

Board of Trustees
Committee on Academic and Student Affairs
November 13, 2019
10:00am-12:00pm
Marian H. Rochelle Gateway Center, Boyd Conference Room

Committee Report

UW Trustees: Michelle Sullivan, David Fall, Macey Moore, Mel Baldwin

1. Discussion on Food Insecurity

1. Information/Discussion: Presentation on current Food Insecurity issues at UW, impacts to students and proposed solutions by Anna Savage, Mandy Gifford and Rachael Budowle.
2. Action:
3. Next Steps: Trustee Sullivan encourages the group to return in January to provide a report on the ASUW Task Force and propose suggestions for Trustees involvement.

2. Request for Authorization – Computer Science Education Certificate

1. Information/Discussion: Dr. Leslie Rush presented the Computer Science Education Certificate request for authorization.
2. Action: Motion passed
3. Next Steps: Trustee Sullivan propose motion with full board

3. Notice of Intent – Bachelors of Early Childhood Education

1. Information/Discussion: Dr. Ray Reutzel presented the Notice of Intent for the Bachelors of Early Childhood Education.
2. Action: Motion passed
3. Next Steps: Trustee Sullivan propose motion with full board

4. Notice of Intent – Bachelors of Neuroscience

1. Information/Discussion: Dr. Jonathan Fox presented the Notice of Intent for the Bachelors on Neuroscience.
2. Action: Motion passed
3. Next Steps: Trustee Sullivan propose motion with full board
 - i. Trustees would like to receive more information regarding how lab equipment is shared/known across campus.

5. Update – Geospatial Information Science and Technology Undergraduate/Graduate programs

1. Information/Discussion: Dr. Jeff Hamerlinck and Dr. Ken Dreise provided current updates regarding the GIST Programs.
2. Action:
3. Next Steps: GIST will present a Request for Authorization following Faculty Senate report.

6. Update – Distance Education

1. Information/Discussion: Dr. Dan Maxey presented on current updates in our Distance Education progress.
2. Action:
3. Next Steps: Update provided to full board in January

7. Update – Financial Aid Pivot/Talen Awards

1. Information/Discussion: AVP Kyle Moore lead discussion of Talent Awards in the new Financial Aid Strategy.
2. Action: Trustee Sullivan has communicated with the Budget Committee
3. Next Steps: Committee would like to encourage continuing conversation around offering out-of-state students additional funding.

8. Notice of Intent – Master of Science in Environment, Natural Resources and Society

1. Information/Discussion: Dr. Doug Wachob presented the Notice of Intent for the Master of Environment, Natural Resources and Society to the Academic and Student Affairs Committee during a committee call on October 10, 2019.
2. Action: Motion passed
3. Next Steps: Trustee Sullivan propose motion with full board
4. Additional information: ZOOM link for the committee meeting with Haub Notice of Intent presentation.



STUDENT FOOD (IN)SECURITY: ASUW RESOLUTION #2670



Anna Savage, ASUW Director of Student Wellness and Sustainability
Mandy Gifford, Executive Assistant to VP & Provost, Academic Affairs
Rachael Budowle, Ph.D., Asst. Professor, Haub School of Environment and Natural Resources

WHAT IS FOOD INSECURITY?

Low food security

- Reports of reduced quality, variety, or desirability of diet. Little or no indication of reduced food intake.

Very low food security

- Reports of multiple indications of disrupted eating patterns and reduced food intake

37% Of Students At UW Face Food Insecurity




STUDENT FOOD INSECURITY CHALLENGES

32% of students face impacts because of hunger

- Miss class or study sessions
- Can't buy required materials
- Drop a class
- Perform worse than they otherwise could have

Students dealing with hunger are more likely to deal with

- Anxiety and depression
 - Poorer physical health
 - Lower GPA
 - Higher drop-out rates
- 

BACKGROUND: ALBANY COUNTY

The United States

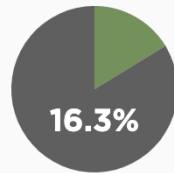
Wyoming

Albany County

ALBANY COUNTY

FOOD INSECURE PEOPLE: 6,170

FOOD INSECURITY RATE



ESTIMATED PROGRAM ELIGIBILITY AMONG FOOD INSECURE PEOPLE



36%	Above Other Nutrition Program threshold of 185% poverty
6%	Between 130%-185% poverty
58%	Below SNAP threshold 130% poverty

AVERAGE MEAL COST

\$3.41

ADDITIONAL MONEY REQUIRED TO MEET FOOD NEEDS

\$3,587,000

Click a County to view details

BACKGROUND: UNIVERSITY OF WYOMING



- Alanna Elder- Agroecology/ENR 2017
 - Honors thesis and Sustainability capstone
 - Study on Collegiate Financial Wellness: 37%
- Student stories about experiences with food insecurity
 - [Wyoming Public Radio: “Despite Low College Price-tag, Some UW Students Still Struggle To Eat.”](#)
- Recommendations and Student Action Guide
- Haub School food sharing implementation

Kendall House

Visual Arts/
Salivation Station

Corbett

Guthrie House/Honors



Kendall House

Visual Arts/
Salivation Station

Corbett

Guthrie House/Honors



Kendall House

Visual Arts/
Salivation Station

Corbett

Guthrie House/Honors



Kendall House

Visual Arts/
Salivation Station

Corbett

Guthrie House/Honors



WHAT HAVE WE DONE?

Food cabinets across campus

- Provide non-perishable foods and essential household items

ASUW Resolution #2670

- Calls for action from the University on food insecurity
- Gives support of student-driven Food Security Task Force which will convene later this semester
 - Composed of students, faculty and staff
 - Variety of departments and interests to cover every area of concern
- Initiatives from task force to expand on student-driven work in collaboration with all relevant groups

SCENARIOS AND PROJECTS

- Expanding food cabinets across campus
- Centralized 'food hub'
- Meal swipe share
- Event food sharing notification system

- Information and Resource Hub
- Spring 2020 Food Security Summit



Where to Find Food

On Campus



(Clicking on picture hyperlinks to Page 2)

Off Campus



(Clicking on picture hyperlinks to page 3)



HOW CAN WE WORK TOGETHER?



THANK YOU

Colleges	Paid Sustainability Position	Meal Swipe	Emergency Relief Loans	Food Pantry/Cabinet	Event Sharing
University of Wyoming	NO	NO	YES	Yes (Cabinets)	NO*
New Mexico State University	YES	NO	YES	NO	Food Recovery Network*
Oklahoma State University	YES	NO	YES*	NO	NO
Utah State University	YES	NO	YES	YES (Pantry)*	Food Recovery Network*
South Dakota State University	YES	NO	YES	YES (Pantry)*	No
University of Montana	YES	NO	YES	YES (Pantry)*	NO
Montana State University	YES	NO	YES	YES (Pantry)*	NO
University of Idaho	YES	NO	YES	YES (Pantry)*	NO
Colorado State University	YES	YES*	YES	YES	Yes/App Alert
Virginia Tech	YES	NO	YES	NO	YES*
University of Maine	YES	NO	YES	YES (Pantry)*	NO

Request for Authorization
Computer Science Education Undergraduate Certificate Program

Executive Summary

Proposed by: Leslie Rush, Director, School of Teacher Education

Certificate Title: Undergraduate Certificate in Computer Science Education

Level of Degree or Certificate: undergraduate certificate

Delivery Mode(s): Distance Education and/or Classroom; Community College collaboration

Estimated Startup Cost of Degree: \$7000

Anticipated Launch Date: Spring 2020, students could take coursework earlier

Description:

The proposed Computer Science Education Undergraduate Certificate program packages currently offered courses from the Computer Science department in the College of Engineering and Applied Sciences with a methods course from the School of Teacher Education in the College of Education. The certificate will allow in-service teachers the opportunity to obtain the coursework necessary for a computer science teaching endorsement in Wyoming. With the recent legislative actions requiring districts to offer computer science in K-12, we expect that Wyoming will experience a growing need for certified and qualified teachers.

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Feasibility Study Required Contents:**Overview and Description of Degree or Certificate, Purpose, Strategic Plan Overlay**

The proposed Computer Science Education Undergraduate Certificate program packages currently offered courses from the Computer Science department in the College of Engineering and Applied Sciences with a methods course from the School of Teacher Education in the College of Education. The certificate will allow in-service teachers the opportunity to obtain the coursework necessary for a computer science teaching endorsement in Wyoming. With the recent legislative actions requiring districts to offer computer science in K-12, we expect that Wyoming will experience a growing need for certified and qualified teachers.

Making the computer science courses that are included in the Computer Science Education Undergraduate Certificate Program accessible to classroom teachers in Wyoming assists in meeting the UW Strategic Plan Goal 3: Impacting Communities. This goal, which is articulated as “Improve and enhance the health and well-being of our communities and environments through outreach programs and in collaboration with our constituents and partners” is particularly relevant as the program will allow for collaboration with K-12 Wyoming schools to support the emerging problem of providing updated and rigorous computer science education to all students.

Learning Outcomes

The following learning outcomes are based on the International Society for Technology in Education (ISTE) standards for Computer Science Educators.

- Demonstrate knowledge of and proficiency in data representation and abstraction
- Effectively design, develop, and test algorithms
- Demonstrate knowledge of digital devices, systems, and networks
- Demonstrate an understanding of the role computer science plays and its impact in the modern world
- Plan and teach computer science lessons/units using effective and engaging practices and methodologies
- Design environments that promote effective teaching and learning in computer science classrooms and online learning environments and promote digital citizenship
- Participate in, promote, and model ongoing professional development and lifelong learning relative to computer science and computer science education

Curriculum Map and Program Structure

COSC 1010: Introduction to Computer Science I (4)

COSC 1030: Computer Science I (4)

COSC 2030: Computer Science II (4)

COSC 2150: Computer Organization (3)

COSC 3050: Ethics for the Computer Professional (1)

COSC 3100: Computer Science Education Seminar (2)

EDSE 4280: Methods: Computer Science (2)

Total Credits: 20

Course Descriptions

COSC 1010. Introduction to Computer Science I. 4. Introduces the fundamental concepts of programming from an object-oriented perspective. Topics include simple data types, control structures, array and string data structures, algorithm development, and debugging techniques. Emphasizes good software engineering principles and developing fundamental programming skills in the context of a language that supports the object-oriented paradigm.

COSC 1030. Computer Science I. 4. Continues the introduction from COSC 1010 to the methodology of programming from an object-oriented perspective. Through the study of object design, introduces the basics of human-computer interfaces, the social implications of computing, with an emphasis on software engineering.

COSC 2030. Computer Science II. 4. Builds on the introduction to object-oriented programming begun in COSC 1010 and 1030 with an emphasis on algorithms, data structures, and software engineering.

Prerequisite: COSC 1030.

COSC 2150. Computer Organization. 3. Introduces students to the organization and architecture of computer systems, beginning with the standard von Neumann model and then moving forward to more recent architectural concepts. Prerequisite: COSC 1030.

COSC 3050. Ethics for the Computer Professional. 1. The proliferation of computers has had a profound effect on our society. Computing professionals must be aware of the social and ethical implications of our activities. Examines the codes of behavior related to computer science through readings, discussions and case studies. Prerequisite: COSC 2030.

COSC 3100. Computer Science Education Seminar. 2. Provides an overview of the current social and research issues, technical trends and challenges facing computer science educators. Prerequisites: COSC 1030; Education majors only.

EDSE 4280. Subject Matter Specific Methods: Computer Science. 2. Introduction of content and pedagogy in Computer Science Education. Includes pedagogy, pedagogical content knowledge, and contact curriculums for teaching computer science at secondary school levels. A variety of instructional procedures will be employed including group work, modeling, lab work, micro-teaching, and lecture/demonstration. Prerequisites: COSC 3100 or concurrent enrollment.

Assessment Plan

Existing undergraduate programs in the College of Education, all of which lead to initial teacher licensure, are evaluated on specific teacher education standards through common assessments that are embedded in courses and aligned to those standards. For the Computer Science Education certificate program, assessments are aligned and have been approved through the CAEP/ISTE standards. Data from

course-based assessments are regularly collected through LiveText, an online data/assessment system. In addition, standards-based assessments will be used during practicum periods.

Degree Program Evaluation

In addition to collecting and reviewing data from the assessment system described above, the Computer Science Education certificate program will be part of the program review and accreditation system that is regularly undertaken by the College of Education and other units at UW that have programs leading to teacher licensure or endorsement. The program review process will take place in a timeline that aligns with unit accreditation through CAEP. This program will be reviewed both by ISTE trained reviewers, resulting in a determination of a) Nationally Recognized; b) Recognized with Conditions; or c) Not Recognized. This is a similar review process to all other licensure or endorsement programs in the College of Education.

New Resources Required

Funding to teach COSC 3050 online, either by a current faculty member or an adjunct: \$2000.
Funds to hire instructional designer to support faculty in putting courses online: EDSE 4280, COSC 3100, COSC 3050. \$5000.

Substantive Change Determination



Dear Anne Alexander,

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 it consists of less than 50 percent of new courses developed specifically for the requested program. Accreditation by HLC encompasses your institution's offering of the program.

CIP code and program name: 13.1321 - Computer Teacher Education

Course catalog name: Computer Science Education Undergraduate Certificate

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. If the institution is partnering with an institution that is accredited by an agency recognized by the Department of Education as an institutional accreditor, complete [Consortial Arrangements Screening Form](#) to determine if 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, Institutional Change
Higher Learning Commission
thorvath@hlcommission.org
800.621.7440, ext. 137

Executive Summary of Demand Statistics

UW Academic Affairs subscribes to a market analysis tool that is designed, updated, and managed by Gray Associates. It contains four key market areas of information that are represented by scores:

- **Student Demand** (Gray Reports Inquiry Database, Google search keywords, and Completions from IPEDS with enhanced coding)
- **Competitive Intensity** (Number of Institutions and change in number of Institutions from IPEDS- with Gray enhancements, Cost per inquiry from Gray Reports Inquiry Data, for pay-per-lead inquiries, Completions per capita from IPEDS completions-enhanced-and Census population age 18-44, Cost per click and competitive Index from Google, all data calculated from IPEDS completions information, with Gray enhancements to program coding)
- **Employment Demand** (New Job Postings and New Job Growth from Burning Glass Technologies mapped to SOC to CIP by Gray, Job Postings per graduate uses New Job Postings and enhanced IPEDS completions, BLS mapped from SOC to CIP by Gray, Analysis of roughly two million records in the Public Use Micro Sample from the American Community Survey, U.S. Dept of Education: The mean earning of graduates of career college programs, and were reported by the Social Security Administration as part of the Department of Education's landmark gainful employment regulations, Employment rates are weighted averages from Gainful Employment disclosures from institutions websites)
- **Degree Fit** (Degree level is from BLS analysis of the Public Use Micro Sample of the American Community Survey, Degree level is from enhanced IPEDS completion data, Cost and Student to Faculty Ratio Indexes are from NHEBI)

The Maximum potential score range is -93 to +79

Student Demand and Employment demand represent 70% of the score

Competition and Degree Fit represents 30%

Below are Computer Teacher Education findings for an undergrad certificate/endorsement. CIP Description: A program that prepares individuals to teach computer education programs at various educational levels.

Computer Teacher Education CIP Code 13.1321				
Student Demand	Competitive Intensity	Employment Demand	Degree Fit	TOTAL
Undergrad, Certificate, Laramie 360, Online				
-6	5	2	4	5

Although student demand is not promising according to the Gray Associates data, we expect that the recent inclusion of computer science standards in K-12 schools will increase the demand. We have already received several requests from school districts about courses that UW might be able to offer to classroom teachers to enable them to provide instruction in computer science in Wyoming schools. The cost of implementation is extremely low, because it is an already established set of courses that will be offered as an Undergraduate Certificate, to allow Wyoming teachers to enroll.

Notice of Intent

Name of the proposed Academic Program and the mode of delivery: The Bachelor's degree in Early Childhood Education will be an interdisciplinary degree offered collaboratively by the College of Agriculture and Natural Resources and the College of Education. The degree will be delivered on campus and distance, with both synchronous and asynchronous coursework required.

Description of the new Academic Program including an outline of the anticipated curriculum and learning outcomes:

The proposed undergraduate degree in Early Childhood Education will be a joint program delivered by the Early Childhood Education (ECE) faculty in the School of Teacher Education in the College of Education and the Human Development and Family Sciences faculty in the Department of Family and Consumer Sciences (FCS) in the College of Agriculture and Natural Resources.

Anticipated Curriculum: Students will only be able to gain this knowledge through an interdisciplinary approach that combines a strong foundation in pedagogy with a strong understanding of child development, family relationships, and community partnerships. Thus anticipated curriculum will require the following categories of coursework:

- Completion of general university studies
- Early childhood education, curriculum, nutrition, health & wellness, and assessment courses
- Developmental, family, community, and diversity courses
- Clinical experiences in the birth to age 8 range
- Student teaching/residency - two placements, one in an early childhood education setting (birth -5), and another in a Kindergarten through third grade elementary school setting

Student Learning Outcomes: Learning outcomes are based on the National Association of the Education of Young Children's (NAEYC) professional standards and competencies for early childhood educators, which include knowledge of the following:

1. Child development and learning in context
2. Family and community partnerships
3. Child observation, documentation, and assessment
4. Developmentally, culturally, and linguistically appropriate teaching strategies
5. Content knowledge in early childhood curriculum
6. Professionalism as an early childhood educator
7. Special education and children with disabilities

Teacher Licensure: Graduates of this program would be eligible to receive a Wyoming Teaching License Birth to Age 8 from the Wyoming Professional Teaching Standards Board (PTSB). This license qualifies graduates to work with young children and families in a variety of inclusive settings. Students would have the opportunity to earn their Early Childhood Special Education Endorsement within the program.

Information about content and how the Academic Program may relate to other offerings: The proposed program is being developed jointly by experts in early childhood education and early childhood development. This program will take components of 3 existing programs and merge them into one degree, which eliminates overlap and fragmentation that exists in the current program options.

The existing Professional Child Development program option currently offered through the Department of Family and Consumer Sciences prepares students to work with children ages birth-5, but does not allow for teaching licensure and, therefore, does not allow students to work in public elementary schools or in preschool programs requiring a teaching license. Thus the proposed degree would expand the potential career opportunities of our students by allowing them to be licensed and work in elementary schools with children up to age 8.

The existing Elementary Education degree prepares students to teach children from Kindergarten through Grade 6, but does not include a birth to age 5 component, nor significant coursework in child development and family systems. Students graduating from the degree program are licensed elementary teachers, but are not endorsed to teach in preschool programs.

The existing Early Childhood Minor provides students in the elementary education program and related disciplines with the option to complete a Birth to Age 5 teaching license or a Birth to Age 8 endorsement. This is not a degree program, however.

A 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: Market analysis has been completed using Gray Associates' data and suggests a high student demand and positive employment outlook. According to data extracted from Gray Associates, the overall score for the Early Childhood Education/Teaching program (CIP code 13.1210) at the bachelor's degree level for the Laramie 360 market is 40, which places it in the 98th percentile. Student demand weighs in heaviest in this analysis, with student demand in the 98th percentile for inquiries over a 12-month period and completions, and in the 95th percentile for Google searches. In the area of competitive intensity, with an overall score of 3, market saturation gives us a score in the 98th percentile, with year-over-year change in program size in the 90th percentile. The data in degree fit show that the bachelor's degree level is a fit for national completions by level. The employment outlook is fairly positive, with a 73% increase in job postings on Burning Glass in the last 12-month period. Annual job openings in this field are in the 95th percentile. Unfortunately, wages are low for early childhood education, below the 40th percentile for bachelor's degree completers. The national market shows similar numbers, with high percentile rankings for student demand and employment. The overall score for the Early Childhood Education/Teaching in the national market is 40, which is, again, in the 98th percentile for overall scores.

Preliminary budget, including potential funding sources, projected expenses and revenues, and potential faculty, academic professionals, lecturers, professors of practice, and staff: In order to expand the early childhood curriculum to create this degree, additional faculty (tenure track and/or non-tenure track) will be needed. Currently, both programs have lost faculty positions through retirements and resignations.

- *Total projected expenses = \$876,293/year*
 - 3 faculty positions in Early Childhood Education (salaries at \$58,000-70,000 each x 3 + fringe = \$242,034-292,110)
 - 1 faculty position in Family and Consumer Sciences (\$64,000 salary + fringe = \$89,024)
 - 6 Staff positions at the UW Early Care and Education Center are important to the work of the Wyoming Early Childhood Outreach Network of the Trustees Education Initiative. Since these positions will have increased student supervisory roles, they should be moved to College monies (\$266,899 in salaries + 109,429 fringe = \$376,328).
 - 0.5 FTE as Intern Supervisor (\$32,000 salary + \$8,184 fringe = \$40,184)
 - 0.5 Office Associate (\$17,000 salary + \$6,647 fringe = \$23,647)
 - Operating budget = \$55,000. This includes professional travel, intern management travel, professional dues, accreditation fees, office supplies, office equipment.
- *Total projected revenue = \$912,850*
 - Estimate: 55 resident students in program X \$139/credit X 30 credits/semester = \$229,350
 - Estimate: 25 non-resident students in program X \$558/credit X 30 credits/semester = \$418,500
 - Estimate: 25 students in on-line program X \$350/credit X 20 credits/semester = \$175,000
 - Estimate: Other state and grant sources: \$90,000

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

- October 21, 2019 – Proposal submitted for review to the Provost's office
- November 13-15, 2019 – Proposal presented at Board of Trustees meeting
- August 2020 – Feasibility study and pro forma budget submitted to Academic Affairs

- September 2020 – Present feasibility study for campus review
- December 2020 – Materials for the Request for Authorization and Letter of Commitment submitted for review to the Provost's Office
- March 2021 – Request for Authorization and Letter of Commitment submitted for review to the Board of Trustees
- September 2021 – CARFs submitted
- Fall 2021 – first two faculty searches publicized, Office of Registrar notified to add program to Master List of Degrees, Admissions notified to add program to "Pick List"
- Spring 2022 – hiring of two new faculty complete
- Fall 2022 – first year of delivery of Early Childhood Education (ECE) bachelor's degree, third faculty search publicized
- Spring 2023 – third faculty search complete
- Fall 2023 – second year of delivery of ECE degree; fourth faculty search publicized
- Spring 2024 – fourth faculty search hired

Information on other required approvals, such as accreditation bodies and the Higher Learning Commission: We are constructing this program based on standards and expectations put forth by NAEYC and Association for Advancing Quality in Educator Preparation (AAQEP). The new Early Childhood Education undergraduate degree program will be included in the accreditation process that will be carried out with our accrediting agency, AAQEP. The new Early Childhood Education degree program will be reviewed and approved by the Wyoming Professional Teaching Standards Board (PTSB) to ensure our students will be able to receive their teaching license.

Evidence of how the new Academic Program aligns with the University's mission, strategic plan, and existing academic degree program array:

Alignment with UW's mission: The proposed degree in Early Childhood Education aligns with UW's mission by preparing individuals to serve young children, families, and communities throughout Wyoming, other states within the US, and throughout the world. In addition, by providing the majority of coursework via distance education, we are increasing access to educational opportunities.

Alignment with UW's strategic plan: We believe this program aligns with all 5 of the University of Wyoming's goals in the Five Year Strategic Plan (Breaking Through). Here, we will highlight the goals that most closely align to our proposed program. Goal 1 emphasizes the promotion of "academic programs that address workforce needs of the state and region. As indicated by the Gray Associates' data, there is a clear need for professionals in Wyoming and nationally with an Early Childhood Education degree. Goal 2 emphasizes the need to "engage and graduate well-rounded and creative thinkers, capable of meeting unpredictable and complex challenges". The interdisciplinary nature of this program will produce graduates who understand pedagogy as well as child development and family processes, equipping professionals obtaining this degree to understand and support children and families in a holistic way. The degree in Early Childhood Education will also provide opportunities for students to engage in internships and practicum placements that both strengthen communities and the preparation of our teachers. By providing multiple and diverse experiences in Wyoming classrooms, we will better prepare students to meet the complexities and diversity of the modern-day school environment. Goal 3 encourages programs to "build a statewide community of learners by collaborating with schools, community colleges and tribal nations to connect students and citizens". The proposed degree program supports these efforts through student teaching placement in early childhood facilities and public elementary schools in diverse communities across the state. We hope to partner with these communities in an effort to better prepare our students to provide instruction to diverse learners, in an effort to create lifelong learners throughout the state.

A rationale that clearly defines the need for the new Academic Program. The rationale should include evidence that the Academic Program will not produce unnecessary duplication of existing programs: The proposed degree in Early Childhood Education would allow students to teach across the birth-8 age range, and allow students more flexibility in their career options, as many school districts in Wyoming have public preschool options along with Head Start and Child Development Services. In addition, the interdisciplinary nature of the degree will provide students with the background

necessary to be high-quality early childhood educators (as identified by research and accrediting bodies) and serve the needs of children and families across the state and beyond. This program moves UW towards the forefront of early childhood education standards and ensures our graduates will be highly sought after for a variety of career opportunities. This degree is a component of WYECON of the Trustees Education Initiative that was approved by the Board of Trustees.

Evidence the Academic Program will not produce unnecessary duplication of existing programs: In many senses, this is not a new Academic Program but instead a combination of existing efforts. Currently two programs engage in the area of early childhood education on campus and work cooperatively to serve the needs of students and local families: the School of Teacher Education in the College of Education and the Department of Family and Consumer Sciences (FCS) in the College of Agriculture and Natural Resources:

- B.S.F.C. in Family and Consumer Sciences with a program option in Professional Child Development (Department of FCS)
 - Prepares students to work with children ages birth-5 and their families.
- Minor in Early Childhood Education (School of Teacher Education)
- Endorsements (School of Teacher Education)
 - Early childhood birth-5 (earned with B.S./B.A. in related field)
 - Early childhood birth-8 (earned by minors in Elementary Education)
 - Early childhood special education (post-graduate)
- Certifications
 - Early Childhood Program Director's Certificate (Department of Family and Consumer Sciences)

The proposed program would combine the current Professional Child Development degree with an expanded birth-8 curriculum in Early Childhood Education. The B.S. in FCS with a program option in Professional Child Development will be phased out and its curriculum will be moved into the proposed program. The Early Childhood Education minor will also be phased out and its curriculum will be expanded and moved into the proposed program. Students will have the option to receive the ECSE endorsement along with their Birth-8 teaching license at the undergraduate level.

EARLY CHILDHOOD EDUCATION WORKING GROUP

Final Report

10-15-2019

ECE Working Group membership:

Co-Chairs

Warrie Means, Interim Associate Dean, Academic & Student Programs, College of Agriculture and Natural Resources

Tricia Giovacco Johnson, College of Education, Associate Professor and Early Childhood Program Coordinator, College of Education

Members

Mark Bittner, Director, Early Child & Education Center, College of Agriculture & Natural Resources

Christine Wade, Interim Department Head, Family & Consumer Sciences, College of Agriculture and Natural Resources

Leslie Rush, Director, School of Teacher Education, Associate dean for Undergraduate Programs, College of Education

Nikki Baldwin, Associate Professional Lecturer, Director of Wyoming Early Childhood Outreach Network, College of Education

Background:

Early childhood education (ECE) and development is important to Wyoming, the region and the nation. There may be an opportunity for the University of Wyoming to strengthen its contributions to early childhood education with benefits for the region and, in particular Wyoming. These benefits would positively affect children, parents, caregivers, UW students, and preschool and K-5 educational institutions. Additionally, benefits would include early influences on development of the Wyoming and regional workforce – both directly through training of caregivers and teachers; and indirectly through eventual development and education of children into an educated workforce. There is demand for quality ECE teachers in Wyoming and the region.

Current UW Programs:

Currently there are two units that engage in early childhood education on campus and work cooperatively to serve the needs of students and local families: the School of Teacher Education in the College of Education and the Department of Family and Consumer Sciences in the College of Agriculture and Natural Resources.

The Department of Family and Consumer Sciences offers a **bachelor's** degree program option in Professional Child Development. This program requires an A.A. or similar education prior to entry into the program and is completely online. The Professional Child Development program prepares students to work in early childhood and preschool programs, resource and referral agencies, Head Start, child advocacy, etc. The program incorporates 14 courses in human development and family sciences, 4 in early childhood education, and an internship at an approved early childhood facility (see appendix for course requirements). The program also provides the curriculum needed to complete the early childhood birth-to-five endorsement.

The School of Teacher Education offers a **minor** in Early Childhood Education that requires 6 courses in early childhood education along with child development (see the appendix for specific requirements). Students can also earn one of three **endorsements**: early childhood birth-to-five endorsement (can be earned by students in related fields as they are earning their bachelor's degree), early childhood birth-

to-age eight endorsement (for elementary education majors), and early childhood special education (post-graduate; see the appendix for requirements of all three endorsements).

The Department of Family and Consumer Sciences also issues an Early Childhood Program Director **Certificate**, a Gainful Employment program that is endorsed by the Wyoming Department of Education. Individuals who hold Bachelor's or Master's degrees in Early Childhood Education, Early Childhood Special Education, Family and Consumer Sciences/Professional Child Development, or Child Development are automatically eligible for the Early Childhood Program Director's Certificate upon providing a transcript for content analysis, proof of background check, and proof of First Aid/CPR certification. Individuals whose education does not fit into these categories, but feel their education and experience is equivalent to the required content, can challenge the college course requirements by submitting the listed requirements above in addition to a portfolio. The portfolio is evaluated by faculty to determine if the individual has demonstrated the core early childhood competencies inherent in the requirements.

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Core Knowledge & Competencies; NAEYC Standards:

NAEYC revision of professional standards and competencies for early childhood educators are intended to "support a sustained vision of excellence for early childhood educators," by presenting the knowledge, skills, dispositions and practices expected of all educators working with children from birth to age eight in all early childhood contexts and settings. Currently, each state has its own standards and competencies, as well as licensure system for early childhood educators. There is a need in the field for clarity and coherence regarding the core knowledge and competencies for the profession. The profession must "create and enact a vision for an effective, respected, and fairly compensated early childhood workforce, modeling the cohesiveness we desire, developing a unified definition of the profession, and reaffirming that all early childhood educators must have specialized knowledge and competencies, across a birth to age eight continuum to be effective."

The early childhood education profession is a distinct profession among the early childhood field and the education professions. Early childhood teacher education programs are charged with preparing candidates who know, understand and can implement the professional standards and competencies as defined by the profession. Following are the aligned responsibilities of early childhood educators:

- Planning and implementing intentional, developmentally, culturally, and linguistically appropriate learning experiences that promote the Social-Emotional Development, Physical Development and Health, Cognitive Development, Language and Literacy Development, and Generally Learning Competencies of each child served;
- Establishing and maintaining a safe, caring, and inclusive, and healthy learning environment;

- Observing, documenting, and assessing children’s learning and development using guidelines established by the profession;
- Developing reciprocal, culturally responsive relationships with families and communities;
- Advocating for the needs of children and their families;
- Advancing and advocating for an equitable, diverse, and effective early childhood education profession; and
- Engaging in reflective practice and continuous learning.

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1a: Understanding the developmental period of early childhood from birth to age eight across physical, cognitive, social, emotional, linguistic, and aesthetic domains

1b: Understanding each child as an individual with unique developmental variations, agency, strengths, interests, challenges, approaches to learning, experiences and abilities

1c: Understanding the ways that child development and the learning process occur within multiple contexts including family, culture, language, and community as well as within a larger societal context of structural inequities

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2a: Knowing about, understanding, and valuing the diversity of families and communities

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5a: Understanding essential content knowledge and resources—the central concepts, inquiry tools, and structures—of the academic disciplines in an early education curriculum.

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effectively support young children's learning in each curriculum area

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6d: Integrating knowledgeable and critical perspectives on early education

6e: Engaging in informed advocacy for young children, families, and the early childhood profession

6f. Engaging in ongoing, proactive work to dismantle biases and prejudices within themselves, their program, and the community.

6g. Using strong communication skills to effectively support young children's learning and development and work with families and communities

Peer Institution Comparators:

In 2017, there were 7 regional institutions with Early Childhood Education completion rates greater than 10 students per year at the bachelor's level (Gray Associates, Inc.; see data in Appendix XX). The range for 2017 completions of these largest 7 regional (GrayAssociates Laramie360 filter) ECE programs (University of Northern Colorado, Brigham Young University – Provo, Western Governors University, Utah State University, Colorado State University- Fort Collins, Aspen University, and Metropolitan State university of Denver) was 11 to 36. The average of these 7 institutions was 24. ECE Certificate completions in the region numbered 702 in 2017, which is a 259% increase over ECE Certificate completions in 2013. Distance Education Certificate 2017 completions for ECE programs in the region were 54% of the completions whereas distance education bachelor's completions in 2017 were only 24% of total bachelor's completions. The decreased proportion of bachelor's completions via distance education is more likely a function of availability than demand.

A curriculum survey of regional institutions (Colorado State University, Washington State University, Montana State University, Utah State University, South Dakota State University, and University of Idaho) with Birth to 8-year programs shows noted variation in curriculum. In addition to university core requirements, general and special education classes, both in theory and practice, ECE curriculum of regional institutions require courses in life cycle development. The number of courses in this area, however, vary significantly. For the 6 institutions surveyed, the range of required life cycle credits was 3 to 17. Life cycle development courses of these curriculum include infant, toddler, child, adolescent, early adult, and family/parenting. Several regional institutions also require one course in nutrition, sometimes targeted to child nutrition. Three institutions require at least one course (3 credits) in American Indian Studies.

Accreditation:

The teacher education program in the College of Education have been continuously accredited by the [National Council for Accreditation of Teacher Education/Council for the Accreditation of Educator Preparation](#) since 1954. All three of the current early childhood programs are accredited through NAEYC as our Specialized Professional Association (SPA). Currently, the College is undergoing a process for

determining if our teacher education programs will undergo accreditation by Council for the Accreditation of Educator Preparation (CAEP) or the Higher Learning Commission's AQIP Pathway. If the College chooses CAEP for its preparation program accreditation, the Early Childhood Program will continue to use NAEYC as our SPA. One additional option is to be accredited solely through NAEYC. The standards for accreditation are listed above in the section on Core Knowledge and Competencies.

Market Analysis:

Early Childhood Education/Teaching: CIP code 13.1210

According to data extracted from Gray Associates, Inc., the overall score for the Early Childhood Education/Teaching program (CIP code 13.1210) at the bachelor's degree level for the Laramie 360 market is 40, which places it in the 98th percentile, according to the Score Breakdown table (Appendix I, Figure 1). The national market shows similar numbers, with high percentile rankings for student demand and employment. The overall score for the Early Childhood Education/Teaching in the national market is 40, which is, again, in the 98th percentile for overall scores (Appendix I, Figure 3). Detailed data for this program in the national market can be seen in Appendix I, Figure 4. Student demand weighs in heaviest in this analysis, with a total score of 29. The student demand score represents the 98th percentile for inquiries over a 12-month period and completions, and in the 95th percentile for Google searches. In the area of competitive intensity, with an overall score of 3, market saturation gives us a score in the 98th percentile, with year-over-year change in program size in the 90th percentile. The data in degree fit (Appendix I, Figure 2) show that the bachelor's degree level is a fit for national completions by level. The employment outlook (Appendix I, Figure 6) is fairly positive, with a 73% increase in job postings on Burning Glass in the last 12-month period. Annual job openings in this field are in the 95th percentile. Unfortunately, wages are low for early childhood education, below the 40th percentile for bachelor's degree completers. Detailed data for this program in the Laramie 360 market can be seen in Appendix I, Figure 2.

Summary & Recommendations:

An early childhood bachelor's degree can have innovative pathways to competency (Power to the Profession page 13-15; Appendix II) – including badges, certificates, bachelor's degree.

In relation to NAEYC Professional Standards and Competencies for Early Childhood Educators, it would be difficult to meet *Standard 1: Child Development and Learning in Context* without a minimum of 3 courses (12 credits; infant, toddler, child development coursework). Additionally, it would be difficult to meet *Standard 2: Family and Community Partnerships* without including at least one course in family relationships and/or parent-child relationships (3 to 6 credits). It would be essential to include courses in nutrition for those entities caring for birth to eight years children, thus approximately 12 credits in nutrition should be embedded into the curriculum. North American Indian and multicultural coursework would be essential to those students seeking employment in Wyoming and many surrounding states. These courses are in addition to the cadre of education courses that are normally required in ECE degree programs.

References:

- Connor, Brendan. 2019. *Personal Communication*. Assistant Director Wyoming Professional Teaching Standards Board.
- Essa, E.L and M.M. Burnham. 2019. *Introduction to Early Childhood Education*. 8th edition. SAGE. Los Angeles, CA, USA.
- GrayAssociates Program Evaluation System. <https://www.grayassociates.com/> Database searched with Laramie360 and National filters applied. Accessed March, 2019.
- NAEYC. 2012. 2010 Standards for Initial & Advanced Early Childhood Professional Preparation Programs. National Association for the Education of Young Children, Washington, D.C., USA.
- NAEYC. 2018. *DRAFT* NAEYC Position Statement: Professional Standards and Competencies for Early Childhood Educators. National Association for the Education of Young Children, Washington, D.C., USA.
- NAEYC. 2018. *DRAFT* NAEYC Position Statement: Power to the Profession. National Association for the Education of Young Children, Washington, D.C., USA.

Appendix I – Gray Associates, Inc. data; accessed Spring 2019.

Figure 1: Score Breakdown: Percentiles for Overall Score in the Laramie 360 Market

Score Breakdown: Percentiles For Overall Score		
Selections	Market	
Current Selections	Market	
Market	Arizona	
6-Digit CIP	Casper 60	
CIP Title	Colorado	
4-Digit CIP	Laramie 360	
2-Digit CIP	National	
Current Programs	North Texas Counties	
	South Texas Counties	
	Southern California Counties	
	Wyoming	

Percentile	Overall Score
98th	36+
95th	26+
90th	19+
70th	10+
40th	2+
Below 40th	< 2

Figure 2: Early Childhood Education/Teaching Program Scorecard in the Laramie 360 Market

Overview

Definitions

Filters

Scoring Criteria

Score Breakdown

Program Rank

Program Scorecard

Program x Market Matrix

Competitors

Data Table

Workplace Requirements

Program Scorecard: 13.1210 - Early Childhood Education/Teaching

GRAYASSOCIATES

Overall Score40

Percentiles: < 40%40%+70%+90%+95%+98%+

Student Demand

Category	Criterion	Value	Score	Total
Student Demand	Total (12 months)	1,070	8	29
	Inquiries			
	Online (included in Total)	1,014		
	Year-over-Year Change (Units)	-61	-1	
	Year-over-Year Change (%)	-5.4%	0	
	Google Search*			
	Total (3 months)	7,226	10	
	Year-over-Year Change (Units)	266	1	
	Year-over-Year Change (%)	3.8%	0	
Completions	Total (12 months)	202	8	
	Year-over-Year Change (Units)	43	2	
	Year-over-Year Change (%)	27%	1	

Competitive Intensity

Institutions	Campuses with Graduates**	16	0	3
	Year-over-Year Change (Units...)	1	0	
Cost Per Inquiry	Average Cost per Inquiry**	\$49	0	
Market Saturation	Completions per 1,000 Pop**	0.08	2	
Google Search*	Cost per Click**	\$16	0	
	Competition Index**	0.56	0	
Program Size	Average Completions/Institution	13	0	
	Median Completions/Institution	8	0	
	Year-over-Year Change (Units)	4	0	
National Distance Education	Year-over-Year Change (%)	88%	1	
	Insts. with Program Online**	0	0	
	% of Institutions	0	0	
	Online Completions**	0	0	
	% of Completions	0	0	

Degree Fit

NHEBI Nat'l 2-Yr	Cost Index**	NA	0	2
	Student/Faculty Index	NA	0	
	Completions	National Completions by Level	2	
	Workforce	National Workforce Ed Attainment	0	

Employment

Job Postings*	Total (12 months)	3,771	6	6
	Year-over-Year Change (Units)	1,596	1	
BLS*	Year-over-Year Change (%)	73.4%	1	
	Job Postings per Graduate*	3.2	0	
	Current Employment	21,295	6	
	Year-over-Year Change (%)	0.2%	0	
	3-Year Historic Growth (CA...)	1.5%	0	
	5-Year Historic Growth (CA...)	2.9%	0	
	10-Year Forecast CAGR	1.1%	0	
	Annual Job Openings	2,109	0	
	Job Openings per Graduate*	1.8	-1	
	Share of Generalist Employm...	0	-2	
	Share of Generalist Openings	0	0	
	10th-Percentile Wages	\$28,309	-3	
	Nat'l ACS* (Bachelors)	Wages (Age < 30)	\$30,429	0
		Wages (Age 30-60)	\$48,771	-2
		% with Any Graduate Degree	40%	0
		% with Masters	36%	0
% with Doct/Prof Degree		4%	0	
% Unemployed (Age < 30)**		3%	0	
% Unemployed (Age 30-60)**		2%	0	
% in Direct Prep Jobs		66%	0	
Nat'l Gainful Emp.	GE Wages - Assoc. & Cert	\$14,530	0	
	Placement Rate - Assoc. & Cert	95.0%	0	

CIP Description

A program that prepares individuals to teach students ranging in age from infancy through eight years (grade three), depending on the school system or state regulations. Includes preparation to teach all relevant subject matter.

Award Level Breakdown by Source

Inquiries and Completions

Award Level	Inquiries (Market)	Completions (Market)	Completions (National)
Post-masters Certificate	0%	0%	0%
Postbaccalaureate Certificate	0%	0%	1%
Masters	24%	4%	10%
Certificate	2%	60%	21%
Associates	2%	19%	24%
Doctoral	3%	0%	0%
Bachelors	69%	17%	44%

Job Postings (Market) - Min. Education

Award Level	Minimum Education Requested
High School/Certificate	15%
Associates	8%
Bachelors	12%
Masters	2%
Doctoral	0%
Unspecified	62%

BLS Workforce Educ. Attainment (Nat'l)

Award Level	Educational Attainment
No College	9%
Some College	15%
Associates	10%
Bachelors	37%
Masters	27%
Doctoral	2%

Figure 3: Score Breakdown: Percentiles for Overall Score in the National Market

Score Breakdown: Percentiles For Overall Score		
Selections		
Current Selections	Market	
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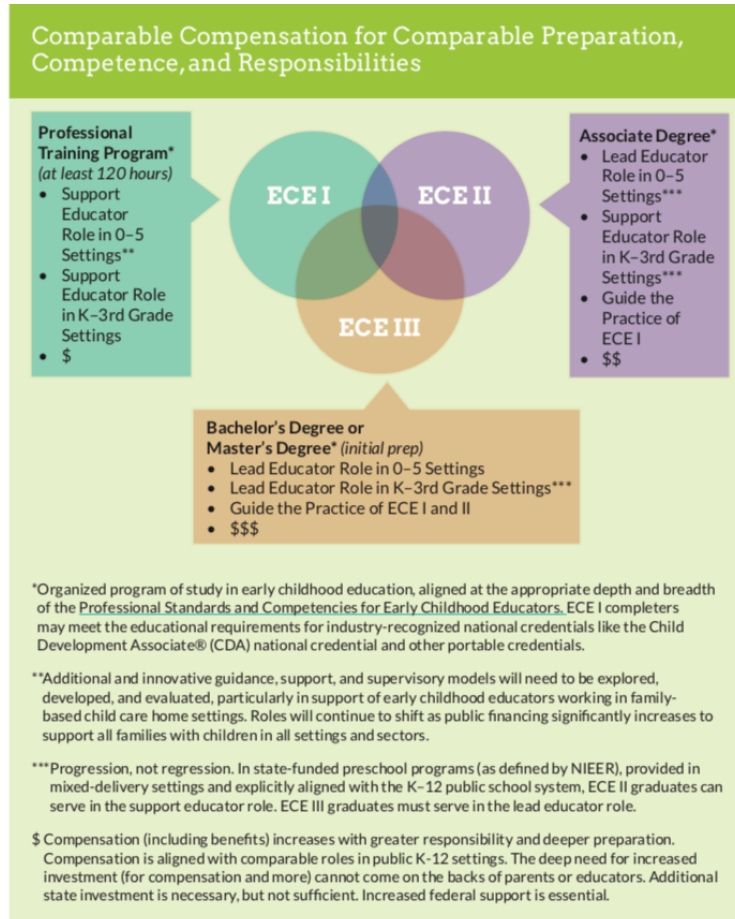
Figure 4: Early Childhood Education/Teaching Program Scorecard in the National Market

Program Scorecard: 13.1210 - Early Childhood Education/Teaching			
GRAYASSOCIATES		Overall Score	40
		Percentiles: < 40% 40%+ 70%+ 90%+ 95%+ 98%+	
Category	Criterion	Value	Score Total
Student Demand	Inquiries	Total (12 months)	64,202 8
		Online (included in Total)	60,587
		Year-over-Year Change (Units)	5,625 1
		Year-over-Year Change (%)	9.6% 0
	Google Search*	Total (3 months)	221,457 10
		Year-over-Year Change (Units)	9,714 1
Competitive Intensity	Completions	Year-over-Year Change (%)	4.6% 0
		Total (12 months)	14,192 8
		Year-over-Year Change (Units)	-50 0
Degree Fit	Institutions	Year-over-Year Change (%)	-0% 0
		Campuses with Graduates**	530 0
	Cost Per Inquiry	Year-over-Year Change (Units)	-4 0
		Average Cost per Inquiry**	\$47 0
	Market Saturation	Completions per 1,000 Pop**	0.19 2
	Google Search*	Cost per Click**	\$26 -1
		Competition Index**	0.58 0
	Program Size	Average Completions/Institution	27 0
		Median Completions/Institution	12 0
		Year-over-Year Change (Units)	0 0
Award Level Breakdown by Source	National Distance Education	Year-over-Year Change (%)	0% 0
		Insts. with Program Online**	0 0
		% of Institutions	0 0
		Online Completions**	0 0
Job Postings (Market) - Min. Education	Workforce	% of Completions	0 0
		Cost Index**	NA 0
		Student/Faculty Index	NA 0
BLS Workforce Educ. Attainment (Nat'l)	Completions	National Completions by Level	2 2
	Workforce	National Workforce Ed Attainment	0 0

Category	Criterion	Value	Score Total
Employment	Job Postings*	Total (12 months)	89,570 6
		Year-over-Year Change (Units)	41,168 1
		Year-over-Year Change (%)	85.1% 1
		Job Postings per Graduate*	2.8 0
	BLS*	Current Employment	677,181 6
		Year-over-Year Change (%)	2.7% 0
		3-Year Historic Growth (CA...)	6.3% 0
		5-Year Historic Growth (CA...)	4.2% 0
		10-Year Forecast CAGR	0.9% 0
		Annual Job Openings	65,825 0
Nat'l ACS* (Bachelors)		Job Openings per Graduate*	2.0 -1
		Share of Generalist Employm...	0 -2
		Share of Generalist Openings	0 0
		10th-Percentile Wages	\$30,645 0
		Wages (Age < 30)	\$30,429 0
		Wages (Age 30-60)	\$48,771 -2
		% with Any Graduate Degree	40% 0
		% with Masters	36% 0
		% with Doct/Prof Degree	4% 0
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Placement Rate - Assoc. & Cert			95.0% 0

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Appendix II – data from Power to the Profession



EARLY CHILDHOOD EDUCATION WORKING GROUP

Final Report

10-15-2019

ECE Working Group membership:

Co-Chairs

Warrie Means, Interim Associate Dean, Academic & Student Programs, College of Agriculture and Natural Resources

Tricia Giovacco Johnson, College of Education, Associate Professor and Early Childhood Program Coordinator, College of Education

Members

Mark Bittner, Director, Early Child & Education Center, College of Agriculture & Natural Resources

Christine Wade, Interim Department Head, Family & Consumer Sciences, College of Agriculture and Natural Resources

Leslie Rush, Director, School of Teacher Education, Associate dean for Undergraduate Programs, College of Education

Nikki Baldwin, Associate Professional Lecturer, Director of Wyoming Early Childhood Outreach Network, College of Education

Background:

Early childhood education (ECE) and development is important to Wyoming, the region and the nation. There may be an opportunity for the University of Wyoming to strengthen its contributions to early childhood education with benefits for the region and, in particular Wyoming. These benefits would positively affect children, parents, caregivers, UW students, and preschool and K-5 educational institutions. Additionally, benefits would include early influences on development of the Wyoming and regional workforce – both directly through training of caregivers and teachers; and indirectly through eventual development and education of children into an educated workforce. There is demand for quality ECE teachers in Wyoming and the region.

Current UW Programs:

Currently there are two units that engage in early childhood education on campus and work cooperatively to serve the needs of students and local families: the School of Teacher Education in the College of Education and the Department of Family and Consumer Sciences in the College of Agriculture and Natural Resources.

The Department of Family and Consumer Sciences offers a **bachelor's** degree program option in Professional Child Development. This program requires an A.A. or similar education prior to entry into the program and is completely online. The Professional Child Development program prepares students to work in early childhood and preschool programs, resource and referral agencies, Head Start, child advocacy, etc. The program incorporates 14 courses in human development and family sciences, 4 in early childhood education, and an internship at an approved early childhood facility (see appendix for course requirements). The program also provides the curriculum needed to complete the early childhood birth-to-five endorsement.

The School of Teacher Education offers a **minor** in Early Childhood Education that requires 6 courses in early childhood education along with child development (see the appendix for specific requirements). Students can also earn one of three **endorsements**: early childhood birth-to-five endorsement (can be earned by students in related fields as they are earning their bachelor's degree), early childhood birth-

to-age eight endorsement (for elementary education majors), and early childhood special education (post-graduate; see the appendix for requirements of all three endorsements).

The Department of Family and Consumer Sciences also issues an Early Childhood Program Director **Certificate**, a Gainful Employment program that is endorsed by the Wyoming Department of Education. Individuals who hold Bachelor's or Master's degrees in Early Childhood Education, Early Childhood Special Education, Family and Consumer Sciences/Professional Child Development, or Child Development are automatically eligible for the Early Childhood Program Director's Certificate upon providing a transcript for content analysis, proof of background check, and proof of First Aid/CPR certification. Individuals whose education does not fit into these categories, but feel their education and experience is equivalent to the required content, can challenge the college course requirements by submitting the listed requirements above in addition to a portfolio. The portfolio is evaluated by faculty to determine if the individual has demonstrated the core early childhood competencies inherent in the requirements.

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6g. Using strong communication skills to effectively support young children's learning and development and work with families and communities

Peer Institution Comparators:

In 2017, there were 7 regional institutions with Early Childhood Education completion rates greater than 10 students per year at the bachelor's level (Gray Associates, Inc.; see data in Appendix XX). The range for 2017 completions of these largest 7 regional (GrayAssociates Laramie360 filter) ECE programs (University of Northern Colorado, Brigham Young University – Provo, Western Governors University, Utah State University, Colorado State University- Fort Collins, Aspen University, and Metropolitan State university of Denver) was 11 to 36. The average of these 7 institutions was 24. ECE Certificate completions in the region numbered 702 in 2017, which is a 259% increase over ECE Certificate completions in 2013. Distance Education Certificate 2017 completions for ECE programs in the region were 54% of the completions whereas distance education bachelor's completions in 2017 were only 24% of total bachelor's completions. The decreased proportion of bachelor's completions via distance education is more likely a function of availability than demand.

A curriculum survey of regional institutions (Colorado State University, Washington State University, Montana State University, Utah State University, South Dakota State University, and University of Idaho) with Birth to 8-year programs shows noted variation in curriculum. In addition to university core requirements, general and special education classes, both in theory and practice, ECE curriculum of regional institutions require courses in life cycle development. The number of courses in this area, however, vary significantly. For the 6 institutions surveyed, the range of required life cycle credits was 3 to 17. Life cycle development courses of these curriculum include infant, toddler, child, adolescent, early adult, and family/parenting. Several regional institutions also require one course in nutrition, sometimes targeted to child nutrition. Three institutions require at least one course (3 credits) in American Indian Studies.

Accreditation:

The teacher education program in the College of Education have been continuously accredited by the [National Council for Accreditation of Teacher Education/Council for the Accreditation of Educator Preparation](#) since 1954. All three of the current early childhood programs are accredited through NAEYC as our Specialized Professional Association (SPA). Currently, the College is undergoing a process for

determining if our teacher education programs will undergo accreditation by Council for the Accreditation of Educator Preparation (CAEP) or the Higher Learning Commission's AQIP Pathway. If the College chooses CAEP for its preparation program accreditation, the Early Childhood Program will continue to use NAEYC as our SPA. One additional option is to be accredited solely through NAEYC. The standards for accreditation are listed above in the section on Core Knowledge and Competencies.

Market Analysis:

Early Childhood Education/Teaching: CIP code 13.1210

According to data extracted from Gray Associates, Inc., the overall score for the Early Childhood Education/Teaching program (CIP code 13.1210) at the bachelor's degree level for the Laramie 360 market is 40, which places it in the 98th percentile, according to the Score Breakdown table (Appendix I, Figure 1). The national market shows similar numbers, with high percentile rankings for student demand and employment. The overall score for the Early Childhood Education/Teaching in the national market is 40, which is, again, in the 98th percentile for overall scores (Appendix I, Figure 3). Detailed data for this program in the national market can be seen in Appendix I, Figure 4. Student demand weighs in heaviest in this analysis, with a total score of 29. The student demand score represents the 98th percentile for inquiries over a 12-month period and completions, and in the 95th percentile for Google searches. In the area of competitive intensity, with an overall score of 3, market saturation gives us a score in the 98th percentile, with year-over-year change in program size in the 90th percentile. The data in degree fit (Appendix I, Figure 2) show that the bachelor's degree level is a fit for national completions by level. The employment outlook (Appendix I, Figure 6) is fairly positive, with a 73% increase in job postings on Burning Glass in the last 12-month period. Annual job openings in this field are in the 95th percentile. Unfortunately, wages are low for early childhood education, below the 40th percentile for bachelor's degree completers. Detailed data for this program in the Laramie 360 market can be seen in Appendix I, Figure 2.

Summary & Recommendations:

An early childhood bachelor's degree can have innovative pathways to competency (Power to the Profession page 13-15; Appendix II) – including badges, certificates, bachelor's degree.

In relation to NAEYC Professional Standards and Competencies for Early Childhood Educators, it would be difficult to meet *Standard 1: Child Development and Learning in Context* without a minimum of 3 courses (12 credits; infant, toddler, child development coursework). Additionally, it would be difficult to meet *Standard 2: Family and Community Partnerships* without including at least one course in family relationships and/or parent-child relationships (3 to 6 credits). It would be essential to include courses in nutrition for those entities caring for birth to eight years children, thus approximately 12 credits in nutrition should be embedded into the curriculum. North American Indian and multicultural coursework would be essential to those students seeking employment in Wyoming and many surrounding states. These courses are in addition to the cadre of education courses that are normally required in ECE degree programs.

References:

- Connor, Brendan. 2019. *Personal Communication*. Assistant Director Wyoming Professional Teaching Standards Board.
- Essa, E.L and M.M. Burnham. 2019. *Introduction to Early Childhood Education*. 8th edition. SAGE. Los Angeles, CA, USA.
- GrayAssociates Program Evaluation System. <https://www.grayassociates.com/> Database searched with Laramie360 and National filters applied. Accessed March, 2019.
- NAEYC. 2012. 2010 Standards for Initial & Advanced Early Childhood Professional Preparation Programs. National Association for the Education of Young Children, Washington, D.C., USA.
- NAEYC. 2018. *DRAFT* NAEYC Position Statement: Professional Standards and Competencies for Early Childhood Educators. National Association for the Education of Young Children, Washington, D.C., USA.
- NAEYC. 2018. *DRAFT* NAEYC Position Statement: Power to the Profession. National Association for the Education of Young Children, Washington, D.C., USA.

Appendix I – Gray Associates, Inc. data; accessed Spring 2019.

Figure 1: Score Breakdown: Percentiles for Overall Score in the Laramie 360 Market

Score Breakdown: Percentiles For Overall Score		
Selections	Market	
Current Selections	Market	
Market	Arizona	
6-Digit CIP	Casper 60	
CIP Title	Colorado	
4-Digit CIP	Laramie 360	
2-Digit CIP	National	
Current Programs	North Texas Counties	
	South Texas Counties	
	Southern California Counties	
	Wyoming	

Percentile	Overall Score
98th	36+
95th	26+
90th	19+
70th	10+
40th	2+
Below 40th	< 2

Figure 2: Early Childhood Education/Teaching Program Scorecard in the Laramie 360 Market

Overview

Definitions

Filters

Scoring Criteria

Score Breakdown

Program Rank

Program Scorecard

Program x Market Matrix

Competitors

Data Table

Workplace Requirements

Program Scorecard: 13.1210 - Early Childhood Education/Teaching

GRAYASSOCIATES

Overall Score

40

Percentiles: < 40% 40%+ 70%+ 90%+ 95%+ 98%+

Student Demand

Category	Criterion	Value	Score	Total	
Student Demand	Total (12 months)	1,070	8	29	
	Inquiries	Online (included in Total)	1,014		
	Year-over-Year Change (Units)	-61	-1		
	Year-over-Year Change (%)	-5.4%	0		
	Google Search*	Total (3 months)	7,226		10
	Year-over-Year Change (Units)	266	1		
	Year-over-Year Change (%)	3.8%	0		
	Completions	Total (12 months)	202		8
	Year-over-Year Change (Units)	43	2		
Year-over-Year Change (%)	27%	1			

Competitive Intensity

Competitive Intensity	Institutions	Campuses with Graduates**	16	0	3
		Year-over-Year Change (Units...)	1	0	
	Cost Per Inquiry	Average Cost per Inquiry**	\$49	0	
	Market Saturation	Completions per 1,000 Pop**	0.08	2	
	Google Search*	Cost per Click**	\$16	0	
		Competition Index**	0.56	0	
	Program Size	Average Completions/Institution	13	0	
		Median Completions/Institution	8	0	
		Year-over-Year Change (Units)	4	0	
		Year-over-Year Change (%)	88%	1	
	National Distance Education	Insts. with Program Online**	0		
		% of Institutions		0	
Online Completions**		0			
% of Completions		0			

Degree Fit

Degree Fit	NHEBI Nat'l 2-Yr	Cost Index**	NA	0	2
		Student/Faculty Index	NA	0	
	Completions	National Completions by Level		2	
	Workforce	National Workforce Ed Attainment		0	

Employment

Category	Criterion	Value	Score	Total
Employment	Job Postings*	Total (12 months)	3,771	6
		Year-over-Year Change (Units)	1,596	1
		Year-over-Year Change (%)	73.4%	1
		Job Postings per Graduate*	3.2	0
	BLS*	Current Employment	21,295	6
		Year-over-Year Change (%)	0.2%	0
		3-Year Historic Growth (CA...	1.5%	0
		5-Year Historic Growth (CA...	2.9%	0
		10-Year Forecast CAGR	1.1%	0
		Annual Job Openings	2,109	0
		Job Openings per Graduate*	1.8	-1
		Share of Generalist Employm...	0	-2
		Share of Generalist Openings	0	0
		10th-Percentile Wages	\$28,309	-3
		Wages (Age < 30)	\$30,429	0
		Wages (Age 30-60)	\$48,771	-2
		% with Any Graduate Degree	40%	0
		% with Masters	36%	0
		% with Doct/Prof Degree	4%	0
		% Unemployed (Age < 30)**	3%	0
	% Unemployed (Age 30-60)**	2%	0	
	% in Direct Prep Jobs	66%	0	
	Nat'l Gainful Emp.	GE Wages - Assoc. & Cert	\$14,530	0
		Placement Rate - Assoc. & Cert	95.0%	0

CIP Description

A program that prepares individuals to teach students ranging in age from infancy through eight years (grade three), depending on the school system or state regulations. Includes preparation to teach all relevant subject matter.

Award Level Breakdown by Source

Inquiries and Completions

Award Level	Inquiries (Market)	Completions (Market)	Completions (National)
Post-masters Certificate	0%	0%	0%
Postbaccalaureate Certificate	0%	0%	1%
Masters	24%	4%	10%
Certificate	2%	60%	21%
Associates	2%	19%	24%
Doctoral	3%	0%	0%
Bachelors	69%	17%	44%

Job Postings (Market) - Min. Education

Award Level	Minimum Education Requested
High School/Certificate	15%
Associates	8%
Bachelors	12%
Masters	2%
Doctoral	0%
Unspecified	62%

BLS Workforce Educ. Attainment (Nat'l)

Award Level	Educational Attainment
No College	9%
Some College	15%
Associates	10%
Bachelors	37%
Masters	27%
Doctoral	2%

Figure 3: Score Breakdown: Percentiles for Overall Score in the National Market

Score Breakdown: Percentiles For Overall Score		
Selections		
Current Selections	Market	
Market	Arizona	
6-Digit CIP	Casper 60	
CIP Title	Colorado	
4-Digit CIP	Laramie 360	
2-Digit CIP	National	
Current Programs	North Texas Counties	
	South Texas Counties	
	Southern California Counties	
	Wyoming	

Percentile	Overall Score
98th	35+
95th	27+
90th	20+
70th	10+
40th	2+
Below 40th	< 2

Figure 4: Early Childhood Education/Teaching Program Scorecard in the National Market

Program Scorecard: 13.1210 - Early Childhood Education/Teaching				
GRAYASSOCIATES		Overall Score	40	Percentiles: < 40% 40%+ 70%+ 90%+ 95%+ 98%+
Category	Criterion	Value	Score	Total
Student Demand	Inquiries	Total (12 months)	64,202	8
		Online (included in Total)	60,587	
		Year-over-Year Change (Units)	5,625	1
		Year-over-Year Change (%)	9.6%	0
	Google Search*	Total (3 months)	221,457	10
		Year-over-Year Change (Units)	9,714	1
Competitive Intensity	Completions	Year-over-Year Change (%)	4.6%	0
		Total (12 months)	14,192	8
		Year-over-Year Change (Units)	-50	0
Degree Fit	Institutions	Campuses with Graduates**	530	0
		Year-over-Year Change (Units...)	-4	0
	Cost Per Inquiry	Average Cost per Inquiry**	\$47	0
	Market Saturation	Completions per 1,000 Pop**	0.19	2
	Google Search**	Cost per Click**	\$26	-1
		Competition Index**	0.58	0
	Program Size	Average Completions/Institution	27	0
		Median Completions/Institution	12	0
		Year-over-Year Change (Units)	0	0
		Year-over-Year Change (%)	0%	0
Workforce	National Distance Education	Insts. with Program Online**	0	0
		% of Institutions	0	0
		Online Completions**	0	0
		% of Completions	0	0
Award Level Breakdown by Source	NHEBI Nat'l 2-Yr	Cost Index**	NA	0
		Student/Faculty Index	NA	0
	Completions	National Completions by Level	2	2
Workforce		National Workforce Ed Attainment	0	0

Category	Criterion	Value	Score	Total
Job Postings*	Total (12 months)	89,570	6	
	Year-over-Year Change (Units)	41,168	1	
	Year-over-Year Change (%)	85.1%	1	
	Job Postings per Graduate*	2.8	0	
	Current Employment	677,181	6	
	Year-over-Year Change (%)	2.7%	0	
	3-Year Historic Growth (CA...)	6.3%	0	
	5-Year Historic Growth (CA...)	4.2%	0	
	10-Year Forecast CAGR	0.9%	0	
	Annual Job Openings	65,825	0	
BLS*	Job Openings per Graduate*	2.0	-1	
	Share of Generalist Employm...	0	-2	
	Share of Generalist Openings	0	0	
	10th-Percentile Wages	\$30,645	0	
	Wages (Age < 30)	\$30,429	0	
	Wages (Age 30-60)	\$48,771	-2	
	% with Any Graduate Degree	40%	0	
	% with Masters	36%	0	
	% with Doct/Prof Degree	4%	0	
	% Unemployed (Age < 30)**	3%	0	
Nat'l ACS* (Bachelors)	% Unemployed (Age 30-60)**	2%	0	
	% in Direct Prep Jobs	66%	0	
	GE Wages - Assoc. & Cert	\$14,530	0	
	Placement Rate - Assoc. & Cert	95.0%	0	

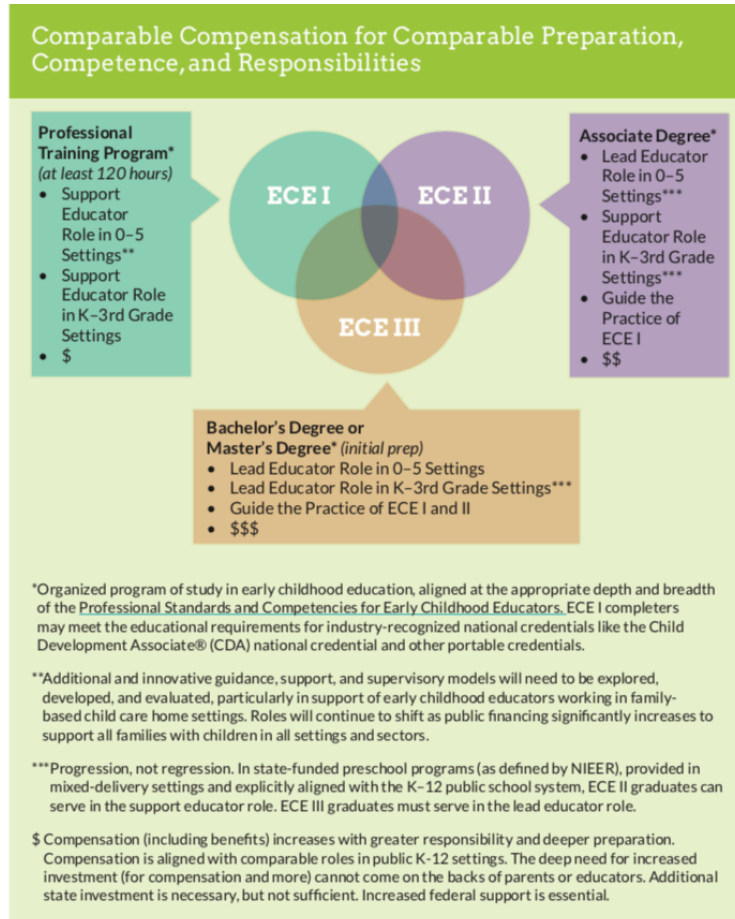
CIP Description
A program that prepares individuals to teach students ranging in age from infancy through eight years (grade three), depending on the school system or state regulations. Includes preparation to teach all relevant subject matter.

Award Level Breakdown by Source			
Inquiries and Completions			
Award Level	Inquiries (Market)	Completions (Market)	Completions (National)
Post-masters Certificate	0%	0%	0%
Postbaccalaureate Certificate	0%	1%	1%
Masters	24%	10%	10%
Certificate	2%	21%	21%
Associates	4%	24%	24%
Doctoral	3%	0%	0%
Bachelors	67%	44%	44%

Job Postings (Market) - Min. Education	
Award Level	Minimum Education Requested
High School/Certificate	17%
Associates	7%
Bachelors	12%
Masters	3%
Doctoral	0%
Unspecified	59%

BLS Workforce Educ. Attainment (Nat'l)	
Award Level	Educational Attainment
No College	9%
Some College	15%
Associates	10%
Bachelors	37%
Masters	27%
Doctoral	2%

Appendix II – data from Power to the Profession



Notice of Intent to the Board of Trustees:

Name of proposed academic program: Bachelors in Neuroscience

Mode of delivery of program: On campus; 2+2 program

Description of the proposed program: The proposed neuroscience major will leverage the expertise of faculty based within the Colleges of Arts and Sciences, Health Sciences, and Agriculture and Natural Resources. The University of Wyoming offers graduate training in neuroscience through an interdepartmental PhD program. Multiple classes are offered through this program; many of these classes are taken by undergraduate students even though classes are offered at the 5000 level only. These will be modified to be offered at 4000/5000 levels. Through these classes students will obtain foundational knowledge in the field of neuroscience. Following completion of 1000-2000 level science classes, students will take Introduction to Neuroscience (3C). Other required classes will include Structure and Function of the Nervous System (4C), Developmental neurobiology (3C), Neuropharmacology (3C), Sleep biology (in development, 3C), and Neuroscience seminar (2C). There will be a new course developed, called Neuroscience Research, where students will develop their own laboratory research projects in specific laboratories. We will also develop a COM3 course that integrates aspects of prior class work. The proposed degree is expected to synergize with the graduate neuroscience program at multiple levels.

Additional Information about curricular content: The degree will cover topics considered essential to a neuroscience degree at the undergraduate level e.g. neuroanatomy, neurophysiology, and learning and memory. Some courses offered take advantage of the specific expertise of neuroscience faculty and will provide a degree with unique features as compared to other institutes offerings e.g. sleep biology. In major credits (NEURO classes) required for the degree will be 17.

Market analysis: Preliminary analyses support our thinking that a UW neuroscience major would be popular. A survey was completed of the top 10 Universities in each state surrounding WY [NE, SD, MT, ID, UT and CO]. There were 10 Universities that offered a Neuroscience major of which only 5 were public schools (Table I).

Table I. Universities in states surrounding WY that offer a neuroscience major

University	Tuition [in state / out of state] - type
University of Nebraska, Omaha	\$7204 / \$19124 – land grant
Creighton University, Nebraska	\$37606 – private college
Augustana University, South Dakota	\$30944 – private college
The Univ. of Montana, Missoula	\$6238 / \$23764 - public
Montana State University	\$6887 / \$ 23186 - land grant
Brigham Young University, Utah	\$5790 –LDS / \$11580 – not LDS^private
Regis University, Colorado	\$34450 – private college
Colorado College	\$50892 – private college
University of Colorado	\$11531 / \$35079 - public
Colorado State University	\$11052 / \$28346 – land grant

^Tuition cost depends on Latter-day saint membership.

*UW undergraduate tuition costs as of 9/2019: \$5400 / \$17490

The Gray Associates data base was used to complete additional market analysis [assisted by Jayne Pearce, Distance Education]. This provided data supporting diverse career paths available to neuroscience majors. Infact, 87% of the completions in the neuroscience field are at the bachelor level, while 51% of the people working in the field of neuroscience have a PhD. Therefore, many neuroscience majors do not stay in a field defined as “neuroscience”. They use neuroscience degrees as a stepping stone to other careers – mainly professional degrees (MD, optometry, audiology, physicians assistants, veterinarians). Those that stay within the discipline of neuroscience frequently progress to graduate programs while some do not obtain additional degrees and develop careers in other areas e.g. research technicians, high school teachers.

Comparison of national and regional (Laramie 360) demand for neuroscience revealed that national scores are notably better than regional scores. Overall student/employer demand scores were 8 versus 12 for

Laramie360 versus nationally indicating that the market for neuroscience majors is national. Therefore, having a neuroscience major at UW would help put this university on the national map and attract students from other states. Some neuroscience programs are very large. For example, the University of Michigan graduates about 240 students a year. There is additionally evidence that the neuroscience major is growing significantly in popularity indicating actual/perceived value in career advancement. The number of degree completions nationally has increased 14% since 2012. In 2017 there were 266 completions in the Laramie 360 market: 109 at Brigham-Young University; 94 at the University of Colorado; 17 Regis University; 21 at Colorado College; and 5 at Colorado State University. Despite the popularity and demand for the neuroscience major, we did not find any online programs in the Gray database.

Preliminary Budget Estimates: The initial budget will include requests required to initiate the program. Major items are-1.) Funds for a graduate teaching assistant. This student will assist with the teaching of “Introduction to Neuroscience”. Neuroscience students will be required to take “Human Systems Physiology”. This class has been challenging for students to be accepted into that are not pre-meds or nursing majors due to the presence of lab sections. Having an additional graduate assist will enable a new lab section in this course with 24 students (per discussion with Dr. Ben-David). The cost is about \$30 k / year. 2.) The “Structure and Function of the Nervous System” course has relied on cadaver specimens from WWAMI for hands-on training in neuroanatomy. These specimens have the problem that they degrade and become less useful for teaching purposes; they are also preserved in formaldehyde which is toxic. The plan is to transition to using synthetic models of neuroanatomy. While requiring an initial investment they will last for many years. Initial cost estimated at \$15 k. 3.) Currently, it is planned that the Director of the Neuroscience major, will be different from the Graduate program director. This will provide more stability and allow new faculty members to take on these roles without significant impacts on other aspects of their positions. We are requesting a pay increase for this commensurate with percentage effort. The Director will be appointed at the time that the program is initiated. 4.) We are not requesting new faculty lines for this major. However, *requirement* to hiring faculty with expertise in neuroscience is requested of the administration when there is natural turnover and requests for position renewals. Further developing neuroscience as a strength at this University and encouraging other departments to consider faculty hires that overlap with neuroscience will also be important in the future. This will require College and upper administrative support over the long-term. 6.) Advertising expenses are estimate at \$5000 in year 1 then \$2500 / year, for the next 5 years. 7.) We are requesting a budget of \$12k / year to support undergraduate laboratory research. Note that some of the expenses could be covered by re-assignment of resources e.g. the graduate assistant could be assigned from the current neuroscience GA pool.

Proposed timeline and implementation:

Fall 2019	Spring 2020	Summer 2020
Notice of intent submitted	Development of budget. Additional market research. Curricular planning.	Full feasibility proposal to trustees
Fall 2020	Spring 2021	Summer 2021
Curricular development. Course modifications (CARF's)	Marketing of program Course modifications (CARF's) Internal search for director	Marketing of program New director identified
Fall 2021	Spring 2022	Summer 2022
New director starts. Graduate assistant starts. Program begins – new 1 st year students.	Wyoming and national marketing for 2+2 students	Wyoming and national marketing for 2+2 students
Fall 2022	Spring 2023	Summer 2023
First intake of 2+2 students Submit CARF for COM3 class		
Fall 2023	Spring 2024	Summer 2024
	First offering of NEUR COM 3 First graduation of 2+2 students	
Fall 2024	Spring 2025	Summer 2025
	First graduation of year 1 students	

Information on other approvals: There are no other approvals required.

Evidence of how the proposed program aligns with the Universities mission and strategic plan: The proposed neuroscience major aligns with Goals 1 and 2 of the Universities strategic plan.

1. Goal 1: Driving excellence.
 - a. The major represents a strategic initiative centered around building UW as a major strength in neuroscience education and research.
 - b. The interdepartmental program will help foster collaborative research and education efforts across Colleges and Departments.
 - c. The major addresses expected trends in work force needs across the state and nationally.
2. Goal 2: Inspiring students
 - a. Advertising the program will be national/international, but also focus specifically focus on different cultures and communities within Wyoming.
 - b. The program aligns with the STEM initiative
 - c. The neuroscience major will synergize with the graduate neuroscience degree, which will enhance both programs.

Rationale for the degree: Neuroscience is a relatively new discipline that developed out of an amalgamation of nervous-system-focused experts in various fields such as physiology, neuroanatomy, disease biology, and cell biology. The field has grown rapidly being enabled by new technologies such as –omics-based approaches, genetic approaches, and new ways to image the brain in living patients and animals. The brain is very complex, and considered by some the most complex structure in the known universe. Diseases of the nervous system encompass psychiatric diseases such as schizophrenia, diverse developmental disorders, epilepsy, and older-age related disease such as Alzheimer's. Due to the complex nature of the brain these diseases are also very complex and there are frequent only poor treatment options. To illustrate this; over the last 20-30 years there has been dramatic progress in our ability to treat many types of cancer. However, there has been little progress in treating or preventing many common neurologic diseases. The global population is aging. Wyoming is also one of the fastest aging states in the USA; this is because some areas are attractive for retirees, while there is a greater than desired efflux of young adults due to lack of diverse employment opportunities. Professions that will become increasingly important with population aging include audiology, medical doctors, and optometry. There is also expected to be greater support by federal agencies such as NIH, and also by non-profit organizations, for research on some of the currently intractable neurologic diseases. Addressing these challenges requires increased understanding of how the healthy nervous system works, as well as disease-focused efforts. It is agreed that it is important for the University of Wyoming to position itself for the next few decades. Establishing a neuroscience major is one way of doing this as it will provide a pool of qualified individuals able to enter the various career paths that the degree enables.

Today is International GIS Day!





Proposal to establish two nested sets of credentials:

1. Undergraduate BS degree in GIST, with two stackable certificates (GIS, RS)
2. Graduate MS degree in GIST – Plan A and Plan B, with three stackable certificates (GIS, RS, and UAS)

CONTACTS:

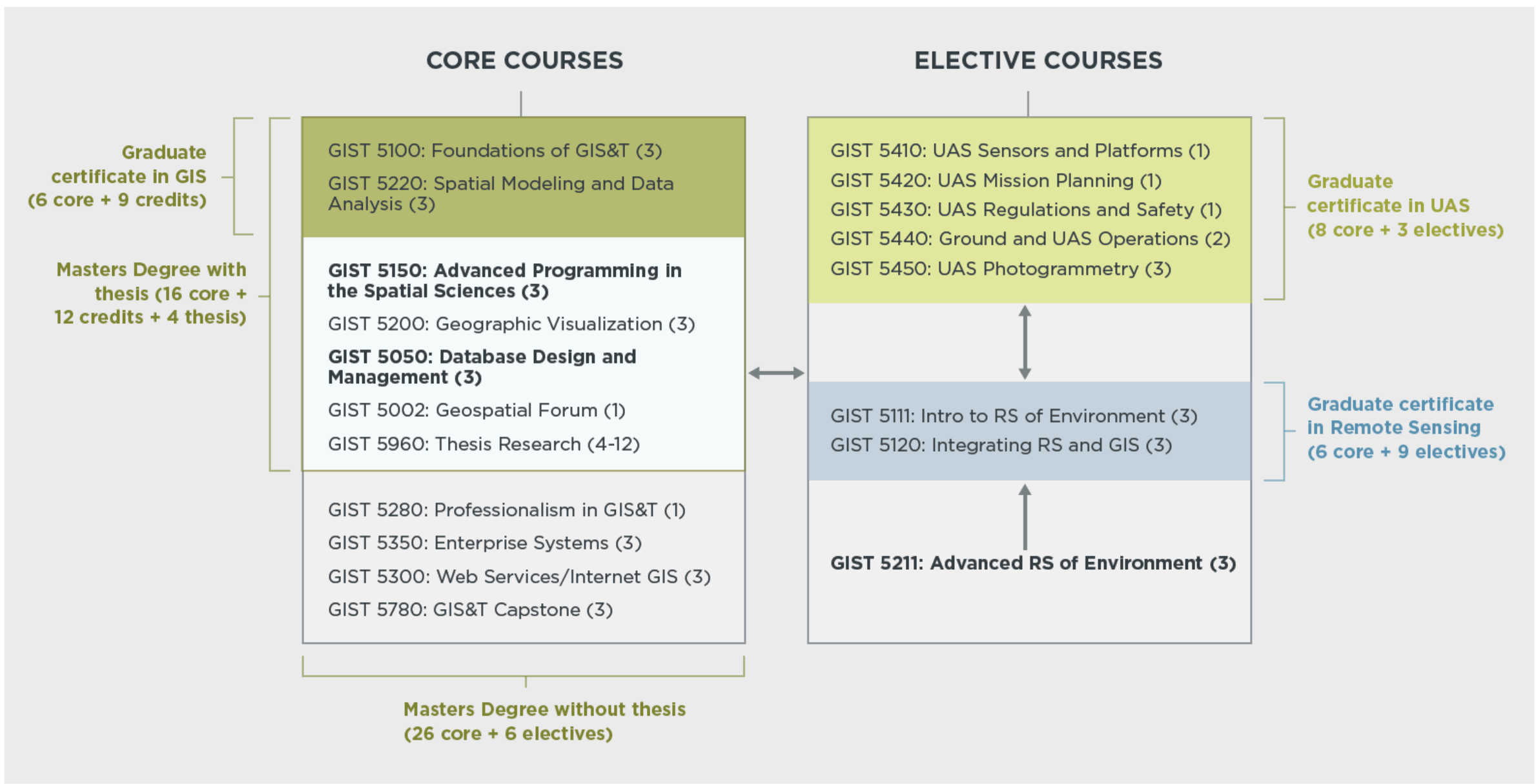
Jeff Hamerlinck, WyGISC Director

Ken Driese, GIST Program Director

PROPOSED BACHELOR OF SCIENCE IN GIS&T

CORE COURSES (31 CR.)		ELECTIVE COURSES (30 CR.)	
Undergraduate certificate in GIS (9 credits)	GIST 1001: Introduction to GIST and Digital Portfolios (1) GIST 1100: Foundations of Spatial Thinking (3)	Discipline specific electives	
	GIST 2100: Introduction to GIS (3) GIST 2200: Introduction to Spatial Data Visualization (3) GIST 2150: Introduction to Programming in GIS&T (3)	ANTH 4160: GIS in Anthropology STAT 4360: Spatial Statistics LS 2XXX - 4XXX: Surveying Courses GIST RS courses (see below)	
Undergraduate certificate in Remote Sensing (9 credits)	GIST 3111: Introduction to Remote Sensing of Environment (3)	GIST 4211: Advanced RS of Environment (3) GIST 4130: Applied Remote Sensing (3) GIST 2160: Survey or RS Applications (3)	
	GIST 2250: Digital Map Design (COM2) (3) GIST 3050: Spatial Database Design and Management (3) GIST 4780: GIST Capstone (COM3) (3) GIST 4990: Internship/Research in GIS&T (6)		

PROPOSED GRADUATE CREDENTIALS IN GIS&T



Bold: New Courses

Timeline

- **Fall 2017**

- Spatial Sciences Task Force recommends that WyGISC explore expanded GIST curricula
- Consultation with invited experts; four site visits

- **Spring 2018**

- GIST Curriculum Committee formed to develop program vision
- Focus groups for undergraduate and graduate students
- Survey of employers in the region
- Notice of Intent approved in June 2018 by BoT

- **Summer/Fall 2018**

- Intensive market research (EAB, U.S. Bureau of Labor Statistics, Office of Institutional Analysis, etc.)
- Preliminary budget development

Timeline

- **Spring 2019**

- Additional market analysis information by Gray Associates data
- Additional budget analysis with UW Budget Office
- Feasibility Study completed and shared with faculty interest group and Academic Planning Committee of the Faculty Senate

- **Summer 2019**

- Proposal revision based on APC feedback, input from regional, peer, and stretch-peer institutions
- Articulation discussions initiated with community colleges
- Awarded Office of Distance Education Grant; pursued faculty resources through CPM
- Budget revisions

- **September 2019**

- Revised proposal shared with APC and Faculty Senate, Graduate Council, ASUW, and outside stakeholders

Current Status

- **Academic Affairs** strongly supportive
- **ASUW** endorsed all credentials
- **Graduate Council** endorsed all graduate credentials
- **Current FS resolution** (based on APC recommendation) to support all but on-campus BS degree and on-campus Plan A (thesis) masters
 - Vote on Nov 18
- **Response from outside stakeholders who have reviewed the proposal**
 - ***Office of Chief Information Officer***: opportunity to extend K-12 comp sci objectives with applied undergraduate programs
 - ***Wyoming Workforce Services***: resources to support internships with employers
 - ***Casper College and Central Wyoming College***: articulation with AA degrees
 - ***Wyoming Geospatial Organization (WYGEO)***: professional development opportunities for existing workforce, internship partnerships

Next Steps

- **After Faculty Senate Vote**
 - Final revision of feasibility study
- **Deans' vote**
- **Prepare RfA for this committee and full BoT for consideration in December / January**
- **Launch new credentials in Fall 2020 pending BoT approval**

Questions?



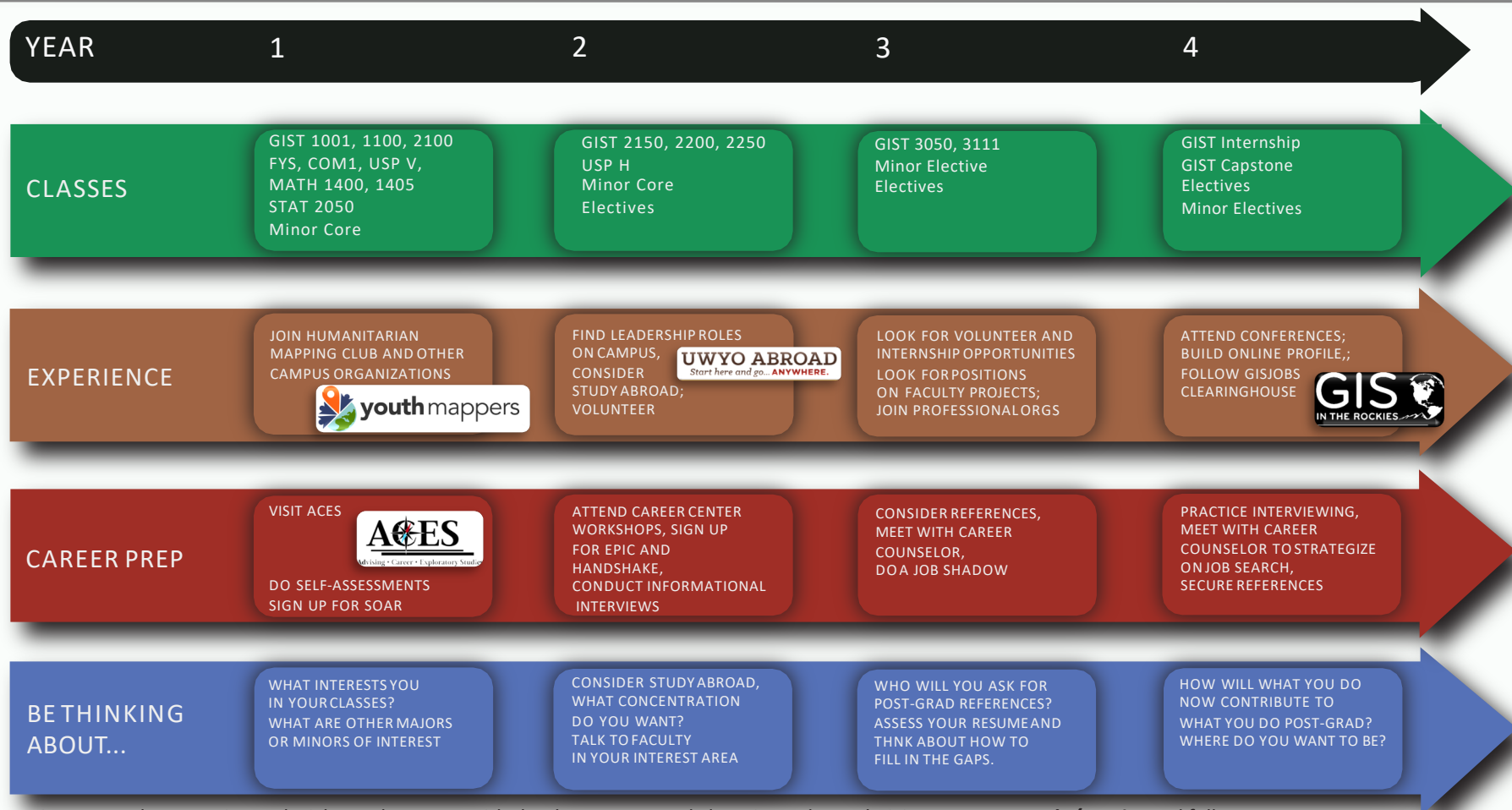
Additional Slides

Available for Q&A if necessary.

Geospatial Information Science & Technology

Courses and Career Road Map

Use this guide to think ahead and better-prepare you for your post-graduate career



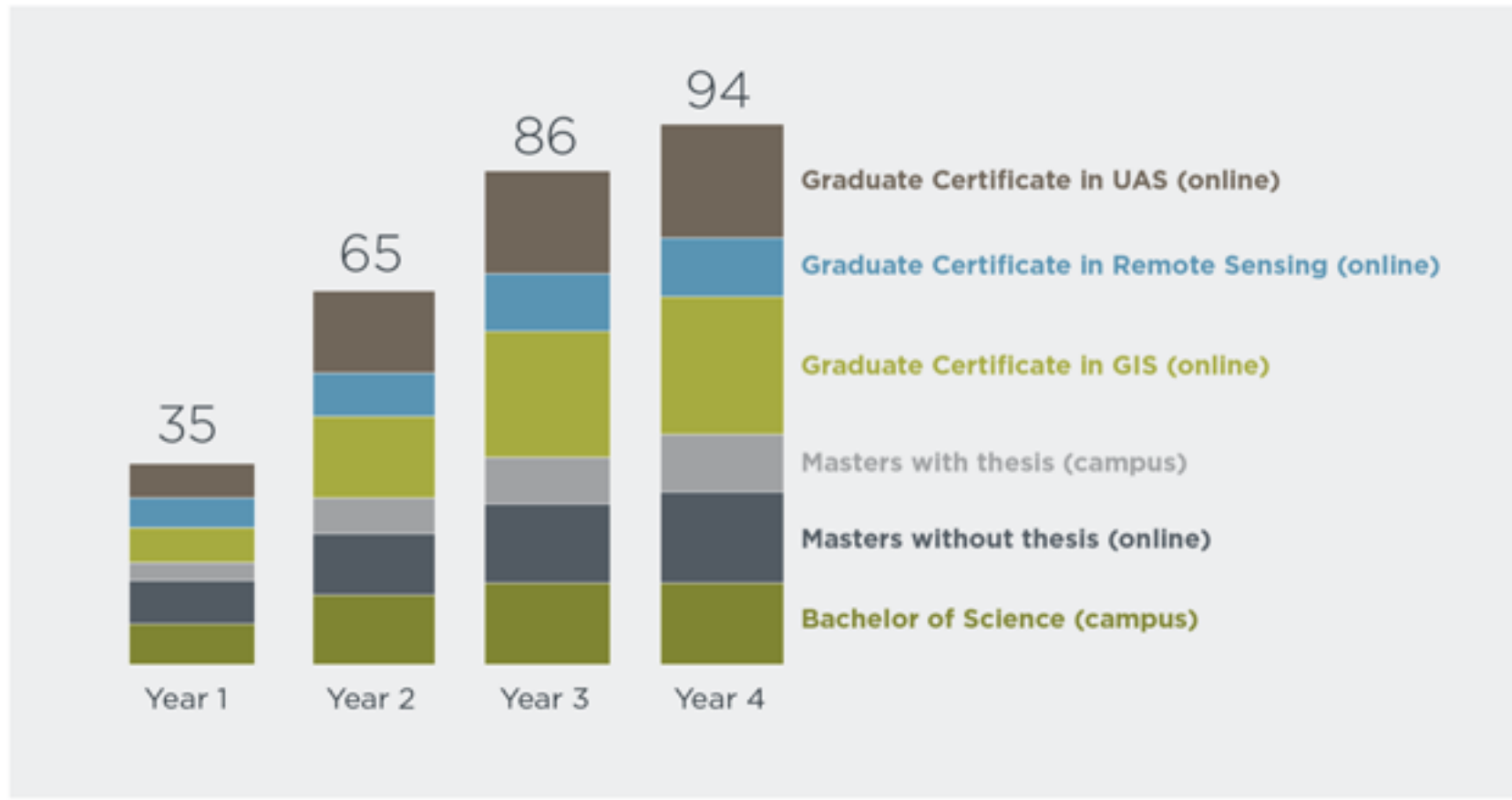
Stay up to date, get tips and tricks, and connect with the department and alumni... and more! Visit www.uwyo.edu/wygisc and follow us on:



Benefits of offering both Plan A and Plan B options in MS degree

- Little additional cost – Plan A is a subset of Plan B
- Multi-mode delivery responsive to both on-campus and distance students
- Promotes both research and operational skill sets
- Supports faculty scholarship interests and expectations
- Opportunities for interdisciplinary research across campus

Enrollment Estimates for Proposed Credentials



Estimated 4-year Revenue and Expense

(all proposed credentials considered together)

Year	Expenses	Revenues	Net
AY 2020-21:	\$ 92,795	\$137,302	\$ 44,507
AY 2021-22:	\$259,246	\$349,687	\$ 90,441
AY 2022-23:	\$316,400	\$574,177	\$257,777
AY 2023-24:	\$322,525	\$713,931	\$391,406

	FY1	FY2	FY3	FY4
Expense	\$47,429	\$119,944	\$156,442	\$162,567
Revenue	\$6,934	\$43,482	\$91,061	\$141,779
Net	-\$40,495	-\$76,462	-\$65,381	-\$20,788

Undergraduate

	FY1	FY2	FY3	FY4
Expense	\$54,466	\$148,402	\$169,058	\$169,058
Revenue	\$130,368	\$306,204	\$483,116	\$572,152
Net	\$75,902	\$157,802	\$314,058	\$403,094

Graduate

Online Education Update



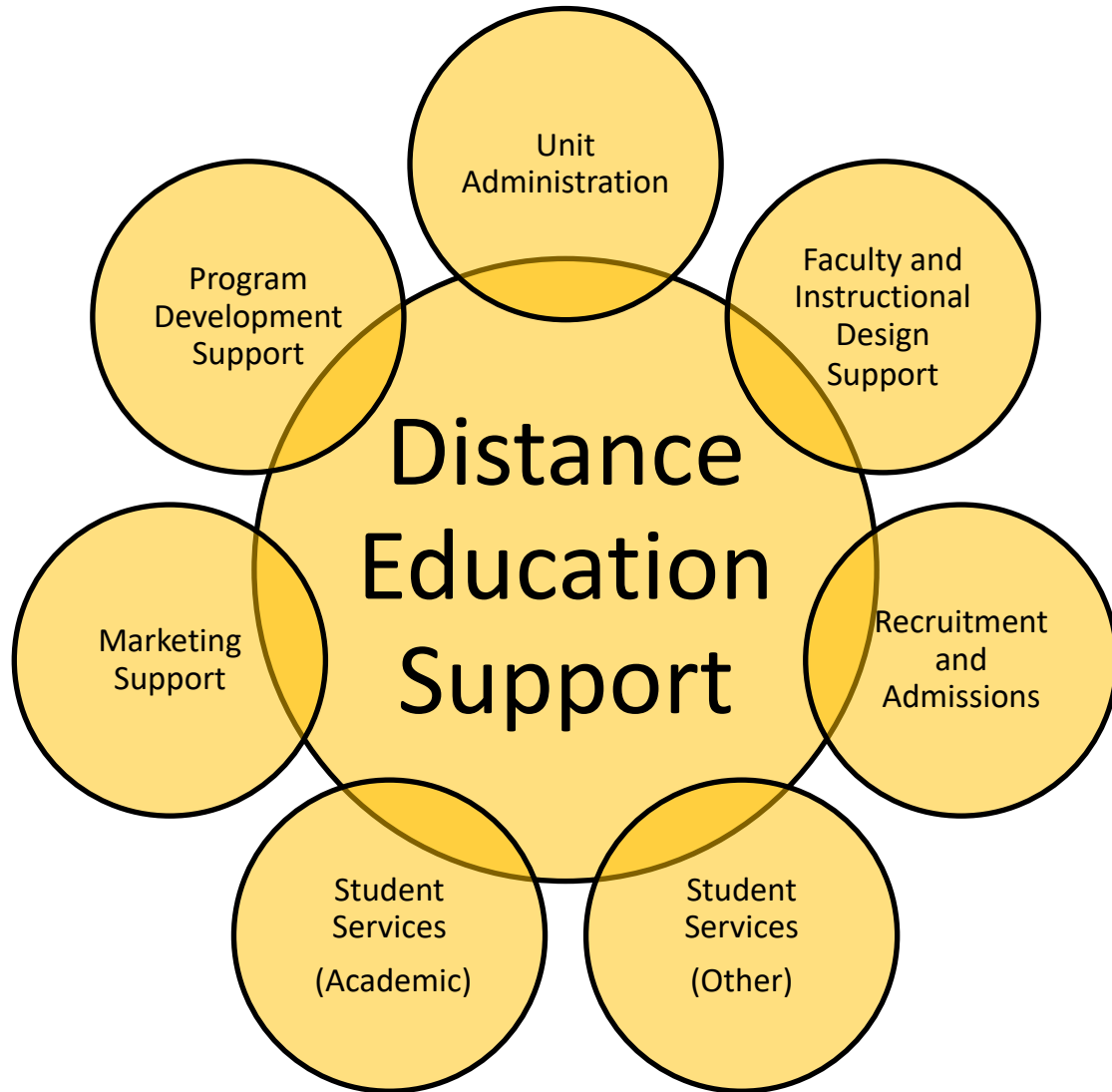
Dr. Dan Maxey

Special Assistant to the Provost for Strategic Initiatives

Ensuring UW's Capacity for Online Delivery

- **Closure of the Outreach School in 2017 led to the decentralization of many functions, while others were still maintained centrally through the Office of Distance Education**
- **Currently developing a management and staffing plan to carry UW forward; transitioning to a model where Office of Distance Education operates more like a service center unit to:**
 - **Support colleges and departments in program development**
 - **Service core functions for distance delivery (ex. Instructional design, faculty certification, central management of technology)**
 - **Coordinate efforts with other partner units who support fundamental functions (ex. Student & Academic Affairs units for student services)**

Ensuring UW's Capacity for Online Delivery



- **Distance Education Administration:** Unit management, administrative support, compliance, and budget
- **Program Development Support:** Support for program design, launch, and expansion/enhancement, including market analysis and support for design, proposal and approval process, coordination with stakeholder units, and start-up
- **Faculty and Instructional Design Support:** Instructional design, faculty professional development, online teaching credentialing, course quality evaluation
- **Marketing Support:** Distance and program websites, targeted marketing and social media, print materials
- **Recruitment and Admissions:** Lead generation and cultivation, admissions coaching, transcript evaluation
- **Student Services (Academic):** Academic advising, coaching, tutoring
- **Student Services (Other):** Counseling, career services, student engagement, etc.

Staging Distance Education Efforts

Immediate	Intermediate and Longer-Term	
<ul style="list-style-type: none">• Updating and enhancing central Distance Education and online program webpages• Developing a management and staffing plan for centralized Distance Education support services—and a budget to support it beginning in AY 2020-21• Administration of 2019-20 innovation funds• Exploration of potential areas of development for new online program development with colleges	<ul style="list-style-type: none">• Implementation of a new management and staffing plan structure alongside FY21 budget.• Moving program launch discussions and efforts forward• Developing/deploying a new plan for supporting program launch, possibly including a combination of seed grants, loans, support through an instructional innovation and design fellowship, and funding for online teaching certifications• Certifying UW faculty to teach online	<ul style="list-style-type: none">• Developing a plan for an expansion of student services and engagement for online students• Determining a model for developing undergraduate completion programs alongside the community colleges

Wyoming CC Student Pathways to UW

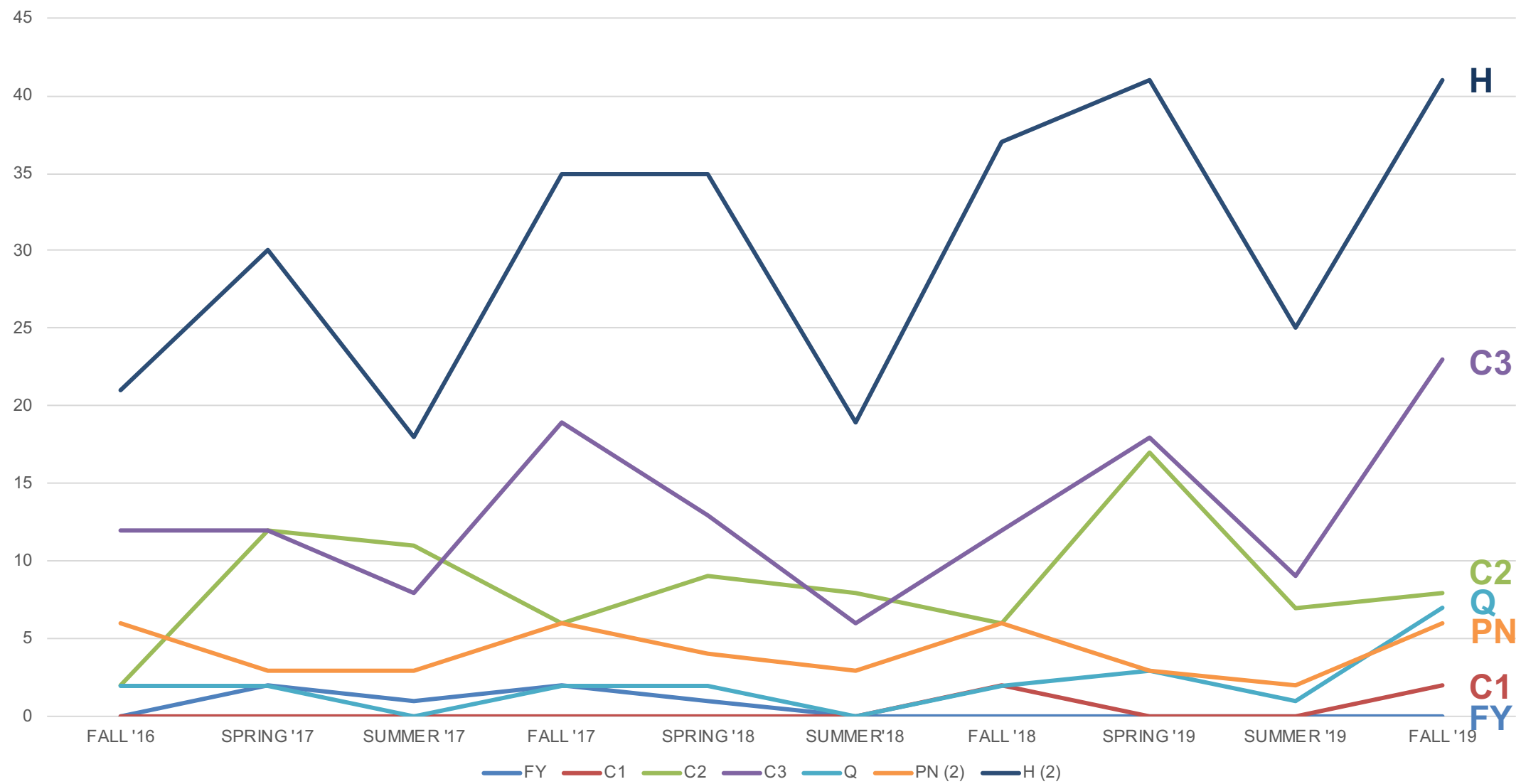
- Difficult to determine the reasons why students might take courses at multiple institutions; not possible for us to determine what prior coursework was taken in-person vs. online.
- Current analysis has only looked at students with credit transferred to UW from Wyoming community colleges:
 - In fall 2019, 71.2% of online students only transferred courses from one community college, 23% from two, and 5.5% from three or more

(Note: This analysis currently excludes any credit transferred from out of state institutions)

Capacity to Deliver Four-Year Degrees

Number of
USP
Courses
Offered
Online

Fall 2016 through
Fall 2019





Recommendation of Financial Aid Pivot to include Talent Awards

November 2019



Recommendation to include Talent Awards in Financial Aid Strategy

The use of Talent Awards provides programs, departments and unique areas the opportunity to recruit the highest quality students from around the country to UW. Contributions made by these students will allow UW the ability to maintain its competitive engagement across the student experience. Non academic based programs enrich the student experience and support for the co-curricular elements of Student Life

- Supporting reasons for use of Talent awards
 - Allows for targeted recruitment in strategic areas
 - Maintains competitive advantage in tight recruiting markets
 - Maintains compliance for use of talent awards
 - Enhances the competitiveness of UW programs
 - Heightened student experiences



* REVISED - Financial Aid Plan for the 2020-21 Academic Year (Fiscal Year 2021)

The table below outlines a revision to the University of Wyoming's undergraduate financial aid plan for the 2020-21 academic year (fiscal year 2021). *This revision allows for up to \$200k for talent purposes. Executive Administration will review annually and direct funds to areas of strategic importance.*

#	COMPONENT	REVISED 2020-21 FINANCIAL AID PLAN	Current Financial Aid Model
1	Academic Rating Index Matrix	Adopt New Academic Rating Index Matrix & Awarding Bands	
2	Non-Resident Rating 185 & Above (WUE & RMS150)	<ul style="list-style-type: none"> Eligibility Requirements: Raise to Equivalent of Trustees Scholars or Special Talent Cap Number of Available Awards at 50 	Academic Rating of 166.67 or above
3	Non-Resident Rating 170-184.9	<ul style="list-style-type: none"> \$7,000 Award and Raise the Academic Rating Required to Receive the Award 	\$6,000 Award
4	Non-Resident Rating 155-169.9	<ul style="list-style-type: none"> \$4,000 Award 	\$3,000 Award
5	Non-Resident Rating 125-154.9	<ul style="list-style-type: none"> \$2,000 Award 	\$0 Award
6	Resident Rating 185 & Above	<ul style="list-style-type: none"> Minimum of \$6,500 (These Students Are Essentially Trustee Scholars) 	Trustee Scholars
7	Resident Rating 170-184.9	<ul style="list-style-type: none"> \$3,500 Award 	\$1,000
8	Resident Rating 155-169.9	<ul style="list-style-type: none"> 1,500 Award 	\$0
9	Resident Rating 125-154.9	<ul style="list-style-type: none"> \$500 Award 	\$0
10	Resident Need-Based Financial Aid	<ul style="list-style-type: none"> \$1M of Need-Based Aid to Wyoming Undergraduates 	\$0
11	Resident Transfer Student	<ul style="list-style-type: none"> \$4,000 Award with Requirements of an Associate Degree, 75 or Less SCHs, and a 3.0 GPA or Higher Cap Number of Available Awards at 125 	\$1,000
New Row → 12	Talent Awards	<ul style="list-style-type: none"> \$200k expenditure cap i.e. Rodeo, ROTC, Music, Theater, Dance or other unique opportunities and strategic initiatives 	~\$40, 000



Revised Budget to include Talent Awards

UW Administration recommends an increase of ~\$160k for purposes of Talent Awards based on the 2020-2021 Budget approved at the July 2019 BOT meeting. No additional revisions are requested.

2020-2021 Budget for all 1st time and TRS

	Approved July 2019	Recommended Nov. 2019
Need-based gift	\$1,134,136	\$1,134,136
Merit-based gift	\$4,454,276	\$4,454,276
Premier Academic	\$1,019,558	\$1,019,558
Special Talent/other talent gift	\$42,780	\$200,000*
Other institutional gift aid	\$489,437	\$489,437
Tuition exchange waivers	\$0	\$0



End



Notice of Intent – Proposed Haub School Master of Science Degree

Name and Delivery

The name of the proposed Academic Program is Master of Science in Environment, Natural Resources and Society (ENRS). The mode of delivery will be on-campus classroom and research. Individual courses may be delivered online. Future components of the degree (e.g. graduate certificates) will likely be delivered via distance. A few new courses will be developed by the Haub School but ENRS will utilize existing courses across campus.

Rationale & Need for ENRS

Our dynamic and changing world requires environmental and natural resource professionals to have an integrated understanding across a broad array of disciplines, with deeper skills and knowledge in one or more areas of significant specialization. National research clearly shows that employers in environmental fields are seeking employees with interdisciplinary experience and essential skills in leadership, communication, teamwork, critical thinking, problem-solving, and collaboration. Broadly defined, ENRS will be characterized by interdisciplinary intersections of natural resource management, social science, law and policy, environmental science, natural resource economics and environmental problem solving. We propose ENRS will explicitly provide interdisciplinary content and essential skill development in environmental and natural resource fields that will add a new and essential dimension to UW graduate programs.

We propose that ENRS will be an energizing new step forward in interdisciplinary education at UW. Rather than being redundant with other disciplinary graduate degrees, we propose that ENRS will utilize and combine the best of Haub School and UW's existing disciplinary expertise into an exciting interdisciplinary offering that will produce successful leaders and professionals across a suite of environmental careers. There are only currently five UW master's degrees specifically defined as "interdisciplinary", we propose ENRS as the sixth.

Program Description

We propose that our ENRS degree be interdisciplinary, immersing students in applied, practical experience and developing strong collaborative and communication skills. The key component of the ENRS degree is the opportunity for graduate students to weave a subset of disciplines and topics into relevant research and coursework, resulting in broad understanding while developing areas of specialization.

Tracks

We propose to develop three ENRS tracks that students may apply to: 1) a traditional thesis research track with individual, Plan A thesis and program of study; 2) a team-based research track of three to five students, each with individual thesis and program of study, coordinated around a group project; and 3) a concentration track focused on coursework and completion of certificates or concentrations. Future options may include distance delivery tracks. We propose that students in traditional and team-based tracks would typically be supported by faculty grants and concentration track students would be self-supported.

Disciplines

Our proposed ENRS content will closely align to core areas of Haub School faculty disciplinary expertise and research. Disciplines will include: collaborative process, negotiation and facilitation, decision analysis, private land conservation and management, natural resource-based recreation and tourism, environment and natural resource law and policy, large dataset analyses, environmental humanities, sustainability, environmental anthropology, wildlife science, energy systems, coupled human-natural systems, and environmental communication.

Skill, Knowledge & Outcome Objectives

We propose that ENRS graduate students will: 1) develop an interdisciplinary and collaborative mindset; 2) experience critical engagement with community stakeholders and decision-makers; 3) excel in team-based collaborative environments; 4) become skilled researchers; 5) develop the skills and knowledge to advance and be

successful in a wide variety of ENRS careers; 6) become excellent oral and written communicators, with expertise in public engagement; 7) apply conceptual and critical thought to relevant environmental and natural resource issues; and 8) become skilled decision-makers.

Research Objectives

We propose that our graduate research experience will stimulate: 1) applied, team-based, interdisciplinary research on our most pressing environmental issues; 2) research collaboration across campus; 3) positive impact to Wyoming communities and constituencies; and 4) interdisciplinary research publication by Haub School and UW faculty.

Pedagogical Objectives

We propose to structure our educational experiences to provide: 1) continuous, high-quality faculty-to-student and peer-to-peer learning; 2) place-based, field-based, and/or community-based learning opportunities; 3) program flexibility and learning opportunities to fulfil a diverse set of student learning needs, contexts, and residency situations; and 4) opportunities for faculty from other UW academic units to collaborate on graduate instruction.

Existing Program Alignment

The interdisciplinary nature of Haub School programs and research is core to our identity. Our three existing undergraduate degrees and two graduate degrees all require concurrent or dual majors, additional minors or concentrations. All require courses taught by programs outside the Haub School. Several of our faculty have joint appointments in the Colleges of Law, Agriculture, Business, or Arts & Sciences. Our faculty also actively engage in research with faculty outside the Haub School. We intend to continue to offer our dual graduate degree a Juris Doctorate and Master of Arts in Environment and Natural Resources with the College of Law and our concurrent graduate major in Environment and Natural Resources. ENRS will provide a much-needed master's degree to serve a student population seeking an interdisciplinary environmental degree with a strong social component.

Relationships to Other Programs

Overall, productive relationships with other academic units are key to successfully offering ENRS. We propose that ENRS follow the Haub School interdisciplinary model in both coursework and research. That includes maximizing inclusivity by engaging with the extensive expertise of UW researchers and encouraging students to take advantage of courses already offered across campus. We plan to meet during fall semester with administrators and faculty from UW academic units offering environmental discipline degrees to explain the interdisciplinary nature of ENRS, understand potential concerns and structure ENRS to minimize competition and redundancy.

Market Analyses

We have been trained by Gray Associates to use their student market analysis database. We have preliminarily explored EAB to do a market analysis for ENRS. We surveyed our alumni about the structure of ENRS in our recent alumni survey. We propose to utilize Gray Associates, EAB and our alumni for a thorough market analysis.

Mission Alignment

ENRS will contribute to all three academic goals in UW's Breaking Through strategic plan. Goal 1: Driving Excellence - ENRS as an interdisciplinary degree will focus on collaboration among UW programs and also train students in collaborative practice. Goal 2: Inspiring Students - ENRS will provide high-impact learning experience through student engagement in real-world enterprises. Goal 3: Impacting Communities – a premise of ENRS is to engage with communities and develop solutions to environment and natural resource issues. We will develop research projects and educational experiences that spring directly from the needs of our partner communities in Wyoming and beyond. ENRS will also directly support Haub School Strategic Goal 1: Educate future leaders through interdisciplinary teaching and research.

Preliminary Budget – No additional faculty are anticipated

Academic year	2020-21	2021-22	2022-23	2023-24	
Enrollment Targets					
Resident Graduate Students	8	12	14	15	
Non-resident Graduate Students	0	4	7	10	
Total Graduate Students	8	16	21	25	
Graduate Assistantships					
State GA's - Current= 3, requesting 2-3 new	5	5	6	6	
Grant-funded GA's	0	3	4	5	
Existing fellowship GA's	3	4	4	4	
GA supported Graduate Students	8	12	14	15	
Self-supported Graduate Students	0	4	7	10	
Total Graduate Students	8	16	21	25	
Revenue Projections					Totals
UW Tuition (resident)	\$50,312	\$75,468	\$88,046	\$94,335	\$308,161
UW Tuition (non-resident)	\$0	\$64,036	\$112,063	\$160,090	\$336,189
<i>UW Tuition Total</i>	<i>\$50,312</i>	<i>\$139,504</i>	<i>\$200,109</i>	<i>\$254,425</i>	<i>\$644,350</i>
Block grant GA's current=3 request 2-3 new	\$74,570	\$74,570	\$89,484	\$89,484	\$328,108
Faculty Grants to support GA's	\$0	\$44,742	\$59,656	\$74,570	\$178,968
Kemmerer & Knobloch fellowships	\$44,742	\$59,656	\$59,656	\$59,656	\$223,710
Haub Endowment Output	\$50,000	\$50,000	\$50,000	\$50,000	\$200,000
Private Donors	\$50,000	\$50,000	\$50,000	\$50,000	\$200,000
<i>Non-tuition total</i>	<i>\$219,312</i>	<i>\$278,968</i>	<i>\$308,796</i>	<i>\$323,710</i>	<i>\$1,130,786</i>
Revenue Total	\$269,624	\$418,472	\$508,905	\$578,135	\$1,775,136
Expense Projections					
Block grant GA's current=3 request 2-3 new	\$106,015	\$106,015	\$127,218	\$127,218	\$466,466
Grant-funded GA's	\$0	\$63,609	\$84,812	\$106,015	\$254,436
Fellowship GA's	\$63,609	\$84,812	\$84,812	\$84,812	\$318,045
<i>Graduate Assistantships total</i>	<i>\$169,624</i>	<i>\$254,436</i>	<i>\$296,842</i>	<i>\$318,045</i>	<i>\$1,038,947</i>
Instructional support					
Adjunct instructors- contracts, travel	\$20,000	\$25,000	\$25,000	\$30,000	\$100,000
Travel – field projects, student travel	\$15,000	\$20,000	\$25,000	\$25,000	\$85,000
Equipment, supplies, etc.	\$5,000	\$5,000	\$10,000	\$10,000	\$30,000
<i>Instructional support total</i>	<i>\$40,000</i>	<i>\$50,000</i>	<i>\$60,000</i>	<i>\$65,000</i>	<i>\$215,000</i>
Expense Total	\$209,624	\$304,436	\$356,842	\$383,045	\$1,253,947
Net (Revenue - Expense)	\$60,000	\$114,036	\$152,063	\$195,090	\$521,189

Implementation Timeline

2019-20	2020-21	2021-22	2022-23	2023-24
HS faculty approve Notice of Intent (NOI)	Enrollment goal - 8	Enrollment goal - 16	Enrollment goal - 21	Enrollment goal - 25
ASAC NOI Review	Admit - traditional & concentration tracks	Initiate 1st team research project	Initiate 2nd team research project	Launch distance track
BOT NOI Review & Approval	Initiate certificate approval process	Admit - traditional, team & concentration tracks	Admit - traditional, team & concentration tracks	Admit - traditional, team, concentration & distance tracks
Initiate Request for Approval (RFA) Campus Review - HS Faculty, Faculty Senate, Grad Council, Staff Senate, ASUW, Deans, Executive Council	Continue marketing, fundraising & grant apps.	Continue marketing, fundraising & grant apps.	Continue marketing, fundraising & grant apps.	Continue marketing, fundraising & grant apps.
BOT RFA Review & Approval		First graduation	Develop distance track	



Haub School of
Environment and
Natural Resources

Environment, Natural Resources & Society

Notice of Intent – MS ENRS





Environment, Natural Resources & Society

Rationale & Need

Integrated understanding - broad array of disciplines
AND
Deeper skills/knowledge in areas of specialization





Environment, Natural Resources & Society

Rationale & Need

Employers seeking interdisciplinary experience

AND

Essential skills in

Leadership

Teamwork

Collaboration

Critical Thinking

Problem-solving

Communication





Environment, Natural Resources & Society

Interdisciplinary intersection of:



Social science
Law and policy
Environmental science



Natural resource economics
Natural resource management
Environmental problem solving





Environment, Natural Resources & Society

Interdisciplinary with specialization

Students weave a subset of disciplines into
relevant research and coursework

Resulting in broad understanding while
developing areas of specialization

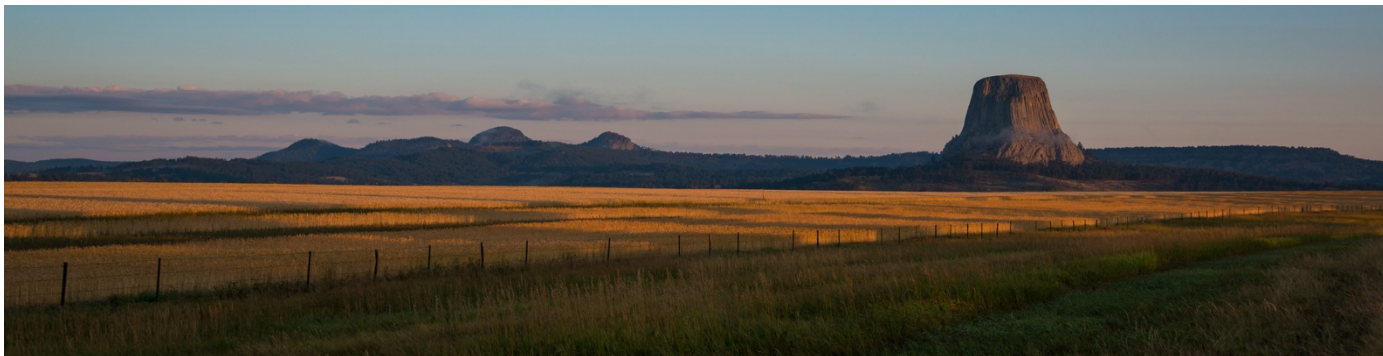




Environment, Natural Resources & Society

Disciplines

- Collaborative process
- Negotiation & facilitation
- Decision analysis
- Land conservation/management
- Recreation/tourism
- ENR law/policy
- Large dataset analyses
- Environmental humanities
- Sustainability
- Environmental anthropology
- Wildlife science
- Energy systems
- Coupled human-natural systems
- Environmental communication.



Environment, Natural Resources & Society

Skill, knowledge & outcome objectives

- Develop interdisciplinary & collaborative mindset
- Engage with stakeholders & decision-makers
- Excel in team-based collaborative environments
- Develop skills/knowledge to advance in ENR careers
- Become excellent oral & written communicators
- Become skilled decision-makers





Environment, Natural Resources & Society

Relationships to other programs

- Productive UW relationships are key
- Engage extensive expertise of UW faculty
- Students take existing courses
- Minimize competition and redundancy
 - Meet administrators/faculty from units offering environmental degrees





Environment, Natural Resources & Society

Mission alignment

Breaking Through Strategic Plan

- Goal 1: Driving Excellence
 - ENRS will train students in collaborative practice
- Goal 2: Inspiring Students
 - ENRS will engage students in real-world enterprises
- Goal 3: Impacting Communities
 - ENRS will implement research and educational experiences with partner communities to develop solutions to ENR issues





Environment, Natural Resources & Society

Market analyses

- Gray Associates
- EAB
- Haub School Alumni network





Environment, Natural Resources & Society

Preliminary budget

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Thank You

