowment dollars and internship host funds.

Currently, an estimated $323,000 per year is available for the Ranch Management and Agricultural Leadership Program. As is noted in the workbook, some of these funds are tagged specifically for scholarships (undergrad and graduate), GA stipends, and paid internships. By fiscal year 2025, there will be additional funds from both Y-cross and other pending endowments.

Substantive Change Determination

Higher Learning Commission (HLC), UW's regional accrediting agency, must approve all substantive changes to UW's offering. HLC considers substantive change as the addition of a program (degree or certificate/credential level) not previously included in the institution's accreditation, usually judged to be a program that is a significant departure from normal offerings, the addition of a program with 50%+ new coursework required, or the addition or change to an existing program which will be delivered 50%+ through alternative (hybrid, online) delivery. Substantive change may also be defined as a new program which does not meet the above guidelines, but which requires a significant amount of financial investment to be made. Please contact the HLC Accreditation Liaison Officer (currently Steve Barrett, steveb@uwyo.edu) to make this determination.

This program will **not** constitute a substantive change. See Appendix H.

Executive Summary of Demand Statistics*

Describe and outline:

- Market area and primary target markets/
- Educational market and student demand statistics, including peer comparisons of the size of enrollment, completions, and size trajectory (growth, decline) of comparator programs.
- Employment trends and projections given core competencies of the degree or certificate.
- Graduate salary trends and other post-completion trends.

**available from Gray Associates data subscription*

The initial offerings of this program are in response to feedback collected during listening sessions conducted with ranch managers, absentee owners, family ranchers, legislators, representatives from agencies working with agriculture, and students. These sessions yielded a high level of engagement and feedback on a statewide scale.

In addition, a 2022 USDA report noted that available employment opportunities in the food, agriculture, renewable natural resources and the environment sector will remain steady and strong. Between 2020 and 2025, they expect an average of 7,900 annual job openings for new graduates. College graduates with degrees from institutions offering food, agriculture, renewable natural resources and environmental programs will fill 92% (7,300) of the annual openings, with the other 8% (600) filled by

graduates from allied fields of study. The report also points out that **employers in this cluster value and seek graduates with practical experience.**

Market analysis has been completed using Gray Associates' data which suggests a fairly high student demand overall and a positive employment outlook. As the RMAL degree would be interdisciplinary and include important content from the aforementioned areas, multiple CIP codes were used to address the hybrid nature of this program. The percentiles for the related programs were as follows:

Program by CIP Code	**Laramie 360 Market Percentiles**		Total Percentile	**National Market Percentiles**		Total Percentile
	Student Demand	Employment Outlook	includes Competitive Intensity & Degree Fit percentiles	Student Demand	Employment Outlook	includes Competitive Intensity & Degree Fit percentiles
01.0000 Agriculture, General	74	96	92	84	91	89
01.0102 Agribusiness/Agricultural Business Operations	91	66	94	84	91	88
01.0901 Animal Science, General	97	13	92	97	16	96
01.9999 Agriculture, Agriculture Operations, and Related Sciences, Other	50	93	15	50	93	22
03.0201 Natural Resources Management and Policy	50	16	38	71	20	60
52.0201 Business Admin. and Mgmt, General	99	99	99	99	99	99

The interdisciplinary nature of the degree makes RMAL graduates eligible for a wide variety of jobs in each of these arenas. Data from Burning Glass's analysis of the following related occupations

- Farmers, Ranchers, and Other Agricultural Managers
- Buyers and Purchasing Agents
- First-Line Supervisors of Farming, Fishing, and Forestry
- Agricultural Inspectors
- Farm Labor Contractors

indicates growth (2021 – 2026) from 1.33% to 5.77% in these occupations with the exception of Buyers and Purchasing Agents, which shows a slight decline. The general trend, however, is positive, and there are also a number of state and federal jobs that will be available to our graduates in addition to those bulleted above.

Burning Glass data also supports the needs expressed by our stakeholders for graduates with developed skills in communications, management, negotiation, operations, and problem solving. This data is also in-line with Wiley's findings (presented in the Employer Appeal section above), and feedback received from Wyoming businesses.

The ability for RMAL graduates to obtain the *Professional Land Management Concentration* through the School of Energy Resources also increases their marketability. Currently, one of ERS's corporate partners is expecting to hire an additional 100 new Land Managers over the next 5 years, and the School of Energy Resources (ERS) will only be able to meet approximately 15% of that need with their graduates, creating those additional opportunities for RMAL graduates with this concentration.

From a salary perspective, it's worth noting that many larger ranches are being run under a corporate umbrella. This will impact salaries in a way that is not necessarily captured in the reporting, and most of these ranch and unit manager jobs - positioned within the corporate structure - will earn salaries which tend to run higher than the traditional average.

Average starting salary for an RMAL student in one of the federal jobs referred to earlier would be $49,028 (GS-9). The American Association of Professional Landmen (AAPL) places the entry level salary for a Land Man at $78,963. However, if the student is hired by an energy company instead of being a private contractor, that salary increases by 25%.

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Appendix A

Ranch Management and Agricultural Leadership Program Elements

RMAL Bachelors of Science

This degree provides students with a working knowledge of animal science, ag business, and rangeland management while preparing them as employees, managers, and leaders through courses that address communications, conflict, ethics, collaboration, human resources, policy etc.

RMAL, B.S./M.S. QuickStart

Extends the undergraduate degree by enabling highly-qualified students to be admitted to the M.S. program during the junior year of their B.S. program and work towards both. This additional year of courses is targeted to individuals expecting to manage production operations. Accepted students would earn a B.S. degree in RMAL and the M.S. degree in RMAL.

RMAL Masters Institute

Provides an opportunity for students with a prior undergraduate degree and two or more years experience working in ranching or agriculture to earn a Master of Science in Ranch Management and Agricultural Leadership.

Community-based Learning

This includes the spring Seminar Series and other courses or informal learning opportunities that provide information and options for area ranchers (and other supporting businesses) to improve their operations while exposing students to real world challenges in the industry and providing the chance to interact with ranchers, agribusiness folks, and other industry practitioners.

Micro-Credentials

A future element of RMAL will include earning Certificates and/or Endorsements. This pathway will provide the opportunity for individuals to keep their knowledge and skills current and allow employers a way to assess professional growth and capacity.

Complete the worksheet to reflect the anticipated coursework required of each student in the proposed program. Indicate in Column F whether each course is new ("Yes") or is currently being taught ("No").

Year	Semester	Course # / Name	Credit Hours	New Course (Yes/No)
Year1	Fall	AGEC 1020 or ECON 1020 - Principles of Microeconomics	3.0	No
Year1	Fall	MATH 1400 - College Algebra	3.0	No
Year1	Fall	ENGL 1010 - College Composition and Rhetoric	3.0	No
Year1	Fall	RMAL 1010 - Introduction to RMAL	4.0	Yes
Year1	Fall	LIFE 1010 - General Biology	4.0	No
Year1	Spring	CHEM 1000 - Introductory Chemistry	4.0	No
Year1	Spring	COJO 1040 - Intro to Human Comm Theory	3.0	No
Year1	Spring	POLS 1000 - American and Wyoming Government	3.0	No
Year1	Spring	COMP ####	3.0	Yes
Year1	Spring	REWM 2000 - Principles of Rangeland Management	3.0	No
Year1	Spring	AGRI 4990 - Topics/Seminar Series	1.0	Yes
Year2	Fall	ERS 2500 - Communication Across Topics in Energy	3.0	No
Year2	Fall	REWM 2400 - Range Ecosystems and Plants	4.0	No
Year2	Fall	SOIL 2010 - Introduction to Soil Science	4.0	No
Year2	Fall	OPTIONAL ELECTIVE		No
Year2	Spring	LIFE 2022 - General Biology	4.0	No
Year2	Spring	ANSC 2020 - Feeds and Feeding	4.0	No
Year2	Spring	AGEC 2020 - Farm and Ranch Business Management	4.0	No
Year2	Spring	RMAL 2040 - Quantatative Tools for Managing AG Resources	3.0	Yes
Year2	Spring	AGRI 4990 - Topics/Seminar Series	1.0	Yes
Year3	Fall	LEAD 2110 or AGRI 4700 - Elements of Leadership	3.0	Yes
Year3	Fall	RMAL 3000 - Beginning Ranch & Rangeland Problem Solving and Planning	3.0	Yes
Year3	Fall	STAT 2050 - Fundamentals of Statistics	4.0	No
Year3	Fall	ANSC 3010 - Comparative Anatomy and Physiology of Domestic Animals	4.0	No
Year3	Fall	RMAL 3020 - Public Policy and Regulatory Considerations for Ranch & Rangeland Mgmt	3.0	Yes
Year3	Spring	RMAL 4760 - Organizational Leadership in AG	3.0	Yes
Year3	Spring	AGRI 4990 - Topics/Seminar Series	1.0	Yes
Year3	Spring	ANSC 4540 - Principles of Animal Breeding	3.0	No
Year3	Spring	AGEC 4500 - Agricultural Finance	3.0	No
Year3	Spring	REWM 4100 - Nutritional Ecological Management of Range Herbivores	3.0	No
Year3	Spring	PLNT 4070 - Weed Science and Technology	4.0	No
Year4	Fall	REWM 4330 - Rangeland Ecosystem Assessment and Monitoring	4.0	No
Year4	Fall	AGEC 4830 - Agricultural Commodities & Futures Markets	3.0	Yes
Year4	Fall	AGEC 4640 - Advanced Farm/Ranch Management	3.0	No
Year4	Fall	ANSC 4120 - Principles of Mammalian Reproduction	4.0	No
Year4	Fall	OPTIONAL ELECTIVE		No
Year4	Spring	RMAL 4800 - Leadership & Collaboration Strategies To Address Contemporary Challenges In Agriculture	3.0	Yes
Year4	Spring	ANSC 4220 - Advanced Beef Production and Management	3.0	No
Year4	Spring	RMAL 4000 - Advanced Integrated Ranch & Rangeland Problem Solving and Planning	3.0	Yes
Year4	Spring	PLNT 4700 - Forage Crop Science	3.0	No
Year4	Spring	AGRI 4990 - Topics/Seminar Series	1.0	Yes
Year4	Spring	OPTIONAL ELECTIVE		No
			122.0	

Year 1	
Fall	17.0
Spring	17.0
Summer	0.0
Total	**34.0**
Year 2	
Fall	11.0
Spring	16.0
Summer	0.0
Total	**27.0**
Year 3	
Fall	17.0
Spring	17.0
Summer	0.0
Total	**34.0**
Year 4	
Fall	14.0
Spring	13.0
Summer	0.0
Total	**27.0**
TOTAL HOURS	**122.0**
Net New	**35.0**

Appendix C

Quick Start - Degree Plan by Semester

Year	Semester	Course # / Name	Credit Hours	New Course (Yes/No)
Year1	Fall	AGEC 1020 or ECON 1020 - Principles of Microeconomics	3.0	No
Year1	Fall	MATH 1400 - College Algebra	3.0	No
Year1	Fall	ENGL 1010 - College Composition and Rhetoric	3.0	No
Year1	Fall	RMAL 1010 - Introduction to RMAL	4.0	Yes
Year1	Fall	LIFE 1010 - General Biology	4.0	No
Year1	Spring	CHEM 1000 - Introductory Chemistry	4.0	No
Year1	Spring	COJO 1040 - Intro to Human Comm Theory	3.0	No
Year1	Spring	POLS 1000 - American and Wyoming Government	3.0	No
Year1	Spring	COMP ####	3.0	Yes
Year1	Spring	REWM 2000 - Principles of Rangeland Management	3.0	No
Year1	Spring	AGRI 4990 - Topics/Seminar Series	1.0	Yes
Year2	Fall	ERS 2500 - Communication Across Topics in Energy	3.0	No
Year2	Fall	REWM 2400 - Range Ecosystems and Plants	4.0	No
Year2	Fall	SOIL 2010 - Introduction to Soil Science	4.0	No
Year2	Fall	OPTIONAL ELECTIVE		No
Year2	Spring	LIFE 2022 - General Biology	4.0	No
Year2	Spring	ANSC 2020 - Feeds and Feeding	4.0	No
Year2	Spring	AGEC 2020 - Farm and Ranch Business Management	4.0	No
Year2	Spring	RMAL 2040 - Quantatative Tools for Managing AG Resources	3.0	Yes
Year2	Spring	AGRI 4990 - Topics/Seminar Series	1.0	Yes
Year3	Fall	LEAD 2110 or AGRI 4700 - Elements of Leadership	3.0	Yes
Year3	Fall	RMAL 3000 - Beginning Ranch & Rangeland Problem Solving and Planning	3.0	Yes
Year3	Fall	STAT 2050 - Fundamentals of Statistics	4.0	No
Year3	Fall	ANSC 3010 - Comparative Anatomy and Physiology of Domestic Animals	4.0	No
Year3	Fall	RMAL 3020 - Public Policy and Regulatory Considerations for Ranch & Rangeland Mgmt	3.0	Yes
Year3	Spring	RMAL 4760 - Organizational Leadership in AG	3.0	Yes
Year3	Spring	AGRI 4990 - Topics/Seminar Series	1.0	Yes
Year3	Spring	ANSC 4540 - Principles of Animal Breeding	3.0	No
Year3	Spring	AGEC 4500 - Agricultural Finance	3.0	No
Year3	Spring	REWM 4100 - Nutritional Ecological Management of Range Herbivores	3.0	No
Year3	Spring	PLNT 4070 - Weed Science and Technology	4.0	No
Year4	Fall	REWM 4330 - Rangeland Ecosystem Assessment and Monitoring	4.0	No
Year4	Fall	AGEC 4830 - Agricultural Commodities & Futures Markets	3.0	Yes
Year4	Fall	AGEC 4640 - Advanced Farm/Ranch Management	3.0	No
Year4	Fall	ANSC 4120 - Principles of Mammalian Reproduction	4.0	No
Year4	Fall	OPTIONAL ELECTIVE		No
Year4	Spring	RMAL 4800 - Leadership & Collaboration Strategies To Address Contemporary Challenges In Agriculture	3.0	Yes
Year4	Spring	ANSC 4220 - Advanced Beef Production and Management	3.0	No
Year4	Spring	RMAL 4000 - Advanced Integrated Ranch & Rangeland Problem Solving and Planning	3.0	Yes
Year4	Spring	PLNT 4700 - Forage Crop Science	3.0	No
Year4	Spring	AGRI 4990 - Topics/Seminar Series	1.0	Yes
Year4	Spring	OPTIONAL ELECTIVE		No
Year5	Fall	RMAL 5040 - Comprehensive Manager Development	3.0	Yes
Year5	Fall	AGEC 5450 - Negotiation	3.0	No
Year5	Fall	MBAM 5208 - Managerial Accounting	3.0	No
Year5	Fall	Course related to Focus of Plan B Paper	3.0	No
Year5	Spring	RMAL 5060 - Technological Approaches to Ranch Mgmt	3.0	Yes
Year5	Spring	Course related to Focus of Plan B Paper	3.0	No
Year5	Spring	Course related to Focus of Plan B Paper	3.0	No
Year5	Spring	Thesis/Plan B Paper	4.0	No
			147.0	

Year 1	
Fall	17.0
Spring	17.0
Summer	0.0
Total	**34.0**
Year 2	
Fall	11.0
Spring	16.0
Summer	0.0
Total	**27.0**
Year 3	
Fall	17.0
Spring	17.0
Summer	0.0
Total	**34.0**
Year 4	
Fall	14.0
Spring	13.0
Summer	0.0
Total	**27.0**
TOTAL HOURS	**122.0**
Net New	**41.0**

Year 5 (+1)	
Fall	12.0
Spring	13.0
Summer	0.0
Total	**25.0**

Code	Agricultural & Applied Economics	CHs	Code	Animal Science	CHs	Code	Ecosystem Science and Management	CHs	Code	RMAL	CHs	CODE	Leadership & Related	CHs	CODE	*Addtl Disciplines*	CHs	CODE	*Requirements*	CHs
AGEC 1020 or ECON 1020	Principles of Microeconomics or Principles of Microeconomics **USP H**	3	ANSC 2020	Feeds and Feeding	4	REWM 2000	Principles of Rangeland Management	3	RMAL 1010	Introduction to RMAL **USP FYS**	4	AGRI 4700 or LEAD 2110	Elements of Leadership	3	STAT 2050	Fundamentals of Statistics	4	CHEM 1000	Introductory Chemistry **USP PN**	4
AGEC 2020	Farm and Ranch Business Management	4	ANSC 3010	Comparative Anatomy and Physiology of Domestic Animals	4	REWM 2400	Range Ecosystems and Plants	4	RMAL 2040	Quantitative Tools for Managing AG Resources	3	RMAL 4760	Organizational Leadership in Agriculture **will submit for approval for USP C3**	3	PLNT 4070	Weed Science and Technology	4	COJO 1030 or COJO 1040 or PHIL 2300	Interpersonal Comm Intro to Human Comm Theory Ethics in Practice **USP H**	3
AGEC 4500	Agricultural Finance	3	ANSC 4120	Principles of Mammalian Reproduction	4	REWM 4100	Nutritional Ecological Management of Range Herbivores	3	RMAL 3000	Beginning Ranch & Rangeland Problem Solving and Planning	*3*	RMAL 4800	Leadership and Collaboration Strategies To Address Contemporary Challenges In AG	3	PLNT 4700	Forage Crop Science	3	ERS 2500 or COMM 2010	Communication Across Topics in Energy or Public Speaking **USP C2**	3
AGEC 4640	Advanced Farm/Ranch Management	3	ANSC 4220 or ANSC 4230	Advanced Beef OR Sheep Production and Management	3	REWM 4330	Rangeland Ecosystem Assessment and Monitoring	*4*	RMAL 3020	Public Policy and Regulatory Considerations for Ranch & Rangeland Mgmt	3				AGRI 4990	FR - Topics and Connections in RMAL	1	COMP ####	*need to hold for a computing course*	***3***
AGEC 4830	Agricultural Commodities & Futures Markets	3	ANSC 4540	Principles of Animal Breeding (genetics)	3	SOIL 2010	Intro to Soil Science	4	RMAL 4000	Advanced Integrated Ranch and Rangeland Problem Solving and Planning	3				AGRI 4990	SO - Topics and Connections in RMAL	1	ENGL 1010	College Composition and Rhetoric **USP C1**	3
			LIFE 2022	Animal Biology	4										AGRI 4990	JR - Topics and Connections in RMAL	1	LIFE 1010	General Biology **USP PN**	4
															AGRI 4990	SR - Topics and Connections in RMAL	1	MATH 1400	College Algebra **Q**	**3**
																		POLS 1000	American & Wyoming Gov **USP V**	3
		16			**22**			**18**			**16**			**9**			**15**			**26**
																			TOTAL	**122**
									RMAL 4970	Internship	0-2									
									RMAL 4971	Internship	0-2									
									RMAL 4972	Internship	0-2									

Element	Code	Course Title	CHs	Description	Mode
BS	AGEC 4830	Agricultural Commodities & Futures Markets	3	*Currently: Economics of price determination for agricultural commodities and development of pricing strategies in cash and futures markets.* Want a similar class but redesigned to address more of the following: AG marketing; commodities, niche marketing, etc., and also incorporates the futures, options, and other ranch management tools. Introduces and utilizes Risk Management tools (like Livestock Risk Protection) and viability of range, pasture, and foraging insurance.	F to F
BS	AGRI 4700 or LEAD 2110	Elements of Leadership	3	4700 - focuses on a basic understanding of theory & practice. Will develop self-awareness and provide a foundation for continued development of leadership skill in the workplace, the community and the home. 2110 - gateway course for the university's leadership program, introduces students to leadership theory and helps them to id their leadership potential. Learn to define and understand the multifaceted concept of leadership through an interdisciplinary study and develop leadership competencies through experiential coursework. OR **Combine components of each into a new RMAL course**	F to F
BS	AGRI 4990	Topics/Seminar Series FR	1	Topics and Connections in RMAL changes each year based on current affairs, challenges, and trends	Blended
BS	AGRI 4990	Topics/Seminar Series SO	1	Topics and Connections in RMAL changes each year based on current affairs, challenges, and trends	Blended
BS	AGRI 4990	Topics/Seminar Series JR	1	Topics and Connections in RMAL changes each year based on current affairs, challenges, and trends	Blended
BS	AGRI 4990	Topics/Seminar Series SR	1	Topics and Connections in RMAL changes each year based on current affairs, challenges, and trends	Blended
BS	COMP ####	*holding for computing course*	***3***	Content TBD need to hold for a course on computing relative to agriculture	F to F

Element	Code	Course Title	CHs	Description	Mode
BS	RMAL 1010	Introduction to RMAL	4	Course will include: Livestock Handling 1 week condensed intro to AGEC 1 weeks condensed intro to REWM 3 weeks condensed intro to ANSC Visiting presenters/employers will speak to how the curriculum will prepare students for jobs in their organizations/operations (Make sure we are including FS, BLM, etc.) Overview & history of the mission of Land Grant institutions Course also includes a Lab *Blended modality will allow for community college students transferring into the RMAL program to take this course while still at their respective colleges.	Blended*
BS	RMAL 2040	Quantitative Tools for Managing AG Resources	3	Course covers common agribusiness management activities. This includes using Excel & QuickBooks, creating a chart of accounts in QuickBooks, and basic accounting principles. Ranch record keeping, production records, financial statements and other relevant topics will be covered as well as managing and analyzing the data.	F to F
BS	RMAL 3000	Beginning Ranch & Rangeland Problem Solving and Planning	*3*	*Team taught by faculty from at least 3 of the 4 core scientific disciplines in RMAL. Will include integrated problem solving on an* *introductory scale. Students will be required to develop a Ranch Plan.*	Blended
BS	RMAL 3020	Public Policy and Regulatory Considerations for Ranch & Rangeland Mgmt	3	Politics, organizations, structures and processes of state and local governments Public policy Advocacy (and initiating and following through legislation) Collaborative approaches to problem solving	F to F
BS	RMAL 4000	Advanced Integrated Ranch and Rangeland Problem Solving and Planning	3	Team taught by faculty from at least 3 of the 4 core scientific disciplines in RMAL as well as a faculty with Leadership background. Will include integrated problem solving on an advanced scale.	Blended

Element	Code	Course Title	CHs	Description	Mode
BS	RMAL 4760	Organizational Leadership in Agriculture	3	Study of individual, group, and organizational processes that affect employee behavior at work (Building on the foundations of leadership course from LEAD or AGRI) Uses guest presenters from various leadership roles across the AG industry spectrum STs draw upon prior learning to lead an experiential project related to an AG related business Continued learning re: effective leadership through the lens of practitioner-oriented literature and applied learning in advanced casework Instructor acts as leadership coach who helps students refine their leadership competencies and enhance leadership potential (will submit for approval for USP C3)	F to F
BS	RMAL 4800	Leadership and Collaboration Strategies To Address Contemporary Challenges In Agriculture	3	Capstone The course will be a combination of content offered in the AGRI 3000 & 4350 courses, as well as the review of multiple case studies where competing interests were successfully resolved. Students apply organizational leadership perspectives and methods to the resolution of a variety of simulations and real world problems. It will emphasize leadership development as a tool for individual, organizational, and community problem solving. Application of new skills, knowledge, and perspectives to scenarios involving civic engagement and organizational culture will be presented. Students will be accessing, evaluating, and utilizing information and ideas, and communicating the information and ideas effectively and responsibly for the purpose of resolution & problem-solving. Skills developed and applied through an agricultural and community building lens. They will also be building on RMAL 4760 to advance competency in *negotiation *conflict resolution (fed agc.s, neighbors, environmentalists etc.) *addressing environmental conflicts *collaborative approaches to problem solving *industry advocacy	F to F

Element	Code	Course Title	CHs	Description	Mode
B.S./M.S. QuickStart					
MS	RMAL 5040	Comprehensive Manager Development	3	This course addressed the formal systems used to manage people at work. Content will include, but is not limited to: •job analysis •job evaluation •performance evaluation •wage and salary administration •employee services and fringe benefits •diversity •concepts and procedures of EEO •safety	F to F or Online
MS	RMAL 5060	Technological Approaches to Ranch Management	3	This course addresses the advanced integration of technologies with operational decision-making. Student swill have the opportunity to interact with the newest research areas impacting ranching and related operations; exploring learnings from what is working as well as what did not work	F to F

This chart shows the courses that will contribute to each competency. For Core Technical Knowledge, the student will need a cumulative grade of 70% or higher in the courses that fall under that competency. For the Skill and Ability competencies, students will need to demonstrate growth year over year through experiential activities and self-reflections, as well as scoring 70% or higher in the courses contributing to the development of that particular competency.

Core Technical Knowledge							Skills and Abilities Competencies					
Animal Production	**Business/ Ops Management**	**Forage Production**	**Rangeland Management**	**Soil Management**	**Leadership**		**Communications**	**Critical Thinking**	**Data Analysis**	**Leading Others**	**Problem Solving**	**Self-awareness and E. I.**
ANSC 3010	AGEC 1020 or ECON 1020	RMAL 1010	RMAL 1010	RMAL 1010	AGRI 4700 or LEAD 2110		USP H selection	RMAL 3000	RMAL 3000	RMAL 4000	RMAL 3000	AGRI 4700 or LEAD 2110
ANSC 4120	AGEC 2020	ANSC 2020	ANSC 2020	RMAL 3000	AGRI 4990		ENGL 1010	RMAL 3020	RMAL 3020	RMAL 4760	RMAL 3020	RMAL 4760
ANSC 4220 or ANSC 4230	AGEC 4500	PLNT 4700	PLNT 4070	RMAL 4000	RMAL 3020		ERS 2500 or COMM 2010	RMAL 4000	RMAL 4000	RMAL 4800	RMAL 4000	RMAL 4800
ANSC 4540	AGEC 4640	RMAL 3000	RMAL 3000	RMAL 4800	RMAL 4000		RMAL 3020	RMAL 4760	RMAL 4800		RMAL 4760	
RMAL 1010	AGEC 4830	RMAL 4000	RMAL 4000	SOIL 2010	RMAL 4760		RMAL 4000	RMAL 4800	STAT 2050		RMAL 4800	
RMAL 3000	RMAL 1010	RMAL 4800	RMAL 4800	REWM 2000	RMAL 4800		RMAL 4760	AGRI 4990				
RMAL 4000	RMAL 2040	REWM 2000	REWM 2000				RMAL 4800					
RMAL 4800	RMAL 3000	REWM 2400	REWM2400				AGRI 4990					
REWM 4100	RMAL 4000	REWM 4330	REWM 4100									
	RMAL 4800		REWM 4330									
SOAR Events and Tasks (Activities) examples							**SOAR Events and Tasks (Activities) examples**					
Woolgrowers Mtg	Course content application during internship	WY Crop Improvement Assoc Mtg.s	Society for Range Management Mtg.s and Tours	NRCS Soil Health Workshops	Laramie Leadership series		LinkedIn (LI) Learning: Active Listening	LI Learning: Developing a Critical Thinking Mindset	UWYO: Analysis/Problem Identification	LI Learning: Developing Organizational Awareness	LI Learning: Critical Thinking & Problem Solving	LI Learning: Strategies to Improve Self-Awareness
Stockgrowers Mtg	Farm Bureau Discussion Meet	WY Hay Show	Extension programs (Like WY Farm & Ranch Days)		School Board or City Council mtg		*Active Listening Exercise*	CT Exercise	LI Learning: Learning Excel: Data Analysis	LI Learning: The power of considering different viewpoints	LI Learning: Take a More Creative Approach to Problem Solving	LI Learning: The Neuroscience of E.I. and Self-Awareness
USDA Cattle and Carcass Training events							*Active Listening Reflection*	LI Learning: Critical Thinking for Better Judgment and Decision-Making	LI Learning: Data Visualization for Data Analysis and Analytics	LI Learning: Asking Powerful Questions		
							LI Learning: Becoming a Better Listener			LI Learning: Leading with Emotional Intelligence		

Appendix G

Supplemental Assessment Tool (Map)

	Freshman											Sophomore							
	AGEC 1020	CHEM 1000	COJO 1040	COMP ####	ENGL 1010	LIFE 1010	MATH 1400	AGRI 4990	POLS 1000	REWM 2000	RMAL 1010	AGEC 2020	ANSC 2020	ERS 2500	LIFE 2022	REWM 2400	AGRI 4990	RMAL 2040	SOIL 2010
Content/Discipline Knowledge																			
Animal Production										I	I		I						
Business/Operations Management	I											I						I	
Forage Production										I	I								
Rangeland Management										I	I					R			
Soil Management																			I
People Management								I									I		
Leadership								I									I		
Communications			I		I			I						R			I	I	
Computing				I														I	
Additional Competencies (Skills & Abilities)																			
communications (written, verbal, public speaking, conflict res)					I									R			R		
critical thinking										R							R		
data analysis (i.e. information literacy; analysis, synthesis, vetting of information)										R									
leading others (authenticity, trust building, motivating)																			
problem solving											I								
resource management (id'ing & utilizing appropriate resources: community support resources, grants, etc.)								I		R							I		
self-awareness (& EI)																			

	Junior											Senior								
	AGEC 4500	LEAD 2010	ANSC 3010	ANSC 4540	PLNT 4070	REWM 4100	RMAL 3000	RMAL 3020	AGRI 4990	RMAL 4760	STAT 2050	AGEC 4640	AGEC 4830	ANSC 4120	ANSC 4220	PLNT 4700	REWM 4330	RMAL 4000	AGRI 4990	RMAL 4800
Content/Discipline Knowledge																				
Animal Production			I	I		R	R							R	R			R		
Business/Operations Management	R						R			R		R	R					R		R
Forage Production					I	R	I									I				
Rangeland Management						R	R								R		R	R		
Soil Management							I													
People Management								R	R	R								R	R	R
Leadership		I						R	R	R								R	R	R
Communications								R	R	R								R	R	R
Computing																				
Additional Competencies (Skills & Abilities)																				
communications (written, verbal, public speaking, conflict res)								R	R	R									R	R
critical thinking								R	R								R	R	R	R
data analysis (i.e. information literacy; analysis, synthesis, vetting of information)							R	R			I or R						R	R		R
leading others (authenticity, trust building, motivating)		I						R		R										R
problem solving							R	R		R								R		R
resource management (id'ing & utilizing appropriate resources: community support resources, grants, etc.)									R	R							R	R	R	R
self-awareness (& EI)		I								R										R

Anne DeMersseman

From: Higher Learning Commission <changerequests@hlcommission.org>
Sent: Tuesday, April 4, 2023 1:02 PM
To: Anne DeMersseman
Subject: HLC Certificate Program Screening Form Submission

Higher Learning Commission

Dear Anne DeMersseman,

Thank you for completing the Higher Learning Commission's (HLC's) Certificate Program Screening Form. Based on the information you provided, the requested certificate program listed below does not require individual approval from HLC because at least 50% of the program is made up of existing courses or the program is a subset of an existing degree program. HLC accepts this certificate as one of your institution's academic programs. The program will be added to HLC's records of the academic programs considered as part of your institution's accreditation.

CIP code and program name: 01.0000 - Agriculture, General.
Course catalog name: Ranch Management and Agricultural Leadership
Credential level: Bachelor
Total credit hours: 122

Note: If the institution is outsourcing a portion of this program to an external entity, it may need to apply for prior HLC approval of that third-party arrangement. If the institution is partnering with an entity that is not accredited by an agency recognized by the U.S. Department of Education as an institutional accreditor, please complete the Contractual Arrangements Screening Form to determine if HLC approval is required.

Please keep this communication for your records. If you have any questions or concerns, please do not hesitate to contact me.

Thank you,
Tamas Horvath
Associate Director, Substantive Change
Higher Learning Commission
thorvath@hlcommission.org
800.621.7440, ext. 137

New Degree or Certificate Proposal Feasibility Study Template

Feasibility Study for the Ranch Management and Agricultural Leadership Program

Executive Summary

Degree or Certificate Title: Bachelor of Science in Ranch Management and Agricultural Leadership (RMAL)

Level of Degree or Certificate: Bachelor of Science

Delivery Mode(s): Integration of formal and informal learning experiences, including campus-based lectures and seminars, experiential learning, engagement with industry professionals, and internships. individual courses may be delivered online.

Estimated Startup Cost of Degree: Endowment and other College funds have been used to support and Interim Director, an Associate Director, and a temporary Program Coordinator.

Anticipated Launch Date: Fall 2024

Description: The RMAL degree integrates many of the existing courses and faculty expertise of academic departments within the College of Agriculture, Life Sciences and Natural Resources (CALSNR). This program will be administered at the College level with resources and recognition shared among all participating departments. The degree is profoundly interdisciplinary, as the objective is for students to develop a foundational level of competency in animal production, agricultural business operations, forage production, and rangeland and soil management as well as developing critical competencies in leadership, communications, human resources management, and technology.

In addition, there will also be a Masters in Ranch Management and Agricultural Leadership (RMAL) that will utilize the *Quick Start* model with a Plan B requirement focused on developing specific strategies to address one of the many complex challenges faced by contemporary ranch, rangeland, natural resource, and agri-business managers. Our master's program has an anticipated launch date of Fall 2024 (pending student interest) or Fall 2025.

Future components of the degree (e.g., certificates and other micro-credentials) will be delivered in conjunction with the UW College of Agriculture, Life Sciences, and Natural Resources Faculty, other UW Faculty members, UW Extension personnel, and industry professionals.

Vision (Why was this program developed?)

To graduate students deliberately prepared to take on the challenges of working in the agricultural industry and through developed leadership skills, advance that industry and enhance the quality of life in the West.

Mission (How will we get there?)

By meeting the needs of students and the industry through delivery of a distinctive learning program that provides for the synthesis of knowledge and experiences, combined with opportunities to develop, and grow the behavioral skills necessary for successful performance and leadership.

Table of Contents

Feasibility Study Required Contents:

Overview and Description of Degree or Certificate, Purpose, Strategic Play Overlay

Describe and outline:

- The degree's objectives

The nature of ranch management and agricultural leadership today requires professionals to have an integrated understanding across a broad array of disciplines, while demonstrating strong interpersonal skills that allow for effective teamwork, collaboration, and development and retention of talent. The Ranch Management and Agricultural Leadership program is designed to meet those needs through a commitment to interdisciplinary instruction and numerous applied and experiential activities, both formal and informal.

We propose to develop multiple pathways for RMAL in response to the diverse needs of students. See Appendix A for an overview of current and future elements of the program.

The B.S. curriculum is 122 credit hours designed to be completed within a four-year period. This includes a topics course each spring (Seminar Series) that will help reinforce critical connections between a student's coursework, industry challenges, and future employment.

The B.S. degree plan has been constructed with the flexibility to accommodate an additional nine credit hours (beyond the 122). These open periods could be filled with three specific School of Energy courses (eight credit hours total), that in combination with the courses already laid out in the RMAL Degree Plan, result in a Land Administration Certificate. (The new block tuition model allows this pathway for a student at no additional cost.) These open elective credit hours could also be used by a student who is interested in the Quick Start masters, as they will be required to start some of that course work during their junior and senior years in order to complete the master's degree in one calendar year after completion of the BS degree.

The proposed degree plan also fulfills the OPM's (U.S. Government's Office of Personnel Management) occupational requirements for a number of federal positions. This opens up opportunities for students to work for federal agencies by qualifying for 14 different *Job Series*, including the more strenuous "series 454".

For future consideration are the certificate and endorsement programs that will allow both existing practitioners and students the opportunity for credentialed, and/or non-formal learning experiences, thus balancing the research with the lived experience.

Planning is also underway for a separate Master of Science in Ranch Management and Agricultural Leadership; an advanced program track for a select group of students that have already received a bachelor's and have two plus years of professional experience and want to grow their skills set. This track will allow a student to graduate with a Master of Science in Ranch Management.

The goal of the program and each of its degrees is to produce individuals who are work-place ready and uniquely qualified. Graduates will have technical expertise and practical experience in the core disciplines of Animal Production, Business & Operations Management, Forage Production, Rangeland

and Soil Management, and Leadership, as well as the skills necessary to thrive in today's working environment.

Broadly defined, RMAL will be characterized by interdisciplinary intersections of business operations, resource utilization and production, law and policy, leadership and management, and problem solving. Participants will:
1) develop the skills, knowledge, and practical experience to be successful in a wide variety of agriculture and natural resources based careers;
2) develop the behavioral skills and emotional intelligence to be valuable employees and leaders;
3) hone an interdisciplinary and collaborative approach to problem solving;
4) excel in innovative and critical thinking;
5) learn how to identify, evaluate, and use resources for effective decision-making;
6) develop leadership and communication skills that will benefit their employers and communities; and
7) develop mentorships and professional networks relevant to their career objectives.

Core pillars of the student experience will be the interdisciplinary nature of instruction, numerous applied and experiential activities, and opportunities to integrate those experiences throughout the program in the pursuit of more developed critical thinking and improved problem solving. We will structure the educational experiences to:
1) enable continuous, high-quality student-to-faculty, student-to-practitioner, and peer-to-peer learning;
2) provide experiential, hands-on problem solving reflecting real world, contemporary, and emerging challenges;
3) create opportunities for practitioners, as well as faculty across UW, to participate in interdisciplinary educational opportunities.

- It's fit with the college's current offerings

Approximately 52% (63 credit hours) of the undergraduate program already exist within the CALSNR, another 25% (30 credit hours) exist in other colleges, and 24% (29 credit hours) will be new courses specific to the learning objectives for RMAL students. (Note that these 29 new RMAL credit hours deviate by six when compared to Appendix B's total new credit hours, as six (6) of the new credit hours listed there represent three credit hours in Agricultural Economics and three credit hours in Computing.)

RMAL content will leverage the technical core offerings of Animal Production, Business & Operations Management, Forage Production, Rangeland and Soil Management, and Leadership. Additional topical core areas will include collaboration and facilitation, communications, ethics, human resources management, civic learning, democratic engagement, professional & personal development, research and decision analysis, and technology and computational applications in agriculture. This content could appear in distinct courses or interwoven into the RMAL curriculum, and will include collaborating with faculty outside of CALSNR. The key component of the RMAL degree is the opportunity for students to weave a subset of disciplines and topics into applied practice, problem solving, and advancement of the industry.

There will also be an instructor support component that incentivizes and supports faculty in their development of innovative approaches to interdisciplinary collaboration, in-depth integration, experiential learning, and team teaching. This component will utilize resources from the ECTL, and also hopes to leverage research and innovation coming out of the Trustees Education Initiative. To meet our goals, we will encourage and support teaching in the RMAL curriculum which is innovative, experiential, collaborative, and relevant to real world challenges. Our hope is that this engagement-focused pedagogy will be of benefit to all.

And finally, we take to heart the concept that "The World Needs More Cowboys" and its hallmarks of curiosity, boldness, authenticity, and outside thinking. We envision the program itself as a breakthrough in an interdisciplinary approach that takes the most passionate and knowledgeable in their fields, and provides them the tools to become amazing co-instructors, integrating topics with application and experience on a new level.

RMAL was designed to avoid competition and redundancy with existing programs where possible. Our program as envisioned complements our current curriculum and takes relevant components from our existing disciplines and combines them with applicable components from disciplines outside the CALSNR. The interdisciplinary mandate in RMAL will allow students to develop proficiency, not expertise, in the broad range of topics they will need as ranch managers, in agribusiness, and as leaders in the agricultural and natural resource fields. This will allow those students who historically had to select an area of expertise to work in the ranch and agricultural fields - but were left without a background in a number of other key topic areas - to have a broader range of knowledge and skills to take to market.

- The rationale for the program, and niche/gap the degree or certificate will fill.
    - Why will it appeal to students?
    - To employers?
    - Graduate schools?

This program represents the specifically expressed needs of students, employers, and stakeholders throughout Wyoming and the region. These needs were identified through multi-year listening sessions and structured engagement events in several Wyoming communities. The RMAL program fulfills our mission of improving the lives of individuals, businesses, and communities within the state. The competencies identified for this program are increasingly valued throughout the agribusiness industry, and by NGOs, biotech, and state and federal agencies. Providing interdisciplinary content and essential skill development in the ranch and agribusiness arenas will add an essential dimension to UW's College of Agriculture, Life Sciences, and Natural Resources programs.

STUDENT APPEAL

RMAL will recruit and retain students that are seeking authentic real-world experiences in an interdisciplinary setting. Employers in these fields have been very candid in articulating the need for employees with essential skills in communication, collaboration, problem-solving, management, and leadership. The goal of this program is to meet the needs expressed by those employers, and our students, by moving beyond traditional single focused disciplines and being very intentional in combining disciplines with experiential and applied learning to produce solid and diverse practitioners.

Part of the appeal to learners will be the number of options based on content needed. The multiple elements being developed for RMAL; the bachelor's track, the Quick Start (4+1), the Spring Seminar series, the certificate/endorsement plans delivered in conjunction with the college faculty, UW Extension personnel, and industry professionals, and the two year Maser of Science in RMAL, as well as multiple in-formal learning opportunities, are begin designed to fit the diverse level of needs represented by all our learners. This variety will appeal to a broader pool of students and provide different levels of opportunity for individuals to advance their skill sets depending upon their career aspirations.

The B.S. degree is focused on the interdisciplinary needs of those students with RMAL career objectives. This interdisciplinary, experiential learning, 4-yr degree also allows students to engage in discovery across multiple core areas without a specific disciplinary focus.

The Quick Start (4+1) option for a Master's degree will provide more robust content in the area of people management, Human Resources knowledge, and Managerial Accounting. It will also allow a student to engage in upper-level coursework in a focus area as determined by their Plan B problem statement. This could mean additional course work in property and contract law, environmental and land use regulations, and energy and emerging economic opportunities for example.

There are also future plans for an advanced program track for a select group of students who have already received a bachelor's and have two plus years of professional experience and want to grow their skills set. This pathway will allow them to graduate with a Master of Science in Ranch Management. In addition, we will develop certificate and endorsement programs that will allow both existing practitioners and students the opportunity for credentialed, and/or non-formal learning experiences, thus balancing the research with the lived experience.

The current proposed degree plan also fulfills the OPM's occupational requirements for a number of federal positions. This opens up opportunities for students to work for federal agencies by qualifying for 14 different *Job Series*, including the more difficult to obtain "series 454". This eligibility increases the number of jobs available to our students after graduation.

0454- Rangeland Management Specialist - most important and hardest to qualify for
0455- Rangeland Technician
0401- Natural Resources Management Specialist
0457 - Soil Conservationist
0487- Animal Scientist
0421 - Plant Protection Specialist
0459- Irrigation Systems
1145 - Ag Program Specialist
1146- Ag Marketing Specialist
1161- Crop Insurance Specialist
1165- Ag Loan Specialist
1850- Ag Warehouse Inspector
1863- Food Inspector
1980- Commodity Grader

(This list does not include potential state government jobs).

As was mentioned earlier, with room in their 4-year schedule for an additional nine credit hours that can be taken in conjunction with the 122 credit hours laid out in the RMAL Degree Plan, students can complete the requirements and receive the Professional Land Management Concentration ('landman'). The new block tuition model allows this pathway for a student at no additional cost.

The curriculum for the Bachelor of Science was developed in part with feedback from community colleges interested in facilitating 2+2 options for their graduates. Community colleges both within and outside of Wyoming have expressed interest in the RMAL program, including Casper College, Central Wyoming College, Eastern Wyoming College, Gillette College, Laramie County Community College, Northwest College, and Snow College of Utah among others.

Also, under consideration for future years would be a minor designed for students in disciplines who will be working with ranchers and other agricultural producers, where work in their chosen field would benefit from the students' learning more about the challenges and opportunities in production agriculture and related operations.

EMPLOYER APPEAL

One of the key themes from the statewide listening sessions was the disconnect between our disciplinary-focused graduates, and the interdisciplinary imperative to being a successful ranch manager, rangeland manager, or agribusiness professional. Another theme was the difficulty in hiring individuals with effective interpersonal and leadership skills.

These concerns are supported by a 2022 Wiley (multinational publishing, education and research company) study that found significant skill gaps and workplace demand for employees with the following:

- Strategic thinking and analytical skills
- Problem-solving skills
- Digital communication skills
- Leadership skills
- Time management skills
- Ability to adapt to change.

This program addresses the obvious need for producing better prepared students. But it also addresses the related need of retaining those good employees. The behavioral and leadership skills developed in both the BS curriculum and the seminars will support managers and employers in creating cultures that will contribute to retaining those more skilled employees.

The same study found that many of these technical and 'soft' skills had a shelf life of two to five years. The Seminar Series, and the future certificate and endorsement programs supports the need for continuous learning and keeping current with technological advances.

The program is also positioned to respond to shifting in the regional workforce from a preponderance of extractive industries to a focus on renewables. The interdisciplinary opportunities and access to the work being done in the School of Energy will help meet this current trajectory impacting workforce demands in Wyoming.

GRADUATE SCHOOL APPEAL

It is important to note that this program is not being established to set students up for graduate studies in a specific core science discipline, the attributes we are targeting are those that would make a successful graduate student in a range of disciplines; students will be best poised for moving into programs with more applied thinking such as leadership or business.

RMAL itself will have two graduate school options built into it. A Quick Start option for enrolled RMAL undergraduates and an advanced program track for a select group of students that have already received a bachelor's and have two plus years ranching experience and wish to grow their skills set. Both tracks will allow them to graduate with a Master of Science in Ranch Management.

- How the degree will support UW's Strategic Plan, and the relevant college's strategic plan

This program itself is aligned with President Seidel's four strategic pillars: Interdisciplinary, Digital, Entrepreneurial, and Inclusive. Specifically, the success of the RMAL Program not only leverages, but will depend upon impactful collaboration with the College of Business (COB), School of Computing (SOC), School of Energy Resources (SER), and the Ellbogen Center for Teaching and Learning (ECTL), as well as with the CALSNR's disciplines of Agricultural Business, Animal and Veterinary Science, Rangeland Ecology and Watershed Management, and Plant Sciences.

As described earlier, the undergraduate curriculum has been designed to allow for nine additional credit hours that can be used for earning the Professional Land Management Concentration through the School of Energy Resources or taking courses towards their Quick Start. Space has also been created within the degree plan for a specific course featuring computing in agribusiness. Incorporating an understanding of computing and its applications, as well as exposing students to technological and energy advances impacting the industry will support the development of innovative problem solving.

This multifaceted approach to problem solving can also be a catalyst for entrepreneurial pursuits. Program advisors and faculty can direct students to the CEI's (Center for Entrepreneurship and Innovation) resources and to courses on entrepreneurial strategies, ideation, innovation, and implementation. The Quick Start program could also have an ENTR (Entrepreneurship) focus if it was relevant to the selected Plan B problem topic. This content would also prepare students to be better *intrapreneurs* in their organizations, contributing to new products, approaches, services, and fostering growth and innovation for the industry overall.

The term *Ranch of the Future* has been gaining in popularity to indicate a commitment to a future focus on technology in agriculture. CALSNR has a number of faculty who have been conducting applicable research in this area for some time, and the results of that research are incorporated into the courses RMAL students will be taking in the core four in CALSNR. This creates a link between research and application for actual producers, and for students who will go on to work in AG related fields. The applied nature of the program will support students in discovering the value, and balance, between the research and the lived experience of producers and operators.

In keeping with the Governor's Wyoming Innovation Partnership, the program will offer opportunities for developing advanced leadership and behavioral skills integrated with our core agricultural

curriculum, better preparing participants to excel in the workforce, as well as supporting managers and businesses in creating cultures that will be able to retain a more competent workforce. These skills can be acquired through the BS degree as well as through certification offerings that can be earned by stakeholders and community college students, as well as UW students.

Learning Outcomes

Describe and outline the learning outcomes of the degree or certificate, focusing on the core competencies you expect graduates to exhibit and accumulate as they complete the degree or certificate.

Overall, the desired outcomes for an RMAL student are:

- The ability to synthesize science-based information related to agricultural endeavors.
- The ability to demonstrate a level of self and situational awareness sufficient to collaborate, problem solve, and lead others in organizational and community settings.

To attain this, there are six key discipline (technical) areas related to knowledge that will be assessed:

1. Animal Production
   1.1. Applies reproductive management practices that optimize reproductive efficiency of domesticated livestock.
   1.2. Applies nutrient management practices that optimize feed efficiency of domesticated livestock.
   1.3. Demonstrate basic knowledge of terms and concepts in animal science and apply this knowledge to new problems and situations.
   1.4. Compare and contrast the management of livestock, uses, and policies across a diversity of ranch management issues.
   1.5. Investigate and discuss topics that influence the management of domestic livestock.
2. Business/Operations Management
   2.1. Apply principles of economic theory to common agricultural production problems.
   2.2. Interpret and solve problems in farm and ranch management.
   2.3. Demonstrate how basic economic principles and social values are applied in the management of farms and ranches.
   2.4. Demonstrate basic knowledge of terms and concepts in business and apply this knowledge to new problems and situations.
3. Forage Production
   3.1. Review scientific concepts associated with basic principles of forage production that drive agroecosystem functions and services.
   3.2. Demonstrate basic knowledge of terms and concepts in forage crop science and apply this knowledge to new problems and situations.
   3.3. Investigate and discuss current topics that influence the management of forage crops.
   3.4. Learn field identification of important forage crops and become familiar with the use of these forage crops in a western U.S. ranch setting.
4. Rangeland Management

4.1. Apply scientific method (question, hypothesis, prediction, test) to rangeland conservation and management problems.
4.2. Apply ecological theory and patterns, such as climate change or grazing competition, to predict outcomes of rangeland conservation and management actions.
4.3. Apply an understanding of human expectations from rangelands to mitigate societal impacts of change on rangelands.
4.4. Compare and contrast the ecology, uses, and policies across a diversity of rangelands.

5. Soil Management
   5.1. Demonstrate how basic sciences are applied in the management of soils.
   5.2. Understand the basic physical, chemical, and biological properties of soil.
   5.3. Learn field identification of important physical soil attributes and become familiar with the U.S. classification scheme for soils.
   5.4. Demonstrate basic knowledge of terms and concepts in soil science and apply this knowledge to new problems and situations.
6. Leadership
   6.1. Knows basic leadership theories.
   6.2. Can identify their own leadership potential.
   6.3. Knows and understands the impact of leadership on culture.
   6.4. Knows and understands the impact of leadership on organizational development and performance.
   6.5. Knows and understands the individual, group, and organizational processes that affect employee behavior at work.

There are an additional six competencies that reflect the growth of skills and abilities in the following areas:

1. Communications
   1.1. Practices effective written and oral communications.
   1.2. Demonstrates ability to speak to an audience or group coherently.
   1.3. Can effectively collaborate with others.
   1.4. Understands techniques and application of negotiation.
   1.5. Understands the concepts of conflict transformation.
   1.6. Can effectively engage in conflict management.
2. Data analysis
   2.1. Vets and evaluates information for source and accuracy.
   2.2. Ability to find and use relevant data in analysis.
   2.3. Synthesizes multiple sources of information when considering a situation.
   2.4. Demonstrates a sense of informational literacy; ability to find, evaluate, organize, use, and communicate information in various formats.
3. Critical thinking
   3.1. Can identify and articulate the problem or question.
   3.2. Knows how to gather data, perspectives, and arguments.
   3.3. Analyzes and evaluates data.
   3.4. Can identify assumptions or biases in sources and self.
   3.5. Can assign value or establish significance and relevance of data.

3.6. Identifies conclusions, their strengths and weaknesses, and can make an informed decision.

4. Problem solving
   4.1. Identifies and articulates the problem accurately.
   4.2. Identifies factors that led to the current situation with the intent of finding a solution.
   4.3. Focuses on what can be done or knows how to reframe assumptions of what can't be done.
   4.4. Asks questions, demonstrates curiosity and inquisitiveness.
   4.5. Demonstrates creativity and a willingness to think outside the box.
   4.6. Engages with others for the purpose of collaborative problem solving.
   4.7. Demonstrate persistence in the face of roadblocks.
5. Self-awareness
   5.1. Understands the concept of Emotional Intelligence and its impact on human interaction.
   5.2. Knows their own individual talents and strengths and how to apply those to a challenge.
   5.3. Understands their own personality and tendencies and can recognize how those play out in team settings and human interactions.
   5.4. Knows their own biases and how to navigate or mitigate so as to avoid them from becoming liabilities.
6. Leading others
   6.1. Demonstrates a sense of self-awareness and understands their own leadership strengths and style.
   6.2. Demonstrates the ability to be authentic.
   6.3. Demonstrates ability to develop trust with stakeholders and teammates.
   6.4. Uses appropriate techniques and demonstrates ability to conduct difficult or courageous conversations.
   6.5. Demonstrates ability to inspire and/or motivate others.
   6.6. Understands how to develop and make the most of the talents and strengths of others.

For the B.S./M.S. Quick Start (4+1) element, knowledge and/or competency in the following will also be addressed:

1. Managerial skills
   1.1. Communicates clear and attainable expectations and outcomes
   1.2. Provides actionable feedback
   1.3. Implements feedback and communication plans with employees
   1.4. Conducts difficult conversations
2. Human Resources knowledge
   2.1. Understands and can implement recruitment and retention strategies
   2.2. Knows Local, State and Federal Law related to employment
3. Managerial accounting
   3.1. Define cost accounting concepts
   3.2. Evaluate the nature of costs in a given business situation and identify the drivers behind those costs
   3.3. Organize cost information according to the decision-making needs of the organization
   3.4. Apply activity-based costing (ABC) and recognize circumstances and decisions for which ABC systems are relevant

3.5. Address common "what-if" questions using cost-volume-profit (CVP) analysis and apply CVP in a variety of scenarios
3.6. Evaluate capital budget alternatives and apply managerial accounting concepts to management decision making
3.7. Analyze the effectiveness of short-run decision models
3.8. Apply key types of financial performance measurement tools to analyze financial statements

4. Focus area
   4.1. Will vary based on technical focus as dictated by committee and subject matter of the Plan B challenge

It should be noted that to get the outcomes we want, we will need to change expectations about how content is taught (applied and experiential) and take a different look at how we credit and compensate team and inter-disciplinary teaching.

Curriculum Map and Program Structure

For undergraduate degrees: Map out the four-year plan for the expected course sequence, including USP courses, college requirements, and degree requirements.

For certificates or graduate degrees: Map out the expected course sequence for the degree or certificate.

Be sure to notate which courses are existing and which are new. Describe whether each course will be available in Laramie, Casper, other sites, and/or online.

Curriculum Map

See Appendixes B, C, and D (Degree Plan by Semester, Quick Start Degree Plan by Semester, and Degree Plan by Discipline) for the curriculum mapping.

In terms of curriculum content, we propose to leverage inclusivity by engaging with industry practitioners, successful traditional and non-traditional ranch and agricultural enterprises, and the wide-ranging expertise of UW faculty across schools. The RMAL program intends to follow the interdisciplinary model in both coursework, experiential learning, and internships.

Unless otherwise noted (on the Course Descriptions appendix), all RMAL courses will be taught in Laramie. Pre-existing courses will maintain their current delivery mode and location.

Additional Components of RMAL Program Structure

Internships

A key component for students will be the internships. Students are strongly encouraged to participate in three separate internship experiences. Each experience addresses a different facet or perspective a student will need to have to create a well-rounded vision/experience of Ranching in the West.

Ensuring an impactful experience will depend upon…

- Clear expectations for both the intern and host as to content and output (documented expectations that they can use with the student to determine outcomes and learning objectives along with expectations
- Opportunities for training and support for our hosts/mentors

For example, we want an intern placed for the summer with an agency to have multiple experiences where they will learn from professionals about the range of activities- for example: two weeks weed and invasive plant management, two weeks wildlife experience, two weeks with the hydrologist, etc., not 8 weeks spraying weeds.

Internships could include but are not limited to

- An agency internship where the student will get experience with the tasks, challenges, and collaborations inherent to the agency.
- An agribusiness internship where the student will get experience with the skills, analysis, and relationship building that is part of being an industry supporting producers and operators.
- A ranch management internship that will allow the student to connect virtually with a ranch manager and shadow them as they create and manage budgets, conduct workforce activities including planning, hiring, and compensation determinations, as well as a week onsite in the spring for calving for example.

These types of internships will provide vital experience in practicing and assessing the soft skills introduced in the curriculum.

Our donors and stakeholders understand that for many of the students seeking an RMAL degree, time out of class is often committed to working to fund education or support family operations. Therefore, we anticipate that these internships will involve compensation.

Spring Seminar Series

A topics course has already been developed and is in its second year. The focus of this course is to expose students to the scope of activities associated with Ranching in the West and the challenges and opportunities professionals face. Attendees include University students, community college students, producers, and other interested individuals involved in operations connected to agriculture. Presenters are a mix of researchers, industry practitioners, and subject matter experts as determined by the topic. The purpose is to 1) provide information and options for area ranchers (and other supporting businesses) that will improve their operations, and 2) to expose students to real world challenges in the industry while providing an opportunity for them to interact with ranchers, ag business folks, and other industry practitioners. The spring seminar series is completing its second year with positive feedback from both community members and student attendees.

Course Descriptions

Provide short course descriptions for new courses, including possible modes of delivery.

See Appendix E.

Assessment Plan

> Describe how the learning outcomes outlined above will be met through the proposed curriculum. How will student work be evaluated, and at which points, in the context of the overall assessment of learning outcomes?

Appendix F shows the courses that will contribute to each competency. For Core Technical Knowledge, the student will need a cumulative grade of a **C** or higher in the courses that fall under that competency. For the Skill and Ability competencies, students will need to demonstrate growth year over year through experiential activities, self-reflections, and writings, as well as achieving a **C** or higher in the courses contributing to the development of that particular competency.

Appendix G is a map (or Supplemental Assessment Tool) to keep track of and ensure that the desired knowledge and competencies are being introduced and reinforced throughout the curriculum.

SOAR, the University's web-based application providing students with high impact learning experiences, will be an invaluable tool in assigning and tracking activities that will foster student development. Its badges and activities can be embedded into Canvas course shells, making it easier for faculty and students to access additional resources. (In addition, the university's pre-existing contract with Linked In Learning allows supplemental content to be embedded into SOAR pathways and badges.) SOAR Events and Tasks (Activities) will be assigned as part of course work where appropriate. These could be anything from on-line learning modules, events such as a Stockgrowers Meeting or a campus presentation of some kind, or an activity designed to utilize recent learnings. Follow up exercises or reflections will be assigned on the particular learnings/activities, and the instructor and/or Career Readiness Counselor & Job Placement Coordinator will track progress based on the particular competency. SOAR can also be used to track competency development as a student moves through an internship. This tool will allow students to keep connecting the dots between the content of their courses and its application and use in future career endeavors. It also allows students to generate a report of their badges and development milestones to share with a prospective employer. These are workplace and behavioral competencies that don't show up on a university transcript but still hold value with employers.

Degree Program Evaluation

> Explain how the program will be evaluated. Will you use exit surveys of graduates, employer surveys, mid- or end-of-program feedback through focus groups or surveys, etc.? Remember that by policy, all new degree will be evaluated within 5 years of startup, so this will help you in gathering artifacts upon which that evaluation can be based.

As the program progresses, a steering committee made up of faculty, stakeholders, and program administration will review content and outcomes to ensure the degree program is adaptive and keeps pace with industry progress and needs. Our evaluation strategy also includes the tracking of post-grad employment placement that can also be used by the steering committee to ensure the program is meeting its desired outcomes. (For example, data provided by internship hosts, surveys from alumni employers, and other relevant sources can be used to determine if the goals of the program and student outcomes and success are being met.)

New Resources Required

Describe new resources required, including:

- Faculty and instructional staffing
- Program administration and staff support
- Technology
- Library and digital resources
- Marketing
- Support

Three new CALSNR faculty with teaching responsibilities in RMAL have been proposed via the CPM process. Much like Extension faculty, these individuals will have a departmental home but have responsibilities for teaching RMAL courses as part of their overall teaching assignments. These individuals will focus on teaching RMAL associated courses, program administration will be the responsibilities of the Director and Associate Director. The Director and Associate Director may teach some of the RMAL courses.

The program will rely heavily on interdisciplinary instruction. However, this concept has not always been successful, in part because of misunderstandings related to resources expended. For example, if three faculty from three different disciplines come together to teach a truly interdisciplinary course, it historically has been seen as 1/3 an allocation of a resource for each faculty, when in fact, the time/resource requirements to prepare, synthesize, negotiate content, organize, and deliver the content from the three different disciplines is the same as, or sometimes greater than, if the instructor was teaching the course alone. RMAL proposes that credit and compensation be granted accordingly and that instructors do not find themselves penalized in their evaluations or in the RP&T process, but rather are rewarded for their involvement.

There are three new positions associated with this program. Following is information about the Director and Associate Director positions. The program will also hire an Office Associate.

***Interim* Director, Ranch Management and Agricultural Leadership Program**

Job Purpose:

This position is responsible for acting as the public face of the program. They will also keep program development moving forward until the program is officially kicked-off and a permanent Director is hired. Responsibilities will include fund-raising activities, lobbying, relationship development for purposes of advancing the program and its initiatives, stakeholder engagement, and supervision, guidance and evaluation of the Associate Director.

Director, Ranch Management and Agricultural Leadership Program

Job Purpose:

This position is responsible for acting as the public face of the program, including

- development and fund-raising activities
- relationship development for purposes of advancing the program and its initiatives
- stakeholder engagement

- leading/liaisoning with the steering committee
- lobbying as required

Other responsibilities include but are not limited to

- support Associate Director in development of a comprehensive plan for delivery and assessment of program objectives and goals
- determination of overall resource allocations
- ensure the quality of the program and implementation of the pillars; interdisciplinary, applied and experiential activities, overall integration, and student development in the identified workplace competencies
- ensure all activities and resource allocations align with the program's mission
- supervision and evaluation of the Associate Director, and any other assigned RMAL personnel
- lead development of future initiatives, including but not limited to
    - the 2-year master's program
    - certificates (added to an active degree program)
    - endorsements (available outside of, or during, the degree program)
    - micro-credentials (available to community members and practitioners)
- opportunity to teach one RMAL course per semester

Position will also monitor the curriculum, faculty participants, and affiliate instructors to ensure strong [deep] integration between the technical disciplines and required competencies of the program, interceding when necessary.

In addition to an education in or experience with ranching, a successful candidate will be able to articulate the skills they possess that best support their ability to

- Demonstrate strong leadership skills and coalesce their team around the mission and vision, while ensuring all operations align with core commitments
- Energize and engage a highly diverse constituency around the RMAL Vision
- Identify meaningful data points to evaluate the program's effectiveness and make course corrections as necessary.

Associate Director, Ranch Management and Agricultural Leadership Program

Job Purpose:

This position is responsible for day-to-day delivery of the program with oversite from the Director. Responsibilities include but are not limited to

- develop a comprehensive plan for delivery and assessment of program objectives and goals (with input from Director)
- implement goals and objectives for the program and staff, and revise as necessary
- provide supervision, guidance, and evaluation of Academic Director, Career Readiness Counselor & Job Placement Coordinator, Internship Coordinator, and Office Associate
- develop and maintain appropriate structures for delivery and sustainability of the program
- develop, or oversee the development of, all RMAL courses to ensure that required content, interdisciplinary pedagogy, and applied and experiential activities are included

- oversee evaluation and assessment activities, and report on results to the appropriate stakeholders and steering committee
- maintain program commitment to innovative approaches to integration, assimilation, and application of student learning
- mentor RMAL students
- monitor student experience and implement course (path/program) corrections as necessary
- work with institutional marketing to keep program website current and relevant
- provide advising oversite; communicating information and providing training about the program as necessary with CALSNR advising team
- identify and develop relationships inside and outside the university for purposes of advancing the program and its initiatives
- manage overall relationships with community colleges
- coordinate and participate in student recruitment strategies
- delivery of up to 7 credit hours per semester of RMAL courses
- develop and support the development and delivery of RMAL informal learning events, educational programs, and engagement activities.

Focus will be on the undergraduate degree program, with consideration and planning for future opportunities in Quick Start, 2-year masters, and certificate programs.

A successful candidate will be able to articulate the skills they possess that best support their ability to

- Manage and lead a team with a focus on culture, using the same principles we are imparting to our students
- Create and maintain a student centric environment
- Identify creative and engaging formal and nonformal programs that will not only attract students, but increase the value of their educational experience
- Manage day-to-day operations that contain many moving parts

A note regarding faculty resources and interdisciplinary credit and support: RMAL recognizes that teaching into the RMAL program or delivering courses that are part of the overall degree plan could require substantial additional work on the part of instructors. Several strategies are being considered depending upon an instructor's level of participation.

Financial Considerations Related to the Program

See workbook **RMAL_Budget_Pro-forma**. These spreadsheets were prepared based on the formats provided by the Budget Office.

Currently, the CALSNR has utilized endowments for all funds related to launching the RMAL program, including salaries and the Spring Seminar Series. As of fall 2022, the RMAL program had already received endowments of $1.5M from Farm Credit Services of America as well as $1.5M in Wyoming legislative match money for ranch and range management. Partial funds from the S1.5M Y Cross Ranch Endowment were and will also be available. Since fall of 2022, three additional endowments of $100K each have been received, and additional donors have expressed a keen interest in supporting this application-based program, including a pending signed pledge with a match of $500K.

These funds allow us the ability to ensure that all internships for example will be paid through a combination of endowment dollars and internship host funds.

Currently, an estimated $323,000 per year is available for the Ranch Management and Agricultural Leadership Program. As is noted in the workbook, some of these funds are tagged specifically for scholarships (undergrad and graduate), GA stipends, and paid internships. By fiscal year 2025, there will be additional funds from both Y-cross and other pending endowments.

RMAL has also been awarded $676,080 as part of the Governor's WIP phase II program. These funds will go to the *expanding opportunities* component of the program that proposes to increase the collaboration and ongoing development of opportunities and activities with community colleges and their students. This focus also has the potential to improve the student experience at both the community college and University level through improvements in advising, content, and the articulation and transfer processes, as well as increased opportunities for experiences outside the classroom that will benefit both cohorts of students. The scope of this segment of the program will focus specific resources on the community college relationship, internships, and other experiential components of the RMAL program. This means time can be dedicated to matching community college curriculum with RMAL curriculum and allowing for improved articulation practices - a significant benefit to community college transfer students. It could also include designating compensated community college faculty who will serve as key contacts and as spokespeople for RMAL and developing UW administrative assignments and trainings that allow for RMAL representation on each campus. This would increase the successful flow of ideas and information as well as the promotion of educational and experiential learning opportunities.

Substantive Change Determination

Higher Learning Commission (HLC), UW's regional accrediting agency, must approve all substantive changes to UW's offering. HLC considers substantive change as the addition of a program (degree or certificate/credential level) not previously included in the institution's accreditation, usually judged to be a program that is a significant departure from normal offerings, the addition of a program with 50%+ new coursework required, or the addition or change to an existing program which will be delivered 50%+ through alternative (hybrid, online) delivery. Substantive change may also be defined as a new program which does not meet the above guidelines, but which requires a significant amount of financial investment to be made. Please contact the HLC Accreditation Liaison Officer (currently Steve Barrett, steveb@uwyo.edu) to make this determination.

This program will **not** constitute a substantive change. See Appendix H.

Executive Summary of Demand Statistics*

Describe and outline:

- Market area and primary target markets/

- Educational market and student demand statistics, including peer comparisons of the size of enrollment, completions, and size trajectory (growth, decline) of comparator programs.
- Employment trends and projections given core competencies of the degree or certificate.
- Graduate salary trends and other post-completion trends.

**available from Gray Associates data subscription*

The initial offerings of this program are in response to feedback collected during listening sessions conducted with ranch managers, absentee owners, family ranchers, legislators, representatives from agencies working with agriculture, and students. These sessions yielded a high level of engagement and feedback on a statewide scale.

In addition, a 2022 USDA report noted that available employment opportunities in the food, agriculture, renewable natural resources and the environment sector will remain steady and strong. Between 2020 and 2025, they expect an average of 7,900 annual job openings for new graduates. College graduates with degrees from institutions offering food, agriculture, renewable natural resources and environmental programs will fill 92% (7,300) of the annual openings, with the other 8% (600) filled by graduates from allied fields of study. The report also points out that **employers in this cluster value and seek graduates with practical experience.**

Market analysis has been completed using Gray Associates' data which suggests a fairly high student demand overall and a positive employment outlook. As the RMAL degree would be interdisciplinary and include important content from the aforementioned areas, multiple CIP codes were used to address the hybrid nature of this program. The percentiles for the related programs were as follows:

Program by CIP Code	**Laramie 360 Market Percentiles**		Total Percentile	**National Market Percentiles**		Total Percentile
	Student Demand	Employment Outlook	includes Competitive Intensity & Degree Fit percentiles	Student Demand	Employment Outlook	includes Competitive Intensity & Degree Fit percentiles
01.0000 Agriculture, General	74	96	92	84	91	89
01.0102 Agribusiness/Agricultural Business Operations	91	66	94	84	91	88
01.0901 Animal Science, General	97	13	92	97	16	96

01.9999 Agriculture, Agriculture Operations, and Related Sciences, Other	50	93	15	50	93	22
03.0201 Natural Resources Management and Policy	50	16	38	71	20	60
52.0201 Business Admin. and Mgmt, General	99	99	99	99	99	99

The interdisciplinary nature of the degree makes RMAL graduates eligible for a wide variety of jobs in each of these arenas. Data from Burning Glass's analysis of the following related occupations

- Farmers, Ranchers, and Other Agricultural Managers
- Buyers and Purchasing Agents
- First-Line Supervisors of Farming, Fishing, and Forestry
- Agricultural Inspectors
- Farm Labor Contractors

indicates growth (2021 – 2026) from 1.33% to 5.77% in these occupations with the exception of Buyers and Purchasing Agents, which shows a slight decline. The general trend, however, is positive, and there are also a number of state and federal jobs that will be available to our graduates in addition to those bulleted above.

Burning Glass data also supports the needs expressed by our stakeholders for graduates with developed skills in communications, management, negotiation, operations, and problem solving. This data is also in-line with Wiley's findings (presented in the Employer Appeal section above), and feedback received from Wyoming businesses.

The ability for RMAL graduates to obtain the Land Administration Certificate, or to dual major and receive a Professional Land Management Concentration through the School of Energy Resources, also increases their marketability. Currently, one of ERS's corporate partners is expecting to hire an additional 100 new Land Managers over the next 5 years, and the School of Energy Resources (ERS) will only be able to meet approximately 15% of that need with their graduates, creating those additional opportunities for RMAL graduates with this concentration.

From a salary perspective, it's worth noting that many larger ranches are being run under a corporate umbrella. This will impact salaries in a way that is not necessarily captured in the reporting, and most of these ranch and unit manager jobs - positioned within the corporate structure - will earn salaries which tend to run higher than the traditional average.

Average starting salary for an RMAL student in one of the federal jobs referred to earlier would be $49,028 (GS-9). The American Association of Professional Landmen (AAPL) places the entry level salary for a Land Man at $78,963. However, if the student is hired by an energy company instead of being a private contractor, that salary increases by 25%.

REFERENCES

American Association of Professional Landmen (AAPL). (2022) Landman September/October 2022 Compensation Survey Results. https://www.landman.org/

Klimecki, O. M. (2019). The role of empathy and compassion in conflict resolution. *Emotion Review, 11*(4), 310-325. https://doi.org/10.1177/1754073919838609

Office of Personnel Management (OPM). https://www.opm.gov/policy-data-oversight/pay-leave/salaries-wages/

Wiley. (2023) Closing the skills gap: Employer perspectives on educating the post-pandemic workforce. https://universityservices.wiley.com/wp-content/uploads/2023/01/Closing-the-Skills-Gap-2023-Digital-January-2023.pdf

Anticipated Revenues & Expense

Name of Proposed Program: **Ranch Management and Agricultural Leadership**

	Year 1	Year 2	Year 3	Year 4	Year 5	Comments
Revenue						
Tuition & Educational Fees Net						
Tuition						
Undergraduate - Main Campus	79,875	166,140	308,213	500,238	520,248	
Graduate - Main Campus	5,040	15,725	38,126	67,964	94,267	
Financial Aid						
Financial Aid - Undergraduate						**endowment $ avail:** minimum of $35K will be available in Y Cross funds for both in-state and out-state undergrad/year (starting FY 25)
Financial Aid - Graduate						**endowment $ avail:** $50K available for in or out-state grad (starting FY 25), and an additional $25K for in-state only/year (available now)
Educational Fees						
Mandatory Fees	27,426	56,508	99,334	155,842	162,466	Based on FY24 mandatory fees for full-time, main campus students (Fall & Spring): $859 per semester for undergraduates, $828 for graduates.
Other Fees						
Subtotal: Tuition & Educational Fees Net	**$ 112,341**	**$ 238,373**	**$ 445,673**	**$ 724,045**	**$ 776,981**	
Sales of Goods & Services						
Other Operating Revenue	2,500	3,000	3,500	3,500	3,500	Spring Seminar Series; registrations
Total Revenue	**$ 114,841**	**$ 241,373**	**$ 449,173**	**$ 727,545**	**$ 780,481**	
Operating Expense						
Salary, Wages & Benefits						
Faculty Salary	-	-	-	-	-	RMAL teaching responsibilities are already being approved as part of CPM
Staff Salary	51,160	221,160	221,160	221,160	221,160	
Temporary Lecturers	-	-	-	-	-	
Part-time Salary	-	-	-	-	-	
Graduate Assistant Stipends	-	-	-	-	-	endowment $ avail: $25K from Y Cross /year
Supplemental Pay (Faculty - AY)	15,000	15,000	15,000	15,000	15,000	
Fringe Benefits Expense	32,175	118,705	118,705	118,705	118,705	Fringe calculations are based on FY24 preliminary (non-sponsored program) rates.
Subtotal: Salaries, Wages & Benefits	**$ 98,335**	**$ 354,865**	**$ 354,865**	**$ 354,865**	**$ 354,865**	

	Year 1	Year 2	Year 3	Year 4	Year 5	Comments
Other Operating Expense						
Professional Services	20,000	25,000	50,000	50,000	50,000	Visiting Professors and/or Professors of Practice, temporary lecturers
Travel						$14,000 / year, covered by Lowham Family Ranch Management Excellence Fund
Advertising/Promotional	5,000	5,000	5,000	5,000	5,000	
Training/Professional Development	11000	11000	8000	5000	5000	Prof Development; facutly innovation grants, or costs for inter-disciplinary and other developmental opportunities related to the highly experiential nature of program
Office Supplies	500	500	500	500	500	
Spring Seminar Series						Seminar Series and Symposium: est $44,305/year, $114,000 avail in Lowham and FCS Leadership endowment funds
Student Internship Payments						$50K/year from Y Cross (ex: 10 internships at $5K each)
Other						
Subtotal: Other Operating Expense	**$ 36,500**	**$ 41,500**	**$ 63,500**	**$ 60,500**	**$ 60,500**	
Total Operating Expense & Internal Allocations	**$ 134,835**	**$ 396,365**	**$ 418,365**	**$ 415,365**	**$ 415,365**	
Statement of Activities Net Result	**$ (19,994)**	**$ (154,993)**	**$ 30,808**	**$ 312,179**	**$ 365,116**	

Complete the worksheet to reflect the anticipated coursework required of each student in the proposed program. Indicate in Column F whether each course is new ("Yes") or is currently being taught ("No").

Year	Semester	Course # / Name	Credit Hours	New Course (Yes/No)
Year1	Fall	AGEC 1020 or ECON 1020 - Principles of Microeconomics	3.0	No
Year1	Fall	MATH 1400 - College Algebra	3.0	No
Year1	Fall	ENGL 1010 - College Composition and Rhetoric	3.0	No
Year1	Fall	RMAL 1010 - Introduction to RMAL	4.0	Yes
Year1	Fall	LIFE 1010 - General Biology	4.0	No
Year1	Spring	CHEM 1000 - Introductory Chemistry	4.0	No
Year1	Spring	COJO 1040 - Intro to Human Comm Theory	3.0	No
Year1	Spring	POLS 1000 - American and Wyoming Government	3.0	No
Year1	Spring	COMP ####	3.0	Yes
Year1	Spring	REWM 2000 - Principles of Rangeland Management	3.0	No
Year1	Spring	AGRI 4990 - Topics/Seminar Series	1.0	Yes
Year2	Fall	ERS 2500 - Communication Across Topics in Energy	3.0	No
Year2	Fall	REWM 2400 - Range Ecosystems and Plants	4.0	No
Year2	Fall	SOIL 2010 - Introduction to Soil Science	4.0	No
Year2	Fall	OPTIONAL ELECTIVE		No
Year2	Spring	LIFE 2022 - General Biology	4.0	No
Year2	Spring	ANSC 2020 - Feeds and Feeding	4.0	No
Year2	Spring	AGEC 2020 - Farm and Ranch Business Management	4.0	No
Year2	Spring	RMAL 2040 - Quantatative Tools for Managing AG Resources	3.0	Yes
Year2	Spring	AGRI 4990 - Topics/Seminar Series	1.0	Yes
Year3	Fall	LEAD 2110 or AGRI 4700 - Elements of Leadership	3.0	Yes
Year3	Fall	RMAL 3000 - Beginning Ranch & Rangeland Problem Solving and Planning	3.0	Yes
Year3	Fall	STAT 2050 - Fundamentals of Statistics	4.0	No

Year 1	
Fall	17.0
Spring	17.0
Summer	0.0
Total	**34.0**
Year 2	
Fall	11.0
Spring	16.0
Summer	0.0
Total	**27.0**
Year 3	
Fall	17.0
Spring	17.0
Summer	0.0
Total	**34.0**
Year 4	
Fall	14.0
Spring	13.0
Summer	0.0
Total	**27.0**
TOTAL HOURS	**122.0**
Net New	**35.0**

Year3	Fall	ANSC 3010 - Comparative Anatomy and Physiology of Domestic Animals	4.0	No
Year3	Fall	RMAL 3020 - Public Policy and Regulatory Considerations for Ranch & Rangeland Mgmt	3.0	Yes
Year3	Spring	RMAL 4760 - Organizational Leadership in Agriculture	3.0	Yes
Year3	Spring	AGRI 4990 - Topics/Seminar Series	1.0	Yes
Year3	Spring	ANSC 4540 - Principles of Animal Breeding	3.0	No
Year3	Spring	AGEC 4500 - Agricultural Finance	3.0	No
Year3	Spring	REWM 4100 - Nutritional Ecological Management of Range Herbivores	3.0	No
Year3	Spring	PLNT 4070 - Weed Science and Technology	4.0	No
Year4	Fall	REWM 4330 - Rangeland Ecosystem Assessment and Monitoring	4.0	No
Year4	Fall	AGEC 4830 - Agricultural Commodities & Futures Markets	3.0	Yes
Year4	Fall	AGEC 4640 - Advanced Farm/Ranch Management	3.0	No
Year4	Fall	ANSC 4120 - Principles of Mammalian Reproduction	4.0	No
Year4	Fall	OPTIONAL ELECTIVE		No
Year4	Spring	RMAL 4800 - Leadership and Collaboration Strategies To Address Contemporary Challenges In Agriculture	3.0	Yes
Year4	Spring	ANSC 4220 - Advanced Beef Production and Management	3.0	No
Year4	Spring	RMAL 4000 - Advanced Integrated Ranch & Rangeland Problem Solving and Planning	3.0	Yes
Year4	Spring	PLNT 4700 - Forage Crop Science	3.0	No
Year4	Spring	AGRI 4990 - Topics/Seminar Series	1.0	Yes
Year4	Spring	OPTIONAL ELECTIVE		No
			122.0	

Complete the worksheet to reflect the anticipated coursework required of each student in the proposed program. Indicate in Column F whether each course is new ("Yes") or is currently being taught ("No").

Year	Semester	Course # / Name	Credit Hours	New Course (Yes/No)
Year1	Fall	AGEC 1020 or ECON 1020 - Principles of Microeconomics	3.0	No
Year1	Fall	MATH 1400 - College Algebra	3.0	No
Year1	Fall	ENGL 1010 - College Composition and Rhetoric	3.0	No
Year1	Fall	RMAL 1010 - Introduction to RMAL	4.0	Yes
Year1	Fall	LIFE 1010 - General Biology	4.0	No
Year1	Spring	CHEM 1000 - Introductory Chemistry	4.0	No
Year1	Spring	COJO 1040 - Intro to Human Comm Theory	3.0	No
Year1	Spring	POLS 1000 - American and Wyoming Government	3.0	No
Year1	Spring	COMP ####	3.0	Yes
Year1	Spring	REWM 2000 - Principles of Rangeland Management	3.0	No
Year1	Spring	AGRI 4990 - Topics/Seminar Series	1.0	Yes
Year2	Fall	ERS 2500 - Communication Across Topics in Energy	3.0	No
Year2	Fall	REWM 2400 - Range Ecosystems and Plants	4.0	No
Year2	Fall	SOIL 2010 - Introduction to Soil Science	4.0	No
Year2	Fall	OPTIONAL ELECTIVE		No
Year2	Spring	LIFE 2022 - General Biology	4.0	No
Year2	Spring	ANSC 2020 - Feeds and Feeding	4.0	No
Year2	Spring	AGEC 2020 - Farm and Ranch Business Management	4.0	No
Year2	Spring	RMAL 2040 - Quantatative Tools for Managing AG Resources	3.0	Yes
Year2	Spring	AGRI 4990 - Topics/Seminar Series	1.0	Yes
Year3	Fall	LEAD 2110 or AGRI 4700 - Elements of Leadership	3.0	Yes
Year3	Fall	RMAL 3000 - Beginning Ranch & Rangeland Problem Solving and Planning	3.0	Yes
Year3	Fall	STAT 2050 - Fundamentals of Statistics	4.0	No
Year3	Fall	ANSC 3010 - Comparative Anatomy and Physiology of Domestic Animals	4.0	No
Year3	Fall	RMAL 3020 - Public Policy and Regulatory Considerations for Ranch & Rangeland Mgmt	3.0	Yes
Year3	Spring	RMAL 4760 - Organizational Leadership in Agriculture	3.0	Yes

Year 1	
Fall	17.0
Spring	17.0
Summer	0.0
Total	**34.0**
Year 2	
Fall	11.0
Spring	16.0
Summer	0.0
Total	**27.0**
Year 3	
Fall	17.0
Spring	17.0
Summer	0.0
Total	**34.0**
Year 4	
Fall	14.0
Spring	13.0
Summer	0.0
Total	**27.0**
TOTAL HOURS	**122.0**
Net New	**41.0**

Year 5 (+1)	
Fall	12.0
Spring	13.0
Summer	0.0
Total	**25.0**

Year3	Spring	AGRI 4990 - Topics/Seminar Series	1.0	Yes
Year3	Spring	ANSC 4540 - Principles of Animal Breeding	3.0	No
Year3	Spring	AGEC 4500 - Agricultural Finance	3.0	No
Year3	Spring	REWM 4100 - Nutritional Ecological Management of Range Herbivores	3.0	No
Year3	Spring	PLNT 4070 - Weed Science and Technology	4.0	No
Year4	Fall	REWM 4330 - Rangeland Ecosystem Assessment and Monitoring	4.0	No
Year4	Fall	AGEC 4830 - Agricultural Commodities & Futures Markets	3.0	Yes
Year4	Fall	AGEC 4640 - Advanced Farm/Ranch Management	3.0	No
Year4	Fall	ANSC 4120 - Principles of Mammalian Reproduction	4.0	No
Year4	Fall	OPTIONAL ELECTIVE		No
Year4	Spring	RMAL 4800 - Leadership and Collaboration Strategies To Address Contemporary Challenges In Agriculture	3.0	Yes
Year4	Spring	ANSC 4220 - Advanced Beef Production and Management	3.0	No
Year4	Spring	RMAL 4000 - Advanced Integrated Ranch & Rangeland Problem Solving and Planning	3.0	Yes
Year4	Spring	PLNT 4700 - Forage Crop Science	3.0	No
Year4	Spring	AGRI 4990 - Topics/Seminar Series	1.0	Yes
Year4	Spring	OPTIONAL ELECTIVE		No
Year5	Fall	RMAL 5040 - Comprehensive Manager Development	3.0	Yes
Year5	Fall	MBAM 5208 - Managerial Accounting	3.0	Yes
Year5	Fall	AGEC 5450 - Negotiation	3.0	No
Year5	Fall	Elective based on *Project Focus*	3.0	No
Year5	Spring	RMAL 5060 - Technological Approaches to Ranch Mgmt	3.0	No
Year5	Spring	Elective based on *Project Focus*	3.0	No
Year5	Spring	Elective based on *Project Focus*	3.0	No
Year5	Spring	Thesis/Plan B Paper	4.0	No
			147.0	

Projected enrollment should represent ***net new, full-time*** students.

	Year 1			Year 2			Year 3			Year 4			Year 5		
Undergraduate: Main Campus*	*Projected Total Enrollment*	*Tuition**	*Projected Revenue*	*Projected Total Enrollment*	*Block Tuition**	*Projected Revenue*	*Projected Total Enrollment*	*Block Tuition**	*Projected Revenue*	*Projected Total Enrollment*	*Block Tuition**	*Projected Revenue*	*Projected Total Enrollment*	*Block Tuition**	*Projected Revenue*
Resident	10	2,590	$ 25,900	20	2,694	$ 53,872	35	2,801	$ 98,047	55	2,913	$ 160,237	55	3,030	$ 166,646
Non-resident	5	10,795	$ 53,975	10	11,227	$ 112,268	18	11,676	$ 210,166	28	12,143	$ 340,001	28	12,629	$ 353,601
Graduate: Main Campus*															
Resident	1	5,040	$ 5,040	3	5,242	$ 15,725	4	5,451	$ 21,805	6	5,669	$ 34,016	10	5,896	$ 58,961
Non-resident		15,090	$ -		15,694	$ -	1	16,321	$ 16,321	2	16,974	$ 33,948	2	17,653	$ 35,306
			$84,915			**$181,865**			**$346,339**			**$568,203**			**$614,515**

*Main Campus and Distance refer to the *program* type (i.e., how the student is classified), not the the location of any particular course offerings.

** Tuition covers 12-18 credit hours for undergraduate students (block rate), and 15 credit hours for graduate students (per credit rate).

		Projected Salary Expense by Fiscal Year (no fringe)					
Anticipated Job Title	**Type**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Comments**
Office Associate	Staff (FY)	$ 39,734	$ 39,734	$ 39,734	$ 39,734	$ 39,734	
Associate Director	Staff (FY)	$ 11,426	$ 11,426	$ 11,426	$ 11,426	$ 11,426	salary is $91K but $79,574 coming from Farm Credit Services Endowed Chair in Ranch Mgmt & Ag Leadership
Interim Director		$ -					$35K - this administrative stipend is coming from endowment funds
Director	Staff (FY)		$ 170,000	$ 170,000	$ 170,000	$ 170,000	Endowment proposal out for consideration: $5M which would produce $200K a year
CALSNR faculty with RMAL teaching responsibilities	Faculty/Academic (AY)						proposed in CPM submitted spring 2023
CALSNR faculty with RMAL teaching responsibilities	Faculty/Academic (AY)						proposed in CPM submitted spring 2023
CALSNR faculty with RMAL teaching responsibilities	Faculty/Academic (AY)						proposed in CPM submitted spring 2023
Overloads expected per year	Supplemental Pay (Faculty)	$ 15,000	$ 15,000	$ 15,000	$ 15,000	$ 15,000	
Grad Stipends	Grad Assistant						endowment $ avail: currently $25K/year
Professorships							Once program is approved, funding will be sought for professorships in the core technical
		$ 66,160	**$ 236,160**	**$ 236,160**	**$ 236,160**	**$ 236,160**	

ACADEMIC AND STUDENT AFFAIRS

COMMITTEE MEETING MATERIALS

AGENDA ITEM TITLE: **2-Step Approval Process | UW Regulation 1-1**, Carman

☒ PUBLIC SESSION
☐ EXECUTIVE SESSION

PREVIOUSLY DISCUSSED BY COMMITTEE:
☐ Yes
☒ No

FOR FULL BOARD CONSIDERATION:
☐ Yes
[Note: If yes, materials will also be included in the full UW Board of Trustee report.]
☒ No

☐ *Attachments/materials are provided in advance of the meeting.*

EXECUTIVE SUMMARY:

University Regulation 1-1, Section I.B., outlines the process for hiring Administrative Officers, Deans, and the Executive Director of the School of Energy Resources.

> "When the President of the University has determined the top 2-3 candidates for one of these Officer positions, prior to the University commencing negotiations with the person to whom the offer will be made, the President of the University shall advise the Board of Trustees of the intention to make an offer of employment to the top candidate or the other candidates, if applicable, should negotiations with the top candidate be unsuccessful. The President shall do so in an executive session of a meeting of the Board of Trustees and shall provide such information to the Board as the Board may require. Negotiations with the candidate shall not commence prior to the Board's executive session. If the negotiations are successful with any of the top candidates, the President of the University shall recommend the Board approve appointment of the candidate but all matters shall remain confidential pending the Board's final approval."

UW has been instructed to identify two potential alternatives to the current 2-step process. The first choice for an alternative process is to reduced the 2-step approval process to a 1-step approval process as follows:

1. Following the in-person interviews, and in executive session, the President and Provost provide the Board with a list of top candidates, as well as market/salary data, recommended salary ranges, and other information as requested.
2. The Board approves acceptable candidates/salary ranges and directs the President or Provost to commence negotiations with the candidate(s) and to complete the hiring process.

3. The President or Provost sends an email to the Board confirming the final candidate prior to any public announcement.
4. At the following Board meeting, an information item would be included in the personnel report to document the administrative appointment, along with any action item needed associated with tenure recommendations.

The second alternative would be to eliminate the requirement for Board approval of Officer positions and to grant the President and Provost the authority to identify and hire candidates. The President or Provost would inform the Board of the successful candidate before making any public announcement.

Rational for change in process:

> Candidates who are on the job market may have offers from other universities. A streamlined process and timeline will allow the President and Provost to attract and secure the best candidates for the position. Reducing the time between negotiation and offer will signal the university's commitment to and confidence in the candidate, to both the candidate and university stakeholders, which in turn helps to enhance the university's reputation for being resolute in its pursuit of excellence.

WHY THIS ITEM IS BEFORE THE COMMITTEE:
At the request of the Chairman of the Board, the President and Provost submit the following preferred option for this process to be discussed by administration and the AA/SA committee.

ACTION REQUIRED AT THIS COMMITTEE MEETING:
Discussion and report to the full board.

PROPOSED MOTION:
N/A

AGENDA ITEM TITLE: **Native American Student Support at UW Review**, (Carman, Chestnut, O'Neil)

SESSION TYPE:
☐ Work Session
☒ Information Session
☐ Other
☐ [Committee of the Whole – Items for Approval]

APPLIES TO STRATEGIC GOALS:
☒ Yes (select below):
- ☒ Institutional Excellence
- ☒ Student Success
- ☐ Service to the State
- ☐ Financial Growth and Stability

☐ No [Regular Business]

☒ *Attachments are provided with the narrative.*

EXECUTIVE SUMMARY:
Following conversations regarding Native American students and university programs at the July and September 2023 UW Board of Trustees meetings, the Academic Affairs & Student Affairs Committee asked for a formal update on the following questions:

- What programmatic elements and resources are needed to increase Native student success at the University of Wyoming?
- What will it take to overcome challenges and collaborate effectively for the success of Native students?

The formal report and corresponding presenation provide an overview of the current work in student support, research and economic development, course offerings through academic affairs, and programming provided in student educational opportunity program, and a further review of data regarding Native student graduation rates and financial status.

Time will also be allocated to share about a recent visit to Central Wyoming College which generated a number of ideas about further collaborations between the schools to aide in ongoing student support and success. Such efforts will be in compliment the ongoing initiatives being pursued at UW.

PRIOR RELATED BOARD DISCUSSIONS/ACTIONS:
The AA/SA committee is provided with annual updates on student engagement and programming. Focused attention has been given to specific populations and this is a follow up to recent information shared on metrics for Native American students at UW.

WHY THIS ITEM IS BEFORE THE BOARD:
The AA/SA Committee requested additional information regarding status of Native student success work and programming at UW.

ACTION REQUIRED AT THIS BOARD MEETING:
n/a

PROPOSED MOTION:
n/a

PRESIDENT'S RECOMMENDATION:
n/a

Supporting Native American Students

BOT November 2023 Meeting

AA/SA Committee

Agenda

Brief review of current work in student support, academic offerings, research & economic development, and student educational opportunities

Next steps with current work in pre-existing programs

Collaborations with Central Wyoming College

Native American Education Research & Culture Center (NAERCC)

Description: The Center opened in fall 2017 to serve as a community center for native students and programming. It also serves as the physical home for the NAIS program and HPAIRI.

Programming: Individualized Student Support, Academic, Cultural & Community Programming, Annual Events, Student Organizations and Native American Summer Institute (NASI)

Staff: Reinette Curry, Director & Cass Underwood, Project Coordinator, and VACANT Sr. Administrative position

Opportunities: First Year and Transfer Student Experience enhancements, mentorship program and increased outreach with WRIR schools and CWC

High Plains American Indian Research Institute (HIPARI)

Description: Assisting with education, and service, HPAIRI facilitates facilitate collaborative research among tribal communities, UW and visiting faculty, and UW undergraduate and graduate students

Programming: NEH Elk Project, CIRCLES Alliance, Wind River Reservation Microbiome Project 2017-2023, USDA/NIFA Growing Season and other grant funded programs

Staff: Dr. Tarissa Spoonhunter and 3 student interns

Opportunities: HPAIRI needs several positions if we are to grow the program to its full potential as a means of research, tribal relationships and nation building force for the reservation.

Native American Indigenous Studies (NAIS)

Description: Native American and Indigenous Studies (NAIS) offers an undergraduate major, undergraduate minor, and a graduate minor. This interdisciplinary course of study examines the cultural, social, economic, political, and educational systems of Native and Indigenous communities.

Programming: The NAIS program develops respect for, and understanding of, Native views, culture and history and provides learners with the Native perspective on contemporary issues. Students in NAIS develop and refine skills in creative and critical thinking and analysis and graduate prepared to succeed in any field they choose.

Staffing: Dr. Bridget Groat, Director & Assistant Professor, Native American & Indigenous Studies

Additional faculty: Dr. Tarissa Spoonhunter, Dr. Jessica Nelson, Dr. Jeffrey Means and Robyn Lopez

Opportunities: Restructuring the NAIS major and dedicated faculty lines

SEO TRIO Programs

Upward Bound and Upward Bound Math-Science Programs (UB/UBMS): UB/UBMS serve WRIR high school students. Students participate over several years during high school with a focus on academic preparedness and intensive summer programs. These programs serve 175 participants annually, statewide.

Educational Opportunity Centers (EOCs): EOC programs serve participants throughout Fremont County with a focus on adults who wish to enter or re-enter college. These programs are designed to provide college-readiness services that are in high demand to 2,600 participants annually, statewide, most of whom they will see only once or twice during the year.

GEAR UP Wyoming (GU): GU programs operate as sub-grantees to UW and are overseen by each of Wyoming's community colleges. These programs serve middle and high school students with a focus on preparation for and entry to college. The GU program at Central Wyoming College serves native students throughout Fremont County.

Institution	Number of Native Students	Staffing	Location	Tuition Waiver
University of Wyoming	307 native students	3 full-time staff	Stand-alone center	No
Montana State University	800 native students	4 full-time staff	Stand-alone center	Yes
University of Montana	750 native students	The academic and student support services are combined in physical center - one dedicated program staff for native student support.		Yes
New Mexico State University	322 native students	The academic and student support services are combined in physical center - one dedicated program staff for native student support.		Yes, for specific state affiliated tribes
Colorado State University	140 undergraduate native students	3 fulltime staff	Office in Student Union	In state tuition for tribal students
University of Northern Colorado	90 native students	2 fulltime staff	Shared house with AAPI center	In state tuition for tribal students
University of Utah	102 native students	3 fulltime staff	Stand-alone center	Yes for specific state affiliated tribes

Benchmarking with Peer Institutions

Opportunities to advance current offerings

Evidence based practices UW will pursue:

- ❖ Define clear leadership focused on building a comprehensive vision for engagement with tribal nations and support of native students
- ❖ Outline a detailed first-year experience for native students
- ❖ Increase presence and engagement with students and families on the reservation, with focus on CWC and reservation area high schools
- ❖ Develop plan for greater assessment for native student success
- ❖ Increased financial support for native students
- ❖ Increase staffing for native-focused academic & research programs
- ❖ Benchmark with comparator institutions' other Native Center teams to learn more about their practices
- ❖ Increased recognition of native student success

Central Wyoming College Collaborations

- Emergency funding for students
- Joint Native Councils
- Further development of Alumni Group
- Student transportation to visit UW, CWC, and the reservation
- More formal transition plan for student progression into higher education
- Improved preparedness on math & science in partnering with reservation schools
- Collaboration regarding Native American Summer Institute
- Joint fundraising between schools

Native American Student Success at UW

Board of Trustees AA/SA Committee Report

November 2023

Contents:

Report Summary

Following conversations regarding Native American students and university programs at the July and September 2023 UW Board of Trustees meetings, the Academic Affairs & Student Affairs Subcommittee asked for a formal update on the following questions:

- What programmatic elements and resources are needed to increase native student success at the University of Wyoming?
- What will it take to overcome challenges and collaborate effectively for the success of native students?

In the last two decades, research has focused on the specific performance, challenges and needs of native students. Recent discussions in higher education and at UW have focused on tuition waivers for native students whose ancestral and tribal lands are tied to Wyoming. Indeed, several states and universities have launched such funding in the last year. However, the conversation on native student success extends far beyond tuition support. Current UW programs and initiatives are targeted at supporting native students and communities to provide a strong foundation for comprehensive student success. This report outlines the necessary next steps for increased native student enrollment and success at UW.

In the recently updated mission for the University of Wyoming, UW's land-grant mission is to serve as a unifying force expanding intellectual opportunity, advancing economic and cultural vitality, and contributing to the well-being of the communities that call Wyoming home. Land grant institutions have the obligation to serve the people of the state, including the nation's first peoples. Strong relationships with the tribes and a commitment to supporting native students are essential to fulfilling our land grant responsibilities.

Overview

Determining specific trends with native students can be challenging given the lack of systems that allow for accurate and reliable data for the small sizes of this student population. Research in the specific needs of underrepresented populations illuminate where work is needed at UW in evidence-based areas:

- Increase staffing support for native-focused academic and research programs
- Outline a detailed first year experience for both fulltime and transfer native students
- Increase presence and engagement with students and families on the reservation, with focus on CWC and reservation area high schools
- Develop plan for greater assessment and analysis related to native student success
- Increased financial support for native students
- Define clear leadership focused on progress with above priorities to build a comprehensive vision for engagement with tribal nations and support of native students

The above list reflects the needs identified by the Directors in the native academic, research, support services and TRIO programs. The strongest predictor of persistence is a student's prior academic achievement. Thus, we know our efforts must also include work with TRIO programs and local schools. It is important to note that further input is needed from the tribal leadership who have important insight to offer about student needs.

By the numbers: Native Enrollment, Retention and Graduation

Native students are not represented in higher education at the same rates as other historically marginalized populations. Only 19% of Native Americans ages 18 to 24 are enrolled in college compared with 41% of the overall U.S. population, according to the Postsecondary National Policy Institute. At the University of Wyoming, less than 1% of the student populations report Native American or Native Alaskan identities compared to 4% of the state population holding tribal affiliations. In recent years, college enrollment and completion rates have noticeably dropped, as described in the Cherokee Phoenix, as the number of Native Americans between the

ages of 25 and 29 holding an associate or bachelor's degrees decreased from 30 percent in 2000 to 27 percent in recent years.

A note about Integrated Postsecondary Education Data System (IPEDS) reporting is also helpful to review. If a student reports Native American or Alaska Native with any other race, they fall into two or more races. The federal methodology is to report students as Hispanic as the only ethnicity, regardless of any other race reported. Federally, the only time a report of someone as Native American or Alaska Native is if the student only chooses that race. As seen from the list, the federal methodology requires looking at all three race categories for a more complete understanding of the university's Native American or Alaska Native population.

UW Native First-Time Full-Time Students Enrollment, Retention and Graduation

At the University of Wyoming, native first-time full-time students represent just over half of the native student population.

Cohort Year	Native American or Alaska Native	Retained to Fall 2023	Graduated before Fall 2023	Two or More Races	Retained to Fall 2023	Graduated before Fall 2023	Hispanics of Any Race	Retained to Fall 2023	Graduated before Fall 2023	Total	Retained to Fall 2023	Graduated before Fall 2023
Fall 2017	3	0%	0%	34	59%	47%	10	60% (6)	60% (6)	47	55% (26)	47% (22)
Fall 2018	9	56% (5)	33% (3)	42	57% (24)	53% (22)	9	66% (6)	55% (5)	60	58% (33)	47% (28)
Fall 2019	11	36% (4)	9%(1)	31	53% (16)	37% (11)	6	66% (4)	66% (4)	48	51% (24)	34% (12)
Fall 2020	11	27% (3)	0%	23	17% (4)	0	5	80%(4)	0	52	21% (11)	0
Fall 2021	5	20% (1)	0%	11	55% (5)	0	12	33% (4)	0	28	25% (7)	0
Fall 2022	7	71% (5)	0%	29	44% (13)	0	14	64% (9)	0	38	66% (25)	0

For reference, according to the Postsecondary National Policy Institute, 42% of first-time, full-time Native American students attending four-year institutions beginning in 2014 graduated within six years, compared to 64% for all students.

UW Native Transfer Student Enrollment, Retention and Graduation

Native students transfer to the University of Wyoming most consistently from several regional community colleges. Most notably, from Fall 2017 – 2022, transfer rates for native students from Wyoming community colleges include Central Wyoming College 21%, Casper College 13%, Northern Wyoming Community College District 12%, Laramie County Community College 12%, Western Wyoming Community College 7%, Eastern Wyoming Community College 6%, and Northwest Community College 4%.

Cohort Year	Native American	Retained to Fall	Graduated before Fall 2023	Two or More	Retained to Fall	Graduated before Fall 2023	Hispanics of Any	Retained to Fall 2023	Graduated before Fall 2023	Total	Retained to Fall	Graduated before Fall 2023
Fall 2017	11	0%	45% (5)	26	8% (2)	46% (12)	8	0%	63% (5)	45	4% (2)	49% (22)
Fall 2018	11	0%	45% (5)	22	4% (1)	59% (13)	3	0%	33% (1)	36	3% (1)	53% (19)
Fall 2019	13	0%	54% (7)	19	10% (2)	42% (8)	3	0%	100% (3)	35	6% (2)	51% (18)
Fall 2020	17	18% (3)	24% (4)	15	27% (4)	33% (5)	7	29% (2)	43% (3)	39	23% (9)	31% (12)
Fall 2021	5	40% (2)	20% (1)	17	35% (6)	29% (5)	6	66% (4)	27% (1)	28	7% (2)	25% (7)
Fall 2022	6	83% (5)	0%	7	57% (4)	14% (1)	9	89% (8)	0%	22	32% (7)	4% (1)

Financial Aid and Scholarship Details

The financial realities of higher education can be a barrier to enrollment and academic success for many students. Scholarships and financial aid are important components for student success and educational access, particularly for our native students. The University of Wyoming has 15 scholarships designated for native students. In AY22-23, $160,674 in specific native scholarships attending the University of Wyoming was distributed to 36 recipients.

Hathaway Scholarships are the largest source of scholarship-based support for in-state students at the University of Wyoming. Currently, only 13% of Native American or Alaska Native students and 21% of the larger native student body receive the Hathaway. Various eligibility factors influence who accesses these funds as seen in the snapshot of Hathaway utilization this semester.

<u>Fall 2023 Total Native Hathaway Utilization</u>

69 students with Native American or Alaska Native as their only race/ethnicity:

- 9 current Hathaway recipients (13%)
    - 5 Performance level
    - 2 Opportunity level
    - 1 Honors level
    - 1 Provisional Opportunity level
- 15 exited high school before Hathaway existed
- 13 out-of-state residents
- 10 transfer students, eligibility not provided
- 9 previous Hathaway recipients (3%)
- 5 did not attend a Wyoming high school
- 4 Provisional Opportunity qualifications, but did not initiate at a WY community college
- 3 not eligible due to high school GPA, ACT score, and/or incomplete high school curriculum
- 1 did not initiate Hathaway within eligible timeframe

American Indian or Alaska Native Students	Fall 2017	Fall 2018	Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023
American Indian Students (Federal Methodology)	64	66	73	90	77	65	69
Pell Eligible	25	29	25	36	28	24	28
% Pell Eligible	39.1%	43.9%	34.2%	40.0%	36.4%	36.9%	40.6%
Any student choosing American Indian as part of multiple races	311	334	337	330	302	300	307
Pell Eligible	94	94	111	95	86	77	96
% Pell Eligible	30.2%	28.1%	32.9%	28.8%	28.5%	25.7%	31.3%

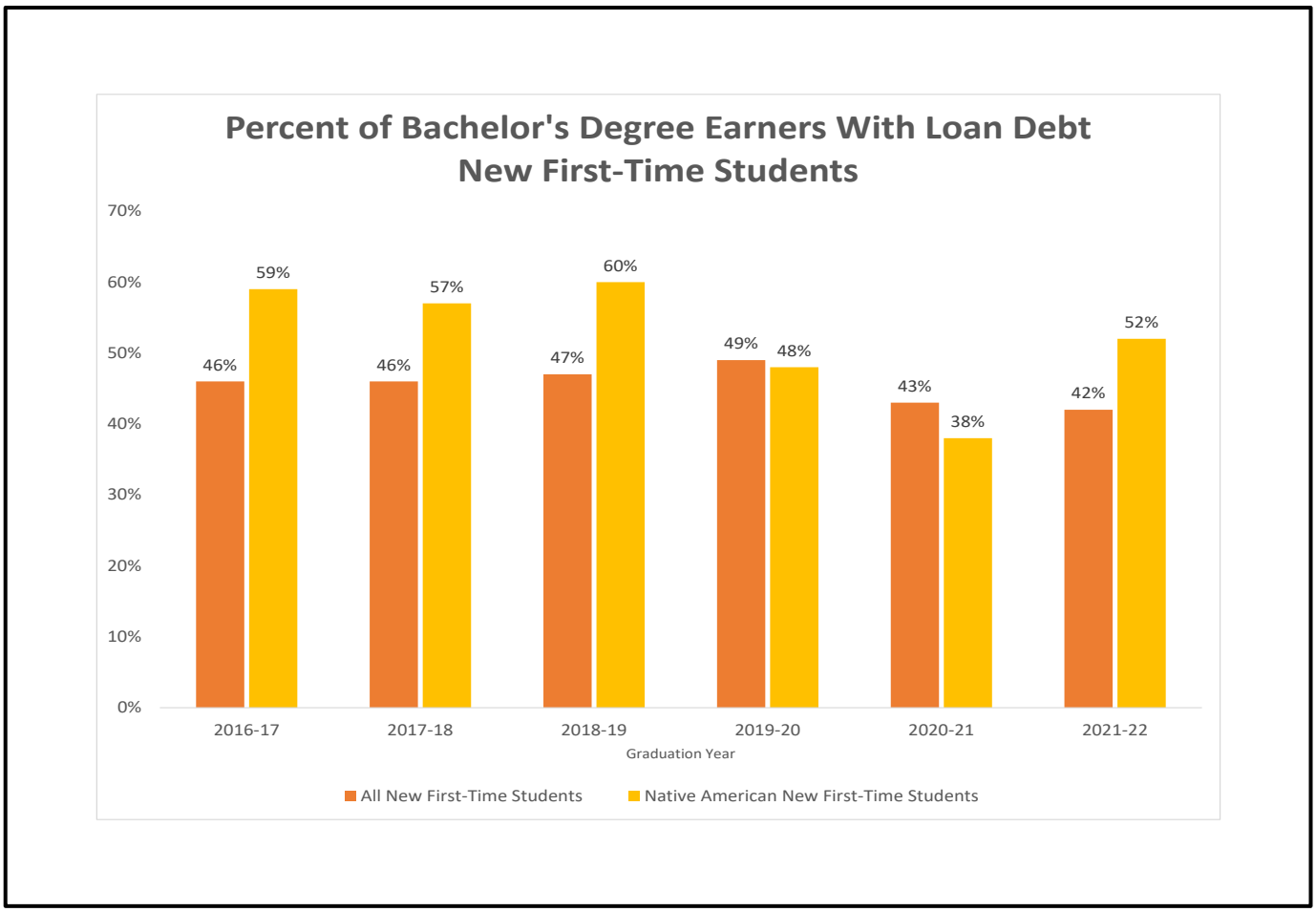
307 Students Native American or Alaska Native, Hispanic of Any Race or Two or More Races:

- 64 current Hathaway recipients (21%)
    - 27 Performance level
    - 25 Honors level
    - 9 Opportunity level
- 3 Provisional Opportunity level
- 66 out-of-state residents
- 60 previous Hathaway recipients
- 38 transfer students, eligibility not provided
- 31 exited high school before Hathaway existed
- 25 did not attend a Wyoming high school
- 13 not eligible due to high school GPA, ACT score, and/or incomplete high school curriculum
- 9 Provisional Opportunity qualifications, but did not initiate at a WY community college
- 1 did not initiate Hathaway within eligible timeframe

Native students utilize financial aid options at rates above those seen with the full undergraduate population.

For those first-time native students who ultimately earned their bachelor's degree, their rates of loan debt were higher than those of the total first-time undergraduate population.

		All Undergraduates				Native American Undergraduates			
Population	Graduation Year	Degree Earners	Degree Earners Who Borrowed	Percent of Degree Earners Who Borrowed	Average Amount Borrowed at UW	Degree Earners	Degree Earners Who Borrowed	Percent of Degree Earners Who Borrowed	Average Amount Borrowed at UW
New First-Time	2021-22	1,129	475	42%	$24,771	29	15	52%	$28,579
New First-Time	2020-21	1,101	475	43%	$23,798	21	8	38%	$36,263
New First-Time	2019-20	1,161	566	49%	$23,447	27	13	48%	$25,599
New First-Time	2018-19	1,155	539	47%	$23,325	25	15	60%	$28,132
New First-Time	2017-18	1,057	488	46%	$23,844	23	13	57%	$19,098
New First-Time	2016-17	1,097	510	46%	$22,628	22	13	59%	$16,049
Transfers	2021-22	840	364	43%	$19,736	29	14	48%	$17,034
Transfers	2020-21	949	455	48%	$20,779	35	22	63%	$21,507
Transfers	2019-20	943	420	45%	$20,316	30	13	43%	$22,101
Transfers	2018-19	890	432	49%	$20,515	29	22	76%	$19,063
Transfers	2017-18	912	441	48%	$20,388	20	9	45%	$19,812
Transfers	2016-17	916	501	55%	$22,093	18	15	83%	$26,432



While the conversations thus far have focused on tuition waivers as seen offered in other states, the cost of attendance also includes many other factors including housing, utilities, food, educational materials, transportation, and other living costs. The Native Center, HPARI and NAIS teams work to connect native students with employment opportunities each semester, but the financial needs extend beyond what most students can reasonably manage while attending school full-time. Ultimately, this means our native students are often not able to pursue experiences such as study abroad, field experiences or summer courses because of the associated financial burden. The University of Wyoming will need to continue to explore avenues for financial support that go beyond tuition to offset the unseen costs of attendance.

Benchmark Brief

In service of staying current and competitive with the resources UW provides to Native students, a brief benchmarking assessment was completed with 15 other schools, ranging from Utah State University to Tufts University (Appendix A). The primary takeaway is that UW is competitive with comparative schools regarding space allocation on campus, and breadth of programming. When comparing population of student size to full-time staff, UW is strong but not leading, an area that has been identified for further development. While some schools have a select feature, such as a particular program design, that school may also be serving a small population and have only one staff member.

Native American Education, Research and Cultural Center (NAERCC)

In *Beyond the Asterisk: Understanding Native Students in Higher Education*, Shotton, Lowe and Waterman, contend success for native students attending non-native universities depends on three key areas: 1) a strong first year experience which includes academic support, mentorship and living learning communities, 2) cultural connections reflected in the physical environment of campus, in the curriculum and in programming available to the community, and 3) supportive relationships for staff and faculty, particularly those with native affiliations.

The Native American Education, Research and Cultural Center (NAERCC, aka The Native Center) opened in Fall 2017 to serve as a community center for native students and programming. The Native Center has three staff focused on native student success through programming, community building and resource connection. NAERCC also serves as the physical home for the Native & Indigenous Studies (NAIS) program, High Plains American Indian Research Institute (HIPARI).

Student Support & Comprehensive Programming

Individualized Student Support

The Native Center staff reach out to students at the beginning of each semester to schedule check in appointments and follow up with students throughout the semester to check in and connect to appropriate resources for support. Following the release of early alert grades, staff connect with students who are struggling to make a plan for academic success and addressing challenges.

Academic Programming

Retention and graduation data reveal that it is particularly crucial for native students to have a successful first year experience. The NAERCC team wants to support strong academic habits and access to campus-wide resources for the students whom they serve. They foster a family atmosphere with strong relationships built with students and with invited campus partners.

Examples of academic programs include:

- Regular Study Nights at NAERCC
- “Sips & Tips” Financial Aid & Scholarships Support Event
- STEP and Writing Center Tutoring Support hosted at the NAERCC

Cultural Programming

Native students come from communities rooted in cultural values and interdependent communities. These students often struggle with integrating institutional values, reflective of a more independent society which do not align with the values of the communities they come from. Cultural events are important components. The Native Center team works closely with the native student organizations, NAIS and HIPARI to organize culturally focused events and programs. From film screening and discussions to dinners with visiting native artists, the Native Center team is intentional about creating moments that honor culture, history and community practices.

Examples of cultural programs include:

- Native Women’s Wellness Weekend
- Grief and Healing Circles
- Cedaring & Smudging Ceremonies

NAERCC Signature Annual Events:

- Indigenous Peoples Day
- Native Graduation Ceremony and Dinner
- Native American Heritage Month Events
- Murdered and Missing Indigenous People's Day

Other Community Building

The Native Center team works closely with other teams focused on supporting underrepresented students at the university. Additionally, as noted in the demographic information, UW has seen a significant increase in the number of students who report holding other identities in addition to their tribal affiliations. These collaborations bring together students who face similar challenges and create a larger community of support.

Examples of cross-community programming includes:

- Multicultural Living Learning Community (combined Native and LatinX groups)
- Students of Color Circles
- Multicultural Affairs Speaker Series
- Outdoor Program partnerships for students of color
- Intersectional identity support
- Planned expansion of the fraternity and sorority community to include multicultural chapters and council

Basic Needs

As a function of their student support work, the Native Center team focuses on making sure students have their basic needs met. This support varies based on the needs of the students but includes:

- Sharing student employment opportunities and assisting with resumes and applications
- Informing students about scholarship opportunities and connecting to financial aid team for support
- Maintaining a food cabinet in the NAERCC open to all students
- Working with campus partners to connect students to appropriate campus, community resources and emergency fund support

Recruitment & Outreach

The NAERCC, NAIS and HIPARI teams work with UW Admissions to support regular recruitment efforts on the reservation. The Native Center team also visits the reservation and surrounding area schools annually to promote the Native American Summer Institute, a 6-day summer program hosting high school age students for an on campus residential and academic experience.

Tribal Relations

Along with HIPARI, the Native Center teams maintains frequent communication with members of the Wind River Indian Reservation Tribal Councils as well as tribes outside of Wyoming. The staff also connect with the reservation schools and higher education commissions. As members of these tribes, the team understands the importance of keeping the communities informed and attending to their concerns as they arise. The HIPARI, NAIS and Native Center teams often host meetings or events with visiting tribal members. Additionally, they are contacted by other tribes or tribal organizations who work with or have interest in the University of Wyoming.

Native Student Organizations
The Native Center team serves as advisors or support staff for native specific organizations.

Keepers of the Fire
Established in 1971, the Keepers of the Fire (Keepers) is the University of Wyoming's longest standing student organization. Keepers is committed to keeping the Native American culture alive and strong. The name, Keepers of the Fire has a very special meaning. It is meant to imply that the "fire" of Native culture must be protected and kept by those who value its worth. The students host regular meetings and potluck dinners as well as sponsor culture and education activities open to all of campus.

American Indian Science and Engineering Society (AISES)
The American Indian Science and Engineering Society (AISES) is a student organization focused on substantially increasing the representation of Indigenous peoples of North America and the Pacific Islands in science, technology, engineering, and math (STEM) studies and careers. The vision of the American Indian Science and Engineering Society (AISES) is for the next seven generations of Native people to be successful, respected, influential, and contributing members of our vast and ever-changing global community. The AISES University of Wyoming chapter was established in 2020 and facilitates trips for students to national and international conferences.

Staff
Reinette Curry
Director of the Native American Education, Research and Cultural Center
- Joined NAERCC in 2017
- UW Alumni; BA in Elementary Education, MSW in Social Work
- Tribal Affiliation: Northern Arapaho, Northern Ute and Pyramid Lake Paiute
- Professional Affiliations
    - National Indian Education Association
    - National Student Affairs Professional Association (NASPA) Indigenous Peoples Knowledge Community: Co-chair of Professional Development Committee

Cass Underwood
Native American Student, Program Coordinator
- Joined NAERCC in 2022
- UW Alumni: BS in General Studies
- Tribal Memberships: Northern Arapaho
- Professional Affiliations
    - American Indian Education Association
    - National Student Affairs Professional Association (NASPA) Indigenous Peoples Knowledge Community

VACANT Native American Education Research and Culture Center, Office Associate Sr**.**

Needs and Opportunities:
First Year and Transfer Student Experience:
- Working with campus partners to outline a detailed plan for support of first-time full-time students as well as transfer students to include:
    - Connecting with Native American students involved in Saddle Up

    - Enhancing current Living and Learning Communities in partnership with Residence Life
    - Establishing of FYE course for native first-time full-time students as well as new native transfer students
    - Enrolling students in shared courses including Native American & Indigenous Studies introductory classes
    - Fostering a mentorship program between new and returning student
    - Developing of program calendar for engagement and support throughout the academic year
    - Engaging families in supporting students through letters and care package initiative, parent weekend and zoom sessions

Assessment:

- Establishing learning outcomes and assessment plans for all educational programming in alignment with Division of Student Affairs goals

Reservation Staffing Support:

- Creating a recruitment and outreach position to work with NAERCC team, housed at CWC, who can connect with current CWC students, support Native American Summer Institute (NASI) participant recruitment, assist with regular visits to the high school and support in planning annual event to engage with students and families

Financial Resources for Students:

- Exploring options for financial support of students beyond tuition to assist with additional costs of attendance

Mental Health Support for Students:

- Connecting students with someone of native heritage for mental health support so they are sharing challenges with someone who understands their cultural context

Long Term Investment for a Larger Native Center:

- Would like to have more space for community gatherings, study spaces, a larger classroom and offices for support services and faculty positions

Native American Summer Institute (NASI)

The Native American Summer Institute (NASI) is a 6-day residential summer pre-college program designed to familiarize Native American high school students to the University of Wyoming. The participants are exposed to a full college experience by staying in the residence halls, attending academic workshops, and participating in activities on and off campus. Native American cultural activities are also included to promote and maintain their cultural identity.

NASI helps build leadership skills, and new relationships with peers, UW faculty and staff, and current UW Native American college students. NASI continues to build and maintain partnerships with Native American communities, the UW campus, the city of Laramie, and within the State of Wyoming. Every year, NASI is seeing growth with participant applications from the Wind River Reservation and now other tribal communities in the region. The program launched in Summer 2017 with 29 high school participants attending, spanning from grades 9 – 12. In Summer 2023, the 5th year of the program, NASI hosted 36 participants attending the week of programming. Note: In Summer 2020, there was no NASI due to pandemic and in Summer 2021, NASI was hosted online due to pandemic.

Currently, research is underway with NAERCC & HPAIRI interns to determine which participants matriculated to higher education opportunities in Wyoming or beyond. At least 10 current UW students were past NASI participants who have served as peer mentors in the program.

Needs and Opportunities

Assessment:

- Establishing learning outcomes and assessment plans for all educational programming in alignment with Student Affairs goals

High Plains American Indian Research Institute (HPAIRI)

The High Plains American Indian Research Institute (HPAIRI) aims to promote positive and productive relationships between the University of Wyoming and regional Indigenous communities. HPARI was established with the support of Wyoming's Established Program to Stimulate Competitive Research in 2012 to facilitate a reciprocal relationship between the Northern Arapaho and Eastern Shoshone people of the Wind River Indian Reservation and University of Wyoming. Assisting with research, education, and service, the HPAIRI intends to facilitate tribal access to university resources and, at the same time, to help UW researchers connect with tribal communities in a coordinated fashion.

The mission of the High Plains American Indian Research Institute (HPARI) at the University of Wyoming is to empower Tribal Nations by facilitating and providing access to innovative research opportunities with the University of Wyoming (UW). Given this mandate, the Institute's work is interdisciplinary and broad in scope. Far from focusing on one specific discipline or area, HPAIRI aims to facilitate partnerships between Tribal Nations in the High Plains region and the world-class researchers at UW across disciplines, departments, and academic programs.

The HPAIRI will facilitate collaborative research among tribal communities, UW and visiting faculty, and UW undergraduate and graduate students. Its research agenda will be based on the needs and interests of Native communities in the region and those communities will be full partners in research endeavors. Additionally, the HPAIRI is working toward establishing a collection of informational materials that may assist both tribal and UW researchers with their projects.

In accomplishing this mission, HPAIRI's work is generally divided into five core themes:

1. Strengthen and Facilitate Relationships between UW and Wyoming-based Tribal Nations
2. Empower Tribal Citizens through Direct Participation in the Research Enterprise
3. Educate the UW Community, and the State of Wyoming in General, Regarding Opportunities to Develop Positive Relationships with Tribal Peoples
4. Develop a Repository for American Indian Research
5. Create a Clearinghouse for Research Partnerships

Current Projects

NEH Elk Project

The Wind River elk project supports efforts to discover, understand, and communicate ways in which Eastern Shoshone and Northern Arapaho people have known and celebrated elk through stories, songs, visual art, and ceremonial life. While recognizing the historical, political, and cultural differences between the Eastern Shoshone and Northern Arapaho people, the work being done through this project demonstrates that both tribes have longstanding relationships with elk, often seeing elk as important relatives with spiritual, economic, political, social, linguistic, and artistic dimensions. This project has produced 3 videos with curriculum for elementary teachers. January 2024

CIRCLES Alliance

Cultivating Indigenous Research Communities for Leadership in Education and STEM(CIRCLES) is a National Science Foundation initiative to develop native based STEAM education activities for K-12 and

higher education students with partnerships with tribal colleges and communities in 6 states. Dr. Tarissa Spoonhunter is the primary investigator.

- $1.1 Million to UW Fall 2022-2027
- STEAM Curriculum Development
    - Buffalo TEK buffalo boxes for elementary schools
    - Hinono'ei Language Pilot 11 teachers on the Wind River Reservations
- Public Repository
- 6 state CIRCLES Alliance
- Wind River Tribal Buffalo Initiative:
    - 2 interns to assist with summer programming for K-12 College/university tours
    - 2 community events, dinner, oral storytelling, and traditional games.
    - One graduate fellowship collaboration with WRTBI and Collaborative Earth.

Wyoming Anticipating Climate Transitions WY-ACT 2022-2027

The broader impacts of the project will improve existing programs and innovate innovative approaches for education, workforce development and new business ventures on the Wind River Indian Reservation and in rural areas across Wyoming that are vulnerable to climate-induced disturbances.

- Hosted listening sessions on the Wind River Reservation at Frank B. Wise Center in Fort Washakie
    - Homeland Security: WY-ACT has assisted in putting in weather station and gaging equipment for snow runoff in the Wind River Basin. WY-Act is hiring a technician to assist in data collection to help make informed decisions.
    - Tribal Water Engineers Office: WY-ACT is attending the monthly water board meetings and keeping them informed on the collaborative efforts with Homeland Security.
    - Tribal Fish and Game: WY-ACT and the CIRCLES Alliance will help with the curriculum for youth. CIRCLES will provide a summer intern to assist with their data collection.
    - Tribal Historic Preservation Office: WY-ACT and CIRCLES will help fund 2 internships to assist with their GIS mapping and surveying.
- WY-ACT and WRTBI will be stream restoration at the Crow Creek site spring of 2024 in partnership with Greater Yellowstone Coalition.
- One tribal Graduate Research Assistant will assist HPAIRI in Water Storytelling of the Wind River People 2023-2024.
- Wind River Start-up Challenge
    - $25k Economic team
    - Match funding
    - Research components to inform program and tribal leadership information about the business climate with survey data.

Wind River Reservation Microbiome Project 2017-2023

- PI, Tarissa Spoonhunter (CWC/UW)
- Microgrants to tribal programs for STEAM and TEK
    - Wind River Tribal Buffalo Initiative $10k
    - Wind River Tribal College $15k
    - Arapaho School Tipi Curriculum $5k
    - Choke Cherry Trees Fort Washakie School and Little Wind River $2k
    - Wyoming Indian High School Robotics $1k
    - Wyoming Indian High School Technology Center $13k

    - Eastern Shoshone Housing $ 4k
    - Alpine Science Institute ICCE and BIKES $17k
    - St. Stephens High School $5k
- Scholarships to CWC Students $25k

Growing Season
Funded by the USDA/NIFA program in New Beginnings for Tribal Students Program. Offers mentorship and support to current and prospective Native American students in food system studies, including health, environment and agriculture at UW and CWC. Includes collaboration with Native American Summer Institute at UW.

- Awarded $288k plus 100% match by UW and CWC
- PI Jill Keith and PI Tarissa Spoonhunter at UW
- Partners on the Wind River Reservation:
    - Northern Arapaho Ranch
    - US Fish and Wildlife
    - CWC Agriculture Program
    - Buffalo Restoration
    - Eastern Shoshone Traditional Foods

Grants Awarded 2023

- NSF Engines Development Award Advancing Quantum and Supporting Technologies in the Northern Intermountain Sates MT WY ID
    a. $231,662
- DOE (Department of Energy) Project WYOTCH Tribal Training pilot $625k to UW

Staff:

Dr. Tarissa Spoonhunter

- Director of High Plains American Indian Research Institute
- Assistant Professor of Haub School for Natural Resources and environment and Native American Indigenous Studies
- Treaty Reserved Rights on traditional lands
- Experience in tribal resource management, traditional ecological knowledge, and interdisciplinary approaches
- Enrolled Member of the Northern Arapaho Tribe and descendant of the Blackfeet and Oglala Nations

Wolf Star Duran

- Undergraduate Intern CIRCLES Alliance
- Enrolled Northern Arapaho
- Major: Native American Indigenous Studies

Johnna Arthur

- Graduate Intern USDA Growing Season
- Enrolled Northern Arapaho
- Major: NAIS and sociology

Juwan Willow

- Undergraduate intern USDA Growing Season
- Northern Arapaho
- Data Analyst for Native American Summer Institute

Needs and Opportunities:

- Program Staffing: The HPAIRI program has had success in the past year and is involved in a variety of projects. As such, there is need for several positions if we are to grow the program to its full potential as a means of research, tribal relationships and nation building force for the reservation. The proposed positions over the next several years would include:
    - Asst Director Tribal partnerships
    - Research Director, Data Analyst
    - Tribal Energy Specialist
    - Nation Builder on the Wind River Reservation
    - Workforce Coordinator

Native American and Indigenous Studies (NAIS)

Native American and Indigenous Studies (NAIS) offers an undergraduate major, undergraduate minor, and a graduate minor. This interdisciplinary course of study examines the cultural, social, economic, political, and educational systems of Native and Indigenous communities. The NAIS program develops respect for, and understanding of, Native views, culture and history and provides learners with the Native perspective on contemporary issues. Students in NAIS develop and refine skills in creative and critical thinking and analysis and graduate prepared to succeed in any field they choose. UW majors and minors work both in and out of Native and Indigenous communities and are well-prepared to work as teachers, researchers, social workers, health care providers, resource managers, economic developers, and lawyers, to name a few. Native American and Indigenous Studies is housed within the School of Culture, Gender and Social Justice.

Recent Course Offerings:
Fall 2023- Spring 2024

- NAIS1001 - Foundations in American Indian Studies
- NAIS1010 - Beginning Indigenous Language
- NAIS2010 - Intermediate Indigenous Language
- NAIS2290 - History of North American Indians
- NAIS5360 - American Indian Women
- NAIS3010 – Arapaho Language
- NAIS3200 - Indigenous Peoples and the Environment
- NAIS4010 – Advanced Indigenous Language
- NAIS4100 - Tribal Government
- NAIS4342 – Natural Resource Management on Western Indian Reservations
- NAIS4464/5564 – Native American History in the 20th Century
- LAW6700 - Indian Law*
- LAW6735 - Native American Natural Resources Law*
  *Law school faculty who taught these classes has recently left the institution.

For a full list of current and past course offerings in this discipline, please visit the website:
https://www.uwyo.edu/nais/course-offerings/index.html

Staff:
Dr. Bridget Groat

- Director and Assistant Professor of Native American and Indigenous Studies
- Research interests include 19th and 20th century Native American history, Indigenous women's history, oral history, Alaska Native history, Indigenous food sovereignty, environmental history, and public history.
- Enrolled Member of the Naknek Native Village and Alaska Native of Iñupiaq, Yup'ik, Alutiiq, and Dena'ina descent

Dr. Tarissa Spoonhunter

- Director of High Plains American Indian Research Institute
- Assistant Professor of Haub School for Natural Resources and Environment as well as Native American Indigenous Studies
- Research focused on Treaty Reserved Rights on traditional lands
- Experience in tribal resource management, traditional ecological knowledge, and interdisciplinary approaches

- Enrolled Member of the Northern Arapaho Tribe descendant of the Blackfeet and Oglala Nations

Dr. Jessica Nelson
- Associate Professor in Anthropology and Native and Indigenous Studies
- Linguistic Anthropologist with research focused on community-based language revitalization, indigeneity, language and social meaning, and race and racism
- Experience working with Standing Rock Sioux Tribe, Lakota Language Consortium and Pataxó Hãhãhãe of Bahia, Brazil

Dr. Jeffrey Means
- Department Head, History
- Associate Professor in History and Native and Indigenous Studies
- Research focused on Great Plains Indian culture, Colonial Cultural Encounters and Oglala Lakota cultural history in the 18th and 19th century
- Enrolled Member Ogalala Sioux Tribe

Robyn Lopez
- Instructor for Arapaho Language

Needs and Opportunities:
Restructuring the NAIS major:
- Recently the NAIS director reviewed and restructured the NAIS minor requirements.
- Need to update current NAIS major requirements to reflect lack of faculty and reduced course options.

Dedicated Faculty Lines:
- There is only one dedicated NAIS faculty member who also serves and the director. Faculty from other departments also teach for NAIS with cross-listed courses for Anthropology, History, Law, English and Haub.
- Low faculty availability leads to complications for students within the degree program and fewer students ultimately enrolled as majors, minors or graduates.
- Looking to grow dedicated fulltime faculty by one position.

Student Educational Opportunity Programs in Fremont County

Student Educational Opportunity (SEO) at UW operates under seven federal grants from the U.S. Department of Education, totaling approximately $6M annually. These TRIO and GEAR UP grant programs serve socioeconomically disadvantaged students and families in Wyoming (first generation and low-income) to prepare participants to enter college, persist in and graduate from college, and, for one grant, prepare to enter graduate school and earn a PhD. These programs operate statewide and at UW, serving approximately 5,000 students annually. Five of the programs provide services in Wind River Indian Reservation (WRIR) schools and Fremont County.

History:
TRIO programs have been continuously hosted at UW since the early 1970s, when congress first established funding for them. UW's first director of SEO, Fuji Adachi, is the person who undertook the statistical analyses that established the "first generation" student (someone whose family does not have a college-going tradition) as a population in need of specific services in order to prepare for college and succeed in college. His testimony to congress built the framework for inclusion of "first generation" as one of the eligibility criteria for students wishing to enroll in a TRIO program.

Since then, programs have intermittently been established under the TRIO umbrella, notably STEM-focused programs beginning in the 1990s. UW hosts both an Upward Bound Math-Science program serving high school students and the McNair Scholars program which focuses on undergraduate student research opportunities and preparation for graduate school. The GEAR UP program was established by congress in 1998 and has been hosted by UW since 2008.

Services and Objectives:
Each SEO grant-funded program operates under a set of required services and objectives for student achievement that are established under legislative and regulatory authority. Services vary by program and include assistance with completing the Hathaway Success Curriculum, academic tutoring, advocacy in the schools, financial literacy, summer programs and experience in completing research projects, college visits, assistance with completing the FASFA, and understanding the necessary bureaucracy of application to college and college enrollment.

Objectives for participant achievement of educational outcomes are set after establishing baselines (at what level do students eligible for these programs achieve academic goals when not receiving grant-funded services?). For instance, if only 37% of low-income students in a target school meet math proficiency level, we will look at longitudinal achievement data of students served by SEO to determine how high we can set that objective for students who receive services and then propose that level when competing for grant funding.

Programs serving Wind River Indian Reservation schools and native students in Fremont County:

Upward Bound and Upward Bound Math-Science Programs (UB/UBMS): UB/UBMS serve high school students at St Stephens Indian School (a BIA school), Wyoming Indian High School, and Ft. Washakie High School and at four additional schools in Fremont County. Students participate over several years during high school with a focus on academic preparedness and intensive summer programs. These programs serve 175 participants annually, statewide.

Educational Opportunity Centers (EOCs): EOC programs serve participants throughout Fremont County with a focus on adults who wish to enter or re-enter college. These programs are designed to provide college-readiness services that are in high demand (such as payment for high school equivalency testing and assistance with completing the FAFSA) to 2,600 participants annually, statewide, most of whom they will see only once or twice during the year.

GEAR UP Wyoming (GU): GU programs operate as sub-grantees to UW and are overseen by each of Wyoming's community colleges. These programs serve middle and high school students with a focus on preparation for and entry to college. The GU program at Central Wyoming College serves native students throughout Fremont County but does not serve schools on WRIR given that CWC has a prior GEAR UP program serving reservation schools.

Outcomes:

Upward Bound and Upward Bound Math/Science: During the pre-pandemic reporting year (2019-2020), UB/UBMS served 14 seniors in WRIR schools and 15 Native American students in non-reservation schools in Fremont County. The high school graduation rate for WRIR seniors was 93% and 63% of those seniors submitted a FAFSA and enrolled in postsecondary education.

Educational Opportunity Centers: Though not EOC's target population, 41 high school students attending WRIR schools received services related to submission of a college applications and/or completion of the FAFSA. Among the WRIR schools served, 86% of the FAFSA submissions reported by WDE (24 of 28) were submitted with the assistance of EOC staff. At St. Stephens (a BIA school and not reported to WDE), 11 of the 13 seniors served by EOC submitted the FAFSA. Among Native American secondary school students in Fremont County who do not attend a WRIR school, EOC served 37 participants including 27 seniors, 25 of whom completed the FAFSA.

GEAR UP Wyoming: GU served 71 native students in the last reported year (none in WRIR schools as noted earlier). Though only four Native American students were seniors in the prior year, three of the four students enrolled in college the following fall.

Operational challenges Fremont County:
It can be difficult to recruit qualified coordinators to staff SEO programs given that a bachelor's degree and targeted experience with the population being served are required. The educational attainment rate among adults in Fremont County is low which, necessarily, reduces the local pool from which to encourage application for positions.

Similarly, it can be difficult to recruit participants to multi-year programs who are both eligible and "suitable," meaning that they aspire to attend college and believe that this can be an attainable goal with the assistance of program staff and services. Among those students and families who would like to consider college enrollment, concerns related to attaining academic readiness and, especially, college affordability can turn them toward other post-secondary options. Consideration of these potential barriers is not unique to Native American families, though native families and children often choose to prioritize education, skill development, and cultural traditions that stand apart from formal degree attainment.

Without regard to these challenges, Native American participants who work with staff in SEO programs overwhelmingly have educational objective attainment rates that exceed those of socioeconomically

disadvantaged students who do not receive services. This is apparent in rates of success curriculum completion, high school graduation, FAFSA completion, enrollment in college, and persistence in college.

Upcoming and Future Efforts

The work to ensure students have a successful higher education experience is never done as are the efforts to have productive and highly functional relationships with colleagues on the Wind River Reservation. As such, UW will continue to dedicate the time and resources needed to further increase the retention and graduation rates of Native students and build towards cooperative relationships with members of the Eastern Shoshone and Northern Arapaho tribes. The three following areas will further develop in the coming years in pursuit of the desired outcomes.

Evolution of UW support, education, research, and economic development with Native communities:

The directors within the Native Center have multiple ideas regarding further refinement and evolution of services and practices in native related education, research, student support, and economic development on the reservation. As a result of changes in leadership across many of the areas, there is need and great value in more clearly articulating and implementing protocol related to faculty research on the reservation, community events and programming on the reservation, and generation of economic development efforts.

Collaborations with Central Wyoming College:

Through a recent visit to CWC and meetings with the President's cabinet, Provost Carman, VP Hall, and VP Chestnut were able to identify further collaboration opportunities. Three primary efforts include the integrations of the CWC Native Council Board as part of the UW Native American Academic Affairs Council. This collective representation will provide for more insight from the members of the Northern Arapaho and Eastern Shoshone tribes. Additionally, there is an interest in further exploring the shared efforts for the Native American Summer Institute, preparing students for transition from CWC to WU, and having both institutions work with the K-12 schools to address needs regarding math and science preparation. There were also initial ideas about how to create a student transition plan from high school to CWC to UW that more closely aligns with family and spiritual traditions of their native community. The idea that students could potentially be dual-enrolled at CWC and UW could help with simplifying elements of transition. Lastly, the process to assess space utilization in the Intertribal Center on the CWC campus has already been initiated.

Ongoing student and community feedback:

Student feedback is gathered through a variety of sources as part of the current operations at UW. On a weekly basis, students share input via meetings with Cowboy Coaches, programming within the Native Center, formal and informal meetings with the directors within the center, and from students who are employed with NAERCC and HPAIRI. It has been identified that further inquiry with Native students who have not been pertained at UW could provide insightful feedback. Native students who engage with programming at the Native Center often share about the nature of the decision to discontinue. Further work could be done to follow up with other students who leave UW where there was not an opportunity to get input about the nature of their change in their higher education plans.

Appendix A: Benchmarking Data

Institution	Number of Native Students Served	Staffing	Location	Tuition Waiver
Montana State University*	800 native students	4 full-time staff	Stand-alone center	Yes
University of Montana	750 native students	The academic and student support services are combined in physical center - one dedicated program staff for native student support.		Yes
University of Arizona	1931 students	1 fulltime staff person in center	New building is in design process	Yes, for specific state affiliated tribes
Arizona State University	1.1% of 112K student population	The academic and student support services are combined in physical center - one dedicated program staff for native student support.		Yes, for specific state affiliated tribes
Northern Arizona State University	1500 students	6 fulltime staff	Stand-alone center	Yes for specific state affiliated tribes
New Mexico State University	2.3% of 14K student population	The academic and student support services are combined in physical center - one dedicated program staff for native student support.		Yes, for specific state affiliated tribes
University of New Mexico	Approximately 8% of 24K student population	5 fulltime staff	Shared offices in Mesa Hall	Yes, for specific state affiliated tribes
Colorado State University*	Roughly 140 undergraduate students	3 fulltime staff	Office in Student Union	In state tuition for tribal students
University of Colorado Boulder	1.5% of 37K student population	The academic and student support services are combined in physical center - one dedicated program staff for native student support.		No
University of Northern Colorado	Less than 1% of 9K student population	2 fulltime staff	Shared house with AAPI center	In state tuition for tribal students
Utah State University	1.4% of 54K total full-time and part-time enrollment	no dedicated positions for Native American student support	Part of Inclusion Center	Yes for specific state affiliated tribes
University of Utah	.3% of 34K population	3 fulltime staff	Stand-alone center	Yes for specific state affiliated tribes
Tufts University	Less than 1%	1 fulltime staff person	No center	No
University of Minnesota-Morris*	300 Native American students; 25% of population	4 fulltime and two liaison positions	Stand-alone center	
University of North Carolina - Pembroke	950 native students of 8K	3 full-time staff	Offices located in Old Main Hall	In state tuition for tribal students

*Meetings scheduled with these teams and NAERCC staff to further explore aspects of their work with students.