# LEVEL II MEMORANDUM

**DATE:** February 1st 2020

**TO:** Chief Academic Officers, Montana University System

**FROM:** Brock Tessman, Deputy Commissioner for Academic, Research, and Student Affairs

**RE:** March 2020 Level II Proposals

The campuses of the Montana University System have proposed new academic programs or changes under the Level II approval process authorized by the Montana Board of Regents. The Level II proposals are being sent to you for your review and approval. If you have concerns about a particular proposal, you should share those concerns with your colleagues at that institution and try to come to some understanding. If you cannot resolve your concerns, raise them at the Chief Academic Officer's conference call February 20th. Issues not resolved at that meeting should be submitted in writing to OCHE by noon on Friday, February 21st. If no concerns are received, OCHE will assume that the proposals have your approval.

**Level II Items**

**Montana State University Bozeman:**

- Request authorization to add an English Education option to the MA in English
  Item # 187-2010-R0320 | Request Form | Curriculum Form | Fiscal Form | Intent to Plan

**The University of Montana Missoula:**

- Request for authorization to establish an acting option in the Theatre B.F.A.
  Item # 187-1001-R0320| Request Form | Curriculum Form | Fiscal Form | Intent to Plan | Attachment 1
- Request for authorization to establish an design and technology option in the Theatre B.F.A.
  Item # 187-1002-R0320| Request Form | Curriculum Form | Fiscal Form | Intent to Plan | Attachment 1
- Request for authorization to establish an A.S. transfer degree
  Item # 187-1003-R0320| Request Form | Curriculum Form | Fiscal Form | Intent to Plan | Attachment 1
- Request for authorization to establish an option in Game Design and Interactive Media in the B.F.A. in Media Arts
  Item # 187-1004-R0320| Request Form | Curriculum Form | Fiscal Form | Intent to Plan
- Request for authorization to move the option in Community and Environmental Planning from the Geography B.A. to the Geography B.S.
  Item # 187-1005-R0320| Request Form | Attachment 1
- Request for authorization to establish a B.A. in Multidisciplinary Studies
  Item # 187-1006-R0320| Request Form | Curriculum Form | Fiscal Form | Intent to Plan
- Request for authorization to establish a B.S. in Sustainability Science and Practice
  Item # 187-1007-R0320| Request Form | Curriculum Form | Fiscal Form | Intent to Plan | Attachment 1
- Request for authorization to establish The American Indian Governance and Policy Institute Item # 187-1008-R0320| Request Form | Center/Institute Form | Intent to Plan | Attachment 1
- Request for authorization to terminate the School of Extended and Lifelong Learning (SELL) Item # 187-1009-R0320| Request Form
- Request for authorization to retitle the College of Health Professions and Biomedical Sciences to the College of Health

Item # 187-1010-R0320| Request Form

- Request for authorization to establish a Doctor of Occupational Therapy (OTD) degree
  Item # 187-1011-R0320| Request Form | Curriculum Form | Fiscal Form

**Montana Technological University:**

- Request for authorization to establish a PhD in Earth Science and Engineering
  Item #187-1501-R0320 | Request Form |Curriculum Form | Fiscal Form | Intent to Plan
- Request for authorization to establish a Master of Science in Ecological Restoration
  Item #187-1501-R0320 | Request Form | Curriculum Form | Fiscal Form | Intent to Plan

**March 5-6,2020**

**ITEM 187-2010-R0320**

**Item Name**

Request authorization to add an English Education option to the Masters of Arts of English

**THAT**

The Board of Regents of the Montana University System approves the addition of an English Education option to the existing Masters of Arts in English at Montana State University.

**EXPLANATION**

The Master of Arts in English: English Education Option (MAEEE) is designed specifically for practicing ("in-service") secondary (grades 5-12) English and literacy teachers. This option responds to increasing demands for flexible but rigorous graduate coursework for English educators in and around Montana, particularly those who work in rural and remote schools throughout the state and often have geographical constraints preventing them from accessing regional universities. Therefore, the MAEEE will be an online program. Specifically, English Education courses will be taught entirely online, and students will be able to access current English graduate courses remotely as distance students. We expect that this option could reach a larger audience outside Montana, particularly given the option's unique focus of English Education within an English Department and emphasis on rural contexts for learning and teaching English.

Currently, there are many secondary English teachers throughout the state of Montana who, due to geography, cannot access graduate education face-to-face or online graduate education specific to their areas of teaching (i.e., English education, literature, writing, etc.) from an institution of higher education in Montana. The proposed MAEEE responds directly to this specific audience and need.

MAEEE students will have access to high quality graduate education in their area of teaching (i.e., English Education). This will affect them in at least three ways. First, it will facilitate their development of curriculum within the context of their teaching. Second, the program option's emphasis on rural contexts will enable participants to better contextualize their work within a broader understanding of geography and place. Third, this program option will create an opportunity for teachers in remote and rural schools throughout Montana to connect with other English teachers in the state to help build community and professional networks.

**ATTACHMENTS**

Academic Proposal Form
Curriculum Proposal Form
Fiscal Analysis Form
Intent to Plan

# Montana Board of Regents

## ACADEMIC PROPOSAL REQUEST FORM

ITEM **187-2010-R0320** Submission Month or Meeting: **March 5-6, 2020**

Institution: **Montana State University** CIP Code: **13.1305**

Program/Center/Institute Title: **Masters of Arts in English, English Education Option**

Includes (please specify below): Online Offering X Options

Please mark the appropriate type of request and submit with an Item Template and any additional materials, including those listed in parentheses following the type of request. For more information pertaining to the types of requests listed below, how to complete an item request, or additional forms please visit http://mus.edu/che/arsa/academicproposals.asp.

## ____ A. Level I:

**Campus Approvals**

____ **1a. Placing a postsecondary educational program into moratorium** (Program Termination and Moratorium Form)

____ **1b. Withdrawing a postsecondary educational program from moratorium**

____ **2. Establishing, re-titling, terminating or revising a campus certificate of 29 credits or less**

____ **3. Establishing a B.A.S./A.A./A.S. area of study**

____ **4. Offering an existing postsecondary educational program via distance or online delivery**

**OCHE Approvals**

____ **5. Re-titling an existing postsecondary educational program**

____ **6. Terminating an existing postsecondary educational program** (Program Termination and Moratorium Form)

____ **7. Consolidating existing postsecondary educational programs** (Curriculum Proposal Form)

____ **8. Establishing a new minor where there is a major or an option in a major** (Curriculum Proposal Form)

____ **9. Revising a postsecondary educational program** (Curriculum Proposal Form)

____ **10. Establishing a temporary C.A.S. or A.A.S. degree program** *Approval limited to 2 years*

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**X B. Level II:**

**X** **1. Establishing a new postsecondary educational program** (Curriculum Proposal and Completed Intent to Plan Form)

____ **2. Exceeding the 120 credit maximum for baccalaureate degrees** *Exception to policy 301.11*

____ **3. Forming, eliminating or consolidating an academic, administrative, or research unit** (Curriculum or Center/Institute Proposal and Completed Intent to Plan Form, except when eliminating or consolidating)

____ **4. Re-titling an academic, administrative, or research unit**

## Proposal Summary [360 words maximum]

**What: Masters of Arts in English, English Education Option**

**Why**:

The Master of Arts in English: English Education Option (MAEEE) is designed specifically for practicing ("in-service") secondary (grades 5-12) English and literacy teachers. This option responds to increasing demands for flexible but rigorous graduate coursework for English educators in and around Montana, particularly those who work in rural and remote schools throughout the state and often have geographical constraints preventing them from accessing regional universities. Therefore, the MAEEE will be an online program. Specifically, English Education courses will be taught entirely online, and students will be able to access current English graduate courses remotely as distance students. We expect that this option could reach a larger audience outside Montana, particularly given the option's unique focus of English Education within an English Department and emphasis on rural contexts for learning and teaching English.

Currently, there are many secondary English teachers throughout the state of Montana who, due to geography, cannot access graduate education face-to-face or online graduate education specific to their areas of teaching (i.e., English education, literature, writing, etc.) from an institution of higher education in Montana. The proposed MAEEE responds directly to this specific audience and need.

MAEEE students will have access to high quality graduate education in their area of teaching (i.e., English Education). This will affect them in at least three ways. First, it will facilitate their development of curriculum within the context of their teaching. Second, the program option's emphasis on rural contexts will enable participants to better contextualize their work within a broader understanding of geography and place. Third, this program option will create an opportunity for teachers in remote and rural schools throughout Montana to connect with other English teachers in the state to help build community and professional networks.

**Resources**: No extra resources

**Relationship to similar MUS programs:** There is an English Education Option at the Master of Arts level at University of Montana. However, currently this option only offers one online class per year; ours will offer all our graduate classes for qualified remote students.

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## CURRICULUM PROPOSAL FORM

1. **Overview of the request and resulting changes.** Provide a one-paragraph description of the proposed program. Will this program be related or tied to other programs on campus? Describe any changes to existing program(s) that this program will replace or modify. *[100 words]*

The Master of Arts in English: English Education Option (MAEEE) is designed specifically for practicing ("in-service") secondary (grades 5-12) English and literacy teachers. This option responds to increasing demands for flexible but rigorous graduate coursework for English educators in and around Montana, particularly those who work in rural and remote schools throughout the state and often have geographical constraints preventing them from accessing regional universities. Therefore, the MAEEE will be an online program. Specifically, English Education courses will be taught entirely online, and students will be able to access current English graduate courses remotely as distance students.

2. **Relation to institutional strategic goals.** Describe the nature and purpose of the new program in the context of the institution's mission and core themes. *[200 words]*

The proposed MAEEE program will advance several of Montana State University's strategic goals, particularly those related to learning, access, and engagement. A core aspect of the MAEEE is to help practicing secondary English teachers become better educators. In this way, this program serves to advance MSU's strategic goal of "transformational learning" especially in the area of "expanding high-quality graduate education" by providing increased access to graduate programs at MSU. Likewise, this program will "expand mutually beneficial and responsive engagement for the advancement of Montana" by providing a Masters of Arts degree "tailored to demonstrate state and regional needs with attention to national trends" in service of "improving the lives and livelihoods of Montanans." This program offers access at the most robust level possible to an audience of teachers who have been unable to receive such programming within their own state.

3. **Process leading to submission.** Briefly detail the planning, development, and approval process of the program at the institution. *[100 words]*

The development has included consideration from a wide range of stakeholders, among them graduates from the teaching option English major, practicing teachers in Montana, English department faculty, English department chair, Math education faculty in the Mathematics Department, faculty in MSU's department of education, English education faculty at other institutions, members of the professional organization of English teachers in Montana (MATELA), and the English Language Arts Coordinator in Montana's Office of Public Instruction. The development of this proposal has involved the English department's graduate committee, and the proposal has been discussed and voted upon favorably by the English department faculty.

4. **Program description.** Please include a complete listing of the proposed new curriculum in Appendix A of this document.

   a. List the program requirements using the following table.

| | Credits |
|---|---|

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| | |
|---|---|
| Credits in required courses offered by the department offering the program | 12 |
| Credits in required courses offered by other departments | 0 |
| Credits in institutional general education curriculum | 0 |
| Credits of free electives | 8-12 |
| Total credits required to complete the program | 30 |

b. List the program learning outcomes for the proposed program. Use learner-centered statements that indicate what students will know, be able to do, and/or value or appreciate as a result of completing the program.

Students completing this option will:

1) Understand historical issues and current trends related to English as a secondary school subject;

2) Apply current research in English Education and/or literacy studies to develop and implement pedagogical practices in their local teaching contexts;

3) Develop a line of scholarly inquiry related to English Education and/or literacy studies that is situated within related scholarship in the field;

4) Advance their professionalization through participation in local, regional, and/or national professional networks (e.g. conference presentations, publications).

5. **Need for the program.** To what specific student, regional, and statewide needs is the institution responding to with the proposed program? How will the proposed program meet those needs? Consider workforce, student, economic, societal, and transfer needs in your response as appropriate. *[250 words]*

The Master of Arts in English: English Education Option (MAEEE) is designed specifically for practicing ("in-service") secondary (grades 5-12) English and literacy teachers. This option responds to increasing demands for flexible but rigorous graduate coursework for English educators in and around Montana, particularly those who work in rural and remote schools throughout the state and often have geographical constraints preventing them from accessing regional universities. Therefore, the MAEEE will be an online program. Specifically, English Education courses will be taught entirely online, and students will be able to access current English graduate courses remotely as distance students. We expect that this option could reach a larger audience outside Montana, particularly given the option's unique focus of English Education within an English Department and emphasis on rural contexts for learning and teaching English.

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MAEEE students will have access to high quality graduate education in their area of teaching (i.e., English Education). This will affect them in at least three ways. First, it will facilitate their development of curriculum within the context of their teaching. Second, the program option's emphasis on rural contexts will enable participants to better contextualize their work within a broader understanding of geography and place. Third, this program option will create an opportunity for

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teachers in remote and rural schools throughout Montana to connect with other English teachers in the state to help build community and professional networks.

6. **Similar programs.** Use the table below to identify and describe the relationship between any similar programs within the Montana University System.

| Institution Name | Degree | Program Title |
|---|---|---|
| University of Montana | Masters in Art of Teaching | English Education (MAT) |

a. If the proposed program substantially duplicates another program offered in the Montana University System, provide a rationale as to why any resulting duplication is a net benefit to the state and its citizens. *[200 words]*

The program at UM offers, by the most recent count, only one online course a year, making it a course only available to students in the immediate region of Missoula. Our program will make all the graduate course, including synchronous courses, available to students remotely.

b. Describe any efforts that were made to collaborate with similar programs at other institutions. If no efforts were made, please explain why. *[200 words]*

The University of Montana currently has an MA in English Teaching. However, their program is not offered online, and so only meets the needs of teachers within geographic proximity to Missoula. Therefore, the MAEEE we are proposing is not in competition with the program at UM in terms of potential students. Furthermore, the content of the two programs have substantive differences, as our proposed MAEEE program has English Education coursework related to place-based approaches to English pedagogy, which is significant for rural contexts, and more emphasis on research approaches and methodologies within English Education. English Education faculty at MSU have consulted with English Education at UM about the MAEEE program to ensure these two programs complement (as opposed to compete with) one another in order to meet the needs of as many secondary English teachers across the state of Montana as possible.

7. **Implementation of the program.** When will the program be first offered? If implementation will occur in phases, please describe the phased implementation plans. *[100 words]*

We hope to begin offering this specific program in the Fall of 2020. However, we are already adding graduate students from off campus to our face-to-face seminars via video link, some of whom are practicing teachers.

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a. Complete the following table indicating the projected enrollments in and graduates from the proposed program.

| Fall Headcount Enrollment | | | | | Graduates | | | | |
|---|---|---|---|---|---|---|---|---|---|
| AY__21_ | AY_22_ | AY_23_ | AY_24_ | AY__25 | AY 21 | AY 22 | AY 23 | AY 24 | AY 25 |
| 3 | 5 | 5 | 7 | 7 | 0 | 0 | 3 | 5 | 7 |

b. Describe the methodology and sources for determining the enrollment and graduation projections above. *[200 words]*

We anticipate 3-4 students will enroll in fall of 2020, and that enrollment will gradually increase over time as the program becomes more visible to teachers. Demand for the program has been determined in three ways: 1) initial anecdotal evidence; 2) systematic qualitative research; and 3) a formal needs-assessment survey.

Since 2010, the English Education faculty at MSU have collected anecdotal evidence of demand for an MAEE through communication with former graduates from the undergraduate English education program who are currently teaching English in Montana. Based on this anecdotal evidence, the English Education faculty launched a program of research to more formally ascertain the professional development needs, including interests in graduate education in English education, for secondary English teachers throughout Montana. The research has established that these English teachers are not only eager to pursue accessible graduate education but are particularly interested in pursuing online or distance graduate coursework focused on content knowledge and disciplinary topics and pedagogical content knowledge related to English Education.
To further assess the need and potential demand for English education graduate opportunities for English teachers in Montana, the graduate committee recently conducted a market analysis survey. Survey questions were designed to ascertain to what extent graduate coursework in English Education was desired by English teachers and which types of coursework were most important for them.

c. What is the initial capacity for the program?

Roughly five to six students, spread between asynchronous classes and face-to-face seminars. (Most students, as practicing teachers, will likely only take one course a semester).

8. **Program assessment.** How will success of the program be determined? What action would result if this definition of success is not met? *[150 words]*

The success of the program will be measured by how well students meet the following program learning outcomes. Upon completion of this program, students will:

1) Understand historical issues and current trends related to English as a secondary school subject;

2) Apply current research in English Education and/or literacy studies to develop and implement pedagogical practices in their local teaching contexts;

3) Develop a line of scholarly inquiry related to English Education and/or literacy studies that is situated within related scholarship in the field;

4) Advance their professionalization through participation in local, regional, and/or national professional networks (e.g. conference presentations, publications).

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Annually, the English Education committee will meet to assess how well students are meeting program learning outcomes. This assessment will include the following:

- An evaluation of samples of student work to determine if program learning outcomes 1 and 2 are being achieved;
- An evaluation of students' professional papers/theses to determine if learning outcome 3 is being achieved;
- A record of student involvement in professional opportunities such as conference presentations, publications, awards, leadership positions in school, community, and regional initiatives to determine if learning outcome 4 is being achieved.
- An annual survey of students, focusing on how the program is informing their work as educators to assess potentially any or all of the learning outcomes.

To help assess for how well the program is meeting the needs of the students, particularly in the first few years of its development, as well as the overall viability and sustainability of the program, the following additional assessment data on the program will be collected and examined:

- An annual survey of students' experiences in the program, focusing on how well the program is meeting the students' needs, any challenges reported in the content and format of the program.
- A record of how many students apply and how many students enroll annually;
- A record of percentages of students who complete the program;
- A record of the timeframes in which students complete the program.

The English Department graduate committee will meet every other year to review program assessment, finding and making recommendations accordingly for any necessary changes to improve the program.

a. Describe the assessment process that will be used to evaluate how well students are achieving the intended learning outcomes of the program. When will assessment activities occur and at what frequency? *[150 words]*

(see above)

b. What direct and indirect measures will be used to assess student learning? *[100 words]*

(see above)

c. How will you ensure that the assessment findings will be used to ensure the quality of the program? *[100 words]*
d. (See above)

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e. Where appropriate, describe applicable specialized accreditation and explain why you do or do not plan to seek accreditation. *[100 words]*

This will not be required for this program.

**9. Physical resources.**

a. Describe the existing facilities, equipment, space, laboratory instruments, computer(s), or other physical equipment available to support the successful implementation of the program. What will be the impact on existing programs of increased use of physical resources by the proposed program? How will the increased use be accommodated? *[200 words]*

We have the technical ability to offer WebEx supported video engagement from a classroom in Wilson Hall. This will have no impact on existing programs because these classes will only be offered in the evening.

b. List needed facilities, equipment, space, laboratory instruments, etc., that must be obtained to support the proposed program. (Enter the costs of those physical resources into the budget sheet.) How will the need for these additional resources be met? *[150 words]*

We need no additional facilities, equipment, or space for this program.

**10. Personnel resources.**

a. Describe the existing instructional, support, and administrative resources available to support the successful implementation of the program. What will be the impact on existing programs of increased use of existing personnel resources by the proposed program? How will quality and productivity of existing programs be maintained? *[200 words]*

With the hire of a second English Education faculty member approved for Fall of 2020, we will have the personnel necessary to direct this program and also maintain the high quality of our undergraduate English Education program.

b. Identify new personnel that must be hired to support the proposed program. (Enter the costs of those personnel resources into the budget sheet.) What are the anticipated sources or plans to secure the needed qualified faculty and staff? *[150 words]*

We need no further personnel once the new hire begins in the Fall of 2020.

**11. Other resources.**

a. Are the available library and information resources adequate for the proposed program? If not, how will adequate resources be obtained? *[100 words]*

Yes.

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b. Do existing student services have the capacity to accommodate the proposed program? What are the implications of the new program on services for the rest of the student body? *[150 words]*

Yes.

12. **Revenues and expenditures.** Describe the implications of the new program on the financial situation of the institution. *[100 words]*

a. Please complete the following table of budget projections using the corresponding information from the fiscal analysis form for the first three years of operation of the new program.

| | Year 1 | Year 2 | Year 3 |
|---|---|---|---|
| Revenues | $7,633 | $12,722 | $12,722 |
| Expenses | 0 | $7,040 | $7,040 |
| Net Income/Deficit (revenues-expenses) | $7,633 | $5,681 | $5,681 |

b. Describe any expenses anticipated with the implementation of the new program. How will these expenses be met? *[200 words]*

Expenses beginning in the second year include potential instructional support at the undergraduate level as the program makes further demands on the tenure-track English Education faculty, and slight operations budget to support and market the program.

i. If funding is to come from the reallocation of existing state appropriated funds, please indicate the sources of the reallocation. What impact will the reallocation of funds in support of the program have on other programs? *[150 words]*

NA.

ii. If an increase in base funding is required to fund the program, indicate the amount of additional base funding and the fiscal year when the institution plans to include the base funding in the department's budget.

**NA.**

iii. If the funding is to come from one-time sources such as a donation, indicate the sources of other funding. What are the institution's plans for sustaining the program when that funding ends? *[150 words]*

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NA.

iv. Describe the federal grant, other grant(s), special fee arrangements, or contract(s) that will be valid to fund the program. What does the institution propose to do with the program upon termination of those funds? *[150 words]*

NA.

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13. **Student fees.** If the proposed program intends to impose new course, class, lab, or program fees, please list the type and amount of the fee.

NA.

14. Complete the fiscal analysis form.

Signature/Date

**College or School Dean:** 11/15/19

**Chief Academic Officer:** 11/19/19

**Chief Executive Officer:**

**Flagship Provost*:** 11/19/19

**Flagship President*:** Nov 19, 2019

*Not applicable to the Community Colleges.

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**Appendix A – Proposed New Curriculum**

## Academic Degree Program Proposal - Fiscal Analysis Form

**CAMPUS: Bozeman**
**AWARD LEVEL: Grad**
**PROGRAM NAME: Masters in English, English Education Option**
**PROGRAM CODE:**

| ENROLLMENT PROJECTIONS | FY 2021 | FY 2022 | FY 2023 | FY 2024 | FY 2025 |
|---|---|---|---|---|---|
| **Headcount** | | | | | |
| annual unduplicated headcount of students with declared major or minor within the program | 3 | 5 | 5 | 7 | 7 |
| **Credit Hours** | | | | | |
| annual avg. credits hours earned per student in program related curriculum | 9 | 9 | 9 | 9 | 9 |
| **Student FTE** | | | | | |
| Undergrad: (Headcount x CH)/30<br>Graduate: (Headcount x CH)/24 | 1.125 | 1.875 | 1.875 | 2.625 | 2.625 |
| **Completions** | | | | | |
| Annual number of program completers | | | 3 | 5 | 7 |

| REVENUE | | | | | |
|---|---|---|---|---|---|
| Tuition Revenue (net of waivers) | $7,633 | $12,722 | $12,722 | $17,810 | $17,810 |
| Institutional Support | | | | | |
| Other Outside Funds (grants, gifts, etc.) | | | | | |
| Program Tuition/Fees | | | | | |
| **Total Revenue** | **$7,633** | **$12,722** | **$12,722** | **$17,810** | **$17,810** |
| **Total Revenue per Student FTE** | **$6,785** | **$6,785** | **$6,785** | **$6,785** | **$6,785** |

| EXPENDITURES | | | | | | |
|---|---|---|---|---|---|---|
| Tenure Track Faculty | FTE | | | | | |
| | Salary + Benefits | | | | | |
| Non-tenure Track Faculty<br>*Includes Adjunct Instructors | FTE | | 0.1 | 0.1 | 0.1 | 0.1 |
| | Salary + Benefits | | $6,540 | $6,540 | $6,540 | $6,540 |
| Graduate Teaching Assistants | FTE | | | | | |
| | Salary + Benefits | | | | | |
| Staff | FTE | | | | | |
| | Salary + Benefits | | | | | |
| **Total Faculty & Staff** | FTE | | | | | |
| | Salary + Benefits | **$0** | **$6,540** | **$6,540** | **$6,540** | **$6,540** |
| Operations (supplies, travel, rent, etc) | | | $500 | $500 | $500 | $500 |
| Start-up Expenses (OTO) | | | | | | |
| **Total Expenses** | | **$0** | **$7,040** | **$7,040** | **$7,040** | **$7,040** |
| **Student FTE to Faculty (TT + NTT) Ratio** | | **#DIV/0!** | **18.8** | **18.8** | **26.3** | **26.3** |
| **Net Income/Deficit** (Revenue - Expenses) | | **$7,633** | **$5,681** | **$5,681** | **$10,770** | **$10,770** |

The signature of the campus Chief Financial Officer signifies that he/she has reviewed and assessed the fiscal soundness of the proposal and provided his/her recommendations to the Chief Academic Officer as necessary.

**Campus Chief Financial Officer Signature**

Chief Financial Officer Comments

Program/Center/Institute Title: **Master of Arts in English: English Education Option**

Campus, School/Department: **Montana State, College of Letters and Sciences/ English**

Expected Submission Date:

Contact Name/Info: **Kirk Branch, Chair Department of English**

To increase communication, collaboration, and problem-solving opportunities throughout the MUS in the program/center/institute development process, please complete this form not more than 18 months in advance of the anticipated date of submission of the proposed program/center/institute to the Board of Regents for approval. The completed form should not be more than 2-3 pages. For more information regarding the Intent to Plan process, please visit http://mus.edu/che/arsa/academicproposals.asp.

### 1) Provide a description of the program/center/institute.

The Master of Arts in English: English Education Option (MAEEE) is designed specifically for practicing ("in-service") secondary (grades 5-12) English and literacy teachers. This option responds to increasing demands for flexible but rigorous graduate coursework for English educators in and around Montana, particularly those who work in rural and remote schools throughout the state and often have geographical constraints preventing them from accessing regional universities. Therefore, the MAEEE will be an online program. Specifically, English Education courses will be taught entirely online, and students will be able to access current English graduate courses remotely as distance students. The participants in this program will attend part-time, usually completing one 3-credit course per semester plus summer course work to the extent that students are able. With this model, we estimate it would take students between two and five years to complete the program, with three years being typical for the majority of students. We anticipate that, at first, the students in the option will primarily be secondary English and literacy teachers in Montana. Over time, however, we expect that this option could reach a larger audience outside Montana, particularly given the option's unique focus of English Education within an English Department and emphasis on rural contexts for learning and teaching English.

### 2) Describe the need for the program/center/institute. Specifically, how the program/center/institute meets current student and workforce demands. (Please cite sources).

Currently, there are many secondary English teachers throughout the state of Montana who, due to geography, cannot access graduate education face-to-face or online graduate education specific to their areas of teaching (i.e., English education, literature, writing, etc.) from an institution of higher education in Montana. The proposed MAEEE responds directly to this specific audience and need.

MAEEE students will have access to high quality graduate education in their area of teaching (i.e., English Education). This will affect them in at least three ways. First, it will facilitate their development of curriculum within the context of their teaching. As the program option is designed for practicing teachers with the aim of grounding the coursework and assignments and projects in their professional realities, the program will have direct, immediate impacts on the teachers' professional lives, which will have impact on their secondary students' academic experiences. Second, the program option's emphasis on rural contexts will enable participants to better contextualize their work within a broader understanding of geography and place. Third, this program option will create an opportunity for teachers in remote and rural schools throughout Montana to connect with other English teachers in the state to help build community and professional networks. Typically, teachers in these contexts are

the sole English teacher for the entire district (and often within an entire geographic region) and lack colleagues and professional development specific to their discipline. Over the past several years, the MSU English Education faculty have conducted research that has revealed that this particular facet of professional isolation is especially problematic for English teachers throughout the state of Montana. Thus, we see the MAEEE helping to mitigate this issue given that the program option will put English teachers into contact with one other through coursework. We anticipate 8-12 students will enroll annually. Demand for the program has been determined in three ways: 1) initial anecdotal evidence; 2) systematic qualitative research; and 3) a formal needs-assessment survey.

Since 2010, the English Education faculty at MSU have collected anecdotal evidence of demand for an MAEEE through communication with former graduates from the undergraduate English education program who are currently teaching English in Montana. The English Education faculty launched a program of research to more formally ascertain interests in graduate education in English education for secondary English teachers throughout Montana. The research has established that these English teachers are not only eager to pursue accessible graduate education but are particularly interested in pursuing online or distance graduate coursework focused on content knowledge and disciplinary topics and pedagogical content knowledge related to English Education. Furthermore, this research has demonstrated a strong desire among these English teachers, particularly those in remote and rural areas of the state, to be part of a community of educators focused primarily on English Education.

To further assess the need and potential demand for English education graduate opportunities for English teachers in Montana, the graduate committee conducted a market analysis survey. The results from the survey confirm the findings of both the previous research and the anecdotal evidence collected over the previous seven years. Overall, results demonstrated a need and demand for an online English Education graduate program geared for secondary English teachers. 49% of respondents marked they were "very interested" and 41% marked "interested" in getting the MAEEE.

### 3) Describe how the program/center/institute fits with the institutional mission, strategic plan, and existing institutional program array.

The proposed MAEEE program will advance several of Montana State University's strategic goals, particularly those related to learning, access, and engagement. A core aspect of the MAEEE is to help practicing secondary English teachers become better educators. In this way, this program serves to advance MSU's strategic goal of "learning" in that it "prepares students to graduate equipped for careers" and develops "student learning of critical knowledge and skills." Because the program will draw entirely new students into the university, the MAEEE will serve MSU's goal of "access" as it will "widen access to higher education". Finally, the MAEEE program will serve the university's strategic goal of "engagement" as in important aspect of the program is that students will take on leadership roles, particularly within their school and local contexts; thus, this program will serve MSU's goal that "members of the MSU community will be leaders, scholars, and engaged citizens of their local, national, and global communities."

The MAEEE complements the current MA in English program. The current MA program in the English department offers face-to-face, on-campus courses in literature, rhetoric, composition, and linguistics. These courses—in addition to English Education courses—are exactly the classes prospective MAEEE students desire but cannot access. English department faculty who teach these classes have agreed to deliver these on-campus courses in WebEx classrooms, which would enable MAEEE students to take them from a distance in real time. This opportunity to access disciplinary coursework, as well as participate in cohorts of English Studies students, are two unique features of the MAEEE that responds directly to the needs of English teachers throughout the state and sets the MSU MAEEE apart from other programs around the country. In this way, the MAEEE offers something new and unique that will draw a market not currently being served by the department or university.

The MAEEE also potentially complements other existing graduate programs at MSU, including the M.A. in Native

American Studies (NAS) and the M.Ed. program (specifically C&I) in Education. For instance, a teacher who is interested in developing a deeper understanding of Indigenous educational issues in Montana would be able to take courses through NAS alongside their courses in English Education and English Studies; Given Montana's Indian Education for All Act that teachers are required to implement, this union is a solid fit and a unique opportunity. Similarly, students who have interests in broader educational issues would have opportunities to take courses offered through the Education Department. In this way, the MAEEE complements current graduate programs at MSU and has potential for interdisciplinary synergy.

While the current C&I program in Education allows students to take courses within their disciplines as part of their elective coursework, it is important to note that the MAEEE is doing something different and unique. Specifically, the MAEEE offers students a program that takes as its conceptual framework the field of English Education. This move enables deeper and more sustained inquiry into the students' teaching area and what they have identified as their primary need. Second, the MAEEE establishes a program that offers English teachers an opportunity to be in a cohort with other English educators. As English teachers in rural Montana, they are typically the sole English teacher for their entire district and they are professionally isolated from and in dire need of connection to other English teachers specifically. This is particularly true for early-career English teachers who are the most susceptible population for leaving the teaching profession. Overall, the MAEEE simultaneously complements current graduate programs at MSU and offers something unique and special to meet the needs of English teachers throughout the state of Montana.

4) **Describe how the program/center/institute overlaps, complements, or duplicates existing efforts in the MUS. Describe efforts that will be made to collaborate with similar programs at other institutions. If no efforts will be made, please explain why.**

The University of Montana currently has an MA in English Teaching. However, their program is not offered online, and so only meets the needs of teachers within geographic proximity to Missoula. Therefore, the MAEEE we are proposing is not in competition with the program at UM in terms of potential students. Furthermore, the content of the two programs have substantive differences, as our proposed MAEEE program has English Education coursework related to place-based approaches to English pedagogy, which is significant for rural contexts, and more emphasis on research approaches and methodologies within English Education. English Education faculty at MSU have consulted with English Education faculty at UM about the MAEEE program to ensure these two programs complement (as opposed to compete with) one another in order to meet the needs of as many secondary English teachers across the state of Montana as possible.

**Signature/Date**

**College/School Dean:** for Nic Rae 10/22/18

**Chief Academic Officer:** 10-23-18

**Chief Executive Officer:** October 23 2018

**Flagship Provost*:** 10-23-18

**Flagship President*:** October 23, 2018

**Date of Final Review:**

**When submitting the proposal to the BOR, include this signed form with the Level II request.**

**March 5-6, 2020**

**ITEM 187-1001-R0320**

**Request for authorization to establish an acting option in the Theatre B.F.A.**

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**THAT**

The University of Montana-Missoula requests authorization from the Montana Board of Regents to establish an acting option in the Theatre B.F.A.

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**EXPLANATION**

The School of Theatre and Dance currently recognizes only one option, Musical Theatre Performance. Recognizing the additional option in Acting will allow the School to better track and more effectively advise students in the program. Students will also benefit from having Acting specified on their transcript as an area of focus.

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**ATTACHMENTS**

Academic Proposal Request Form
Curriculum Proposal Form
Fiscal Analysis Form
Intent to Plan
Attachment #1: Proposed New Curriculum

# Montana Board of Regents

## ACADEMIC PROPOSAL REQUEST FORM

ITEM **XXX-1001-R0320** Submission Month or Meeting: **March 5-6, 2020**

Institution: **University of Montana** CIP Code: **50.0506**

Program/Center/Institute Title: **Acting option in the Theatre B.F.A.**

Includes (please specify below): Online Offering _____ Options _____

Please mark the appropriate type of request and submit with an Item Template and any additional materials, including those listed in parentheses following the type of request. For more information pertaining to the types of requests listed below, how to complete an item request, or additional forms please visit http://mus.edu/che/arsa/academicproposals.asp.

## ____ A. Level I:

**Campus Approvals**

____ **1a. Placing a postsecondary educational program into moratorium** (Program Termination and Moratorium Form)

____ **1b. Withdrawing a postsecondary educational program from moratorium**

____ **2. Establishing, re-titling, terminating or revising a campus certificate of 29 credits or less**

____ **3. Establishing a B.A.S./A.A./A.S. area of study**

____ **4. Offering an existing postsecondary educational program via distance or online delivery**

**OCHE Approvals**

____ **5. Re-titling an existing postsecondary educational program**

____ **6. Terminating an existing postsecondary educational program** (Program Termination and Moratorium Form)

____ **7. Consolidating existing postsecondary educational programs** (Curriculum Proposal Form)

____ **8. Establishing a new minor where there is a major or an option in a major** (Curriculum Proposal Form)

____ **9. Revising a postsecondary educational program** (Curriculum Proposal Form)

____ **10. Establishing a temporary C.A.S. or A.A.S. degree program** *Approval limited to 2 years*

**Montana Board of Regents**
**ACADEMIC PROPOSAL REQUEST FORM**

X **B. Level II:**

X **1. Establishing a new postsecondary educational program** (Curriculum Proposal and Completed Intent to Plan Form)

_____ **2. Permanent authorization for a temporary C.A.S. or A.A.S degree program** (Curriculum Proposal and Completed Intent to Plan Form)

_____ **3. Exceeding the 120 credit maximum for baccalaureate degrees** *Exception to policy 301.11*

_____ **4. Forming, eliminating or consolidating an academic, administrative, or research unit** (Curriculum or Center/Institute Proposal and Completed Intent to Plan Form, except when eliminating or consolidating)

_____ **5. Re-titling an academic, administrative, or research unit**

## Proposal Summary [360 words maximum]

**What**
The University of Montana-Missoula requests authorization from the Montana Board of Regents to establish an acting option in the Theatre B.F.A.

**Why**
The School of Theatre and Dance currently recognizes only one option, Musical Theatre Performance. UM's administration requested that all tracks within the Theatre B.F.A. be recognized as official options to give clarity to students. Recognizing the additional option in acting will allow the School to better track and more effectively advise students in the program. Students will also benefit from having acting specified on their transcript as an area of focus.

**Resources**
There are no additional resources requested at this time.

**Relationship to similar MUS programs**
UM's School of Theatre and Dance grants the only BFA in Theatre in the MUS.

# Montana Board of Regents

## CURRICULUM PROPOSAL FORM

1. **Overview of the request and resulting changes.** Provide a one-paragraph description of the proposed program. Will this program be related or tied to other programs on campus? Describe any changes to existing program(s) that this program will replace or modify. *[100 words]*

   The School of Theatre and Dance wishes to recognize the existing advising track in acting as an official option in order to track and more effectively advise students. This is existing curriculum and will require no new resources. The option covers the fundamental skills of contemporary acting including voice, speech, movement, and dance. Students also take elective coursework in related disciplines in the visual and performing arts. Students participate in production practicums, professional auditions, and the business of acting and artistic entrepreneurship.

2. **Relation to institutional strategic goals.** Describe the nature and purpose of the new program in the context of the institution's mission and core themes. *[200 words]*

   The Acting Program at the University of Montana has existed since the 1970s in various forms. It is a fundamental part of our theatre curriculum; recognizing it as an official option within the existing Theatre B.F.A. will be advantageous to student success in the areas of advising and mentorship. It will also allow Acting to officially appear on student transcripts as an area of study.

3. **Process leading to submission.** Briefly detail the planning, development, and approval process of the program at the institution. *[100 words]*

   Last year our Musical Theatre option in the Theatre B.F.A. was approved by the Board of Regents. The administration requested that all tracks within the Theatre B.F.A. be recognized as official options to add clarity for students pursuing acting, musical theatre, or design and technology as they progress to graduation.

4. **Program description.** Please include a complete listing of the proposed new curriculum in Appendix A of this document.

   a. List the program requirements using the following table.

| | Credits |
|---|---|
| Credits in required courses offered by the department offering the program | 60-74 |
| Credits in required courses offered by other departments | 3-16 |
| Credits in institutional general education curriculum | 21-24 |
| Credits of free electives | 20-22 |
| Total credits required to complete the program | 120 |

   b. List the program learning outcomes for the proposed program. Use learner-centered statements that indicate what students will know, be able to do, and/or value or appreciate as a result of completing the program.

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

1. We provide high-quality professional training of students within the context of a liberal-arts university.

   The graduating student should have demonstrated:
   - A solid, well-rounded education;
   - A working knowledge of the components of theatre, dance and music;
   - A competency of fundamental skills including text analysis, musicianship, and dance technique;
   - An ability to demonstrate an effective working process;
   - An understanding of an ability to work within an ensemble;
   - An ability to extend and express the imagination;
   - A sense of responsibility and discipline;
   - A desire to contribute to the art form; and
   - An ability to find work.

2. We bring the finest of live theatre performance and production to the immediate community, the region, and beyond.

3. We serve as a resource for the community, schools, and community colleges of the region, providing counsel, workshops and outreach performances and projects on a consistent basis.

**5. Need for the program.** To what specific student, regional, and statewide needs is the institution responding to with the proposed program? How will the proposed program meet those needs? Consider workforce, student, economic, societal, and transfer needs in your response as appropriate. *[250 words]*

We are the only Acting program offering a BFA in Theatre in the state of Montana. The program is long-standing, and we have the faculty, facilities, and resources already in place.

**6. Similar programs.** Use the table below to identify and describe the relationship between any similar programs within the Montana University System.

| Institution Name | Degree | Program Title |
|---|---|---|
| FVCC | AA | Associates of Arts (Articulation Agreement in Place for Theatre) |

a. If the proposed program substantially duplicates another program offered in the Montana University System, provide a rationale as to why any resulting duplication is a net benefit to the state and its citizens. *[200 words]*

There is no duplication of the proposed curriculum within the MUS.

b. Describe any efforts that were made to collaborate with similar programs at other institutions. If no efforts were made, please explain why. *[200 words]*

We have articulation agreements in place with FVCC for their two-year transfer students interested in theatre. We gladly accept relevant CCN or other transfer credits from an accredited institution.

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

7. **Implementation of the program.** When will the program be first offered? If implementation will occur in phases, please describe the phased implementation plans. *[100 words]*

The coursework for the option is already in place and has been running since the 1970s in various configurations.

a. Complete the following table indicating the projected enrollments in and graduates from the proposed program.

| Fall Headcount Enrollment | | | | | Graduates | | | | |
|---|---|---|---|---|---|---|---|---|---|
| FY21 | FY22 | FY23 | FY24 | FY25 | AY 1819 | AY 1920 | AY 2021 | AY 2122 | AY 2223 |
| 19 | 30 | 30 | 40 | 40 | 7 | 10 | 10 | 10 | 10 |

b. Describe the methodology and sources for determining the enrollment and graduation projections above. *[200 words]*

The current B.F.A. in Theatre with a specialization in Acting has around 25 interested students. Students are officially accepted into the B.F.A. in Acting in November of their second year; we generally accept 10-15 students a year. In order to make room for B.F.A. musical-theatre students, we capped our B.F.A. Acting acceptance rate at 10 and our B.F.A. Musical Theatre acceptance rate at 10.

c. What is the initial capacity for the program?

Limited capacity in the applied studios requires that we limit our acceptance rate to 8-10 students per academic year.

8. **Program assessment.** How will success of the program be determined? What action would result if this definition of success is not met? *[150 words]*

Success will be measured through examining:
- Successful enrollment of students into the program.
- Successful graduation rates; and
- Successful record of job placement both before and after graduation.

After a five-year period, an evaluation of this program will give us the opportunity to rework the curriculum to remain current in the field and to serve student needs for successful completion and career placement.

a. Describe the assessment process that will be used to evaluate how well students are achieving the intended learning outcomes of the program. When will assessment activities occur and at what frequency? *[150 words]*

- Annual mid-year review in acting coursework
- Feedback sessions following each audition/callback
- Feedback and job offers from regional theatre companies during annual Professionals Weekend

b. What direct and indirect measures will be used to assess student learning? *[100 words]*

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

- Successful participation in and completion of the performance of required theatre productions, studio performances
- Successful completion of skills courses, applied studies, and performance practicums
- Successful completion of advanced acting classes
- Consistent and constant feedback to students through auditioning and performance opportunities

c. How will you ensure that the assessment findings will be used to ensure the quality of the program? *[100 words]*

- Student program and portfolio review
- Critical analysis of productions and performances

d. Where appropriate, describe applicable specialized accreditation and explain why you do or do not plan to seek accreditation. *[100 words]*

The Acting specialization in the School of Theatre and Dance is already accredited by the National Association of Schools of Theatre (NAST).

**9. Physical resources.**

a. Describe the existing facilities, equipment, space, laboratory instruments, computer(s), or other physical equipment available to support the successful implementation of the program. What will be the impact on existing programs of increased use of physical resources by the proposed program? How will the increased use be accommodated? *[200 words]*

The existing Performing Arts and Radio/Television Center (PARTV) will continue to function as the home of the School of Theatre and Dance. This is addition to studio spaces in McGill Hall, Schreiber Gym, and storage at Fort Missoula. We do not anticipate further physical resources beyond those that we regularly utilize. We also have access to the Music Building facilities.

b. List needed facilities, equipment, space, laboratory instruments, etc., that must be obtained to support the proposed program. (Enter the costs of those physical resources into the budget sheet.) How will the need for these additional resources be met? *[150 words]*

N/A

**10. Personnel resources.**

a. Describe the existing instructional, support, and administrative resources available to support the successful implementation of the program. What will be the impact on existing programs of increased use of existing personnel resources by the proposed program? How will quality and productivity of existing programs be maintained? *[200 words]*

The existing program in acting has the coursework and capacity to accommodate this option. Most importantly, we recently modified the acting curriculum in order to offer that program with more efficiency in tandem with the musical theatre option without sacrificing quality.

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

b. Identify new personnel that must be hired to support the proposed program. (Enter the costs of those personnel resources into the budget sheet.) What are the anticipated sources or plans to secure the needed qualified faculty and staff? *[150 words]*

At this time, we can offer the program with our existing number of faculty and staff.

**11. Other resources.**

a. Are the available library and information resources adequate for the proposed program? If not, how will adequate resources be obtained? *[100 words]*

Yes.

b. Do existing student services have the capacity to accommodate the proposed program? What are the implications of the new program on services for the rest of the student body? *[150 words]*

Yes. None.

**12. Revenues and expenditures.** Describe the implications of the new program on the financial situation of the institution. *[100 words]*

N/A

a. Please complete the following table of budget projections using the corresponding information from the fiscal analysis form for the first three years of operation of the new program.

| | Year 1 | Year 2 | Year 3 |
|---|---|---|---|
| Revenues | $84,148 | $132,865 | $132,865 |
| Expenses | $0 | $0 | $0 |
| Net Income/Deficit (revenues-expenses) | $84,148 | $132,865 | $132,865 |

b. Describe any expenses anticipated with the implementation of the new program. How will these expenses be met? *[200 words]*

We will be able to manage the influx of new students through restructuring requirements to an alternating-year cycle which frees up tenured/tenure-track faculty to teach additional sections. Some of our existing students will switch to the Musical-Theatre concentration, which will reduce the numbers slightly in existing courses.

i. If funding is to come from the reallocation of existing state appropriated funds, please indicate the sources of the reallocation. What impact will the reallocation of funds in support of the program have on other programs? *[150 words]*

N/A

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

ii. If an increase in base funding is required to fund the program, indicate the amount of additional base funding and the fiscal year when the institution plans to include the base funding in the department's budget.

N/A

iii. If the funding is to come from one-time sources such as a donation, indicate the sources of other funding. What are the institution's plans for sustaining the program when that funding ends? *[150 words]*

N/A

iv. Describe the federal grant, other grant(s), special fee arrangements, or contract(s) that will be valid to fund the program. What does the institution propose to do with the program upon termination of those funds? *[150 words]*

N/A

**13. Student fees.** If the proposed program intends to impose new course, class, lab, or program fees, please list the type and amount of the fee.

N/A

**14.** Complete the fiscal analysis form.

N/A

Signature/Date

**College or School Dean:** DocuSigned by: Jon DeBoer 31AE7897B0244F4...

**Chief Academic Officer:**

**Chief Executive Officer:**

**Flagship Provost*:** DocuSigned by: Jon Harbor 34E1E62599324B7...

**Flagship President*:** DocuSigned by: Seth Bodnar 54D539A89F2745B...

*Not applicable to the Community Colleges.

# Academic Degree Program Proposal - Fiscal Analysis Form

| | |
|---|---|
| CAMPUS: UM-Missoula | |
| AWARD LEVEL: U | UG |
| PROGRAM NAME: Bachelor of Arts | in Theatre, Concentration in Acting |
| PROGRAM CODE: BA/THTR/ACT | |

| | FY 2019 | FY 2020 | FY 2021 | FY 2022 | FY 2023 |
|---|---|---|---|---|---|
| **ENROLLMENT PROJECTIONS** | | | | | |
| **Headcount** | | | | | |
| annual unduplicated headcount of students with declared major or minor within the program | 19 | 30 | 30 | 40 | 40 |
| **Credit Hours** | | | | | |
| annual avg. credits hours earned per student in program related curriculum | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 |
| **Student FTE** | | | | | |
| Undergrad: (Headcount x CH)/30<br>Graduate: (Headcount x CH)/24 | 11.71666667 | 18.5 | 18.5 | 24.66666667 | 24.66666667 |
| **Completions** | | | | | |
| Annual number of program completers | 7 | 10 | 10 | 10 | 10 |
| **REVENUE** | | | | | |
| Tuition Revenue (net of waivers) | $84,148 | $132,865 | $132,865 | $177,153 | $177,153 |
| Institutional Support | $0 | $0 | $0 | $0 | $0 |
| Other Outside Funds (grants, gifts, etc.) | $0 | $0 | $0 | $0 | $0 |
| Program Tuition/Fees | $0 | $0 | $0 | $0 | $0 |
| **Total Revenue** | $84,148 | $132,865 | $132,865 | $177,153 | $177,153 |
| **Total Revenue per Student FTE** | $7,182 | $7,182 | $7,182 | $7,182 | $7,182 |
| **EXPENDITURES** | | | | | |
| Tenure Track Faculty — FTE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Tenure Track Faculty — Salary + Benefits | $0 | $0 | $0 | $0 | $0 |
| Non-tenure Track Faculty *Includes Adjunct Instructors — FTE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Non-tenure Track Faculty *Includes Adjunct Instructors — Salary + Benefits | $0 | $0 | $0 | $0 | $0 |
| Graduate Teaching Assistants — FTE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Graduate Teaching Assistants — Salary + Benefits | $0 | $0 | $0 | $0 | $0 |
| Staff — FTE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Staff — Salary + Benefits | $0 | $0 | $0 | $0 | $0 |
| **Total Faculty & Staff** — FTE | **0.0** | **0.0** | **0.0** | **0.0** | **0.0** |
| **Total Faculty & Staff** — Salary + Benefits | **$0** | **$0** | **$0** | **$0** | **$0** |
| Operations (supplies, travel, rent, etc) | $0 | $0 | $0 | $0 | $0 |
| Start-up Expenses (OTO) | $0 | $0 | $0 | $0 | $0 |
| **Total Expenses** | $0 | $0 | $0 | $0 | $0 |
| **Student FTE to Faculty (TT + NTT) Ratio** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! |
| **Net Income/Deficit** (Revenue - Expenses) | $84,148 | $132,865 | $132,865 | $177,153 | $177,153 |

The signature of the campus Chief Financial Officer signifies that he/she has reviewed and assessed the fiscal soundness of the proposal and provided his/her recommendations to the Chief Academic Officer as necessary.

1-9-20

**Campus Chief Financial Officer Signature**

Chief Financial Officer Comments

# Montana University System

## INTENT TO PLAN FORM

Program/Center/Institute Title: Theatre BFA Option in Acting

Campus, School/Department: UM Missoula School of Theatre and Dance

Expected Submission Date: 11/2019

Contact Name/Info: Bernadette Sweeney, Bernadette.sweeney@umontana.edu

To increase communication, collaboration, and problem-solving opportunities throughout the MUS in the program/center/institute development process, please complete this form not more than 18 months in advance of the anticipated date of submission of the proposed program/center/institute to the Board of Regents for approval. The completed form should not be more than 2-3 pages. For more information regarding the Intent to Plan process, please visit http://mus.edu/che/arsa/academicproposals.asp.

**1) Provide a description of the program/center/institute.**

The School of Theatre & Dance plans to officially recognize the existing advising track in Acting as an option. The official option is preferred in order to track and effectively advise students in the program. This is existing curriculum and will require no new resources. The option covers the fundamental skills of contemporary acting including voice, speech, movement, and dance. Students also take elective coursework in related disciplines in the visual and performing arts. Students participate in production practicums, professional auditions, and the business of Acting and Artistic Entrepreneurship.

**2) Describe the need for the program/center/institute. Specifically, how the program/center/institute meets current student and workforce demands. (Please cite sources).**

We are the only Acting Program offering a BFA in Theatre in the State of Montana. The program is long-standing, and we have the faculty, facilities, and resources already in place.

# Montana University System

## INTENT TO PLAN FORM

**3) Describe how the program/center/institute fits with the institutional mission, strategic plan, and existing institutional program array.**

The Acting Program at the University of Montana has existed since the 1970's in various forms. It is a fundamental part of our theatre curriculum and recognizing it as an official option within the existing Theatre BFA will be advantageous to student success in the areas of advising and mentorship. It will also allow Acting to officially appear on student transcripts as an area of study.

**4) Describe how the program/center/institute overlaps, complements, or duplicates existing efforts in the MUS. Describe efforts that will be made to collaborate with similar programs at other institutions. If no efforts will be made, please explain why.**

There is no duplication of the proposed curricula within the MUS.

# Montana University System

## INTENT TO PLAN FORM

**Signature/Date**

**College/School Dean:** DocuSigned by: John DeBoer 466F9E8E535D4CD... 9/8/2019

**Chief Academic Officer:**

**Chief Executive Officer:**

**Flagship Provost*:** DocuSigned by: Jon Harbor 9/9/2019

**Flagship President*:** DocuSigned by: Seth Bodnar 94F80417FFA449D... 9/10/2019

*Not applicable to the Commu... Colleges.

**Date of Final Review:**

**When submitting the proposal to the BOR, include this signed form with the Level II request.**

Please provide list of courses in curriculum, their current capacity and current enrollment.

| Course | Title | Current Sections | Capacity | Open Seats | Enrollment | % Fill | New Sections Needed: Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Current classes in the program** | | | | | | | | | | | | |
| THTR 103 | Intro to House Management | 1 | 28 | 1 | 27 | 96% | 0 | 0 | 0 | 0 | 0 | This course is experiential; the cap can fluctuate to accommodate the number of students who need to register. |
| THTR 106 | Theatre Production I: Run Crew | 1 | 50 | 11 | 39 | 78% | 0 | 0 | 0 | 0 | 0 | |
| THTR 107A | Theatre Production I: Construction Crew | 6 | 52 | 17 | 35 | 67% | 0 | 0 | 0 | 0 | 0 | |
| THTR 202 | Stagecraft I | 3 | 48 | 7 | 41 | 85% | 0 | 0 | 0 | 0 | 0 | |
| THTR 206 | Theatre Production II: Run Crew | 1 | 18 | 9 | 9 | 50% | 0 | 0 | 0 | 0 | 0 | |
| THTR 210 | Voice & Speech I | 1 | 20 | 4 | 16 | 80% | 0 | 0 | 0 | 0 | 0 | |
| THTR 211 | Voice & Speech II | 1 | 25 | 3 | 22 | 88% | 0 | 0 | 0 | 0 | 0 | |
| THTR 220 | Acting I | 2 | 48 | 3 | 45 | 94% | 0 | 0 | 0 | 0 | 0 | This course is only open to majors and is only taken by first-year students. |
| THTR 221 | Acting II | 2 | 40 | 6 | 34 | 85% | 0 | 0 | 0 | 0 | 0 | |
| THTR 235L | Dramatic Literature | 1 | 20 | 7 | 13 | 65% | 0 | 0 | 0 | 0 | 0 | |
| THTR 249 | Stage Makeup | 1 | 10 | 4 | 6 | 60% | 0 | 0 | 0 | 0 | 0 | |
| THTR 315 | Physical Performance Skills I | 1 | 30 | 10 | 20 | 67% | 0 | 0 | 0 | 0 | 0 | |
| THTR 320 | Acting III | 2 | 40 | 17 | 23 | 58% | 0 | 0 | 0 | 0 | 0 | |
| THTR 321 | Contemporary Acting Practice | 1 | 18 | 0 | 18 | 100% | 0 | 0 | 0 | 0 | 0 | Since this course was last offered, we moved the gating mechanism for the course to the previous semester, which will lower the number of students registering in the future. |
| THTR 330H | Theatre History I | 1 | 34 | 1 | 33 | 97% | 0 | 0 | 0 | 0 | 0 | We can raise the cap on this course as it is not a studio experience and we usually have one of our GTAs assisting. |
| THTR 395 | Practicum | 4 | 53 | 8 | 45 | 85% | 0 | 0 | 0 | 0 | 0 | |
| THTR 415 | Stage Combat | 1 | 20 | 8 | 12 | 60% | 0 | 0 | 0 | 0 | 0 | |
| THTR 420 | Advanced Acting: Comedy Styles | 1 | 30 | 13 | 17 | 57% | 0 | 0 | 0 | 0 | 0 | |
| THTR 421 | Advanced Acting: Shakespeare | 1 | 12 | 4 | 8 | 67% | 0 | 0 | 0 | 0 | 0 | |
| THTR 425 | Acting VII | 1 | 16 | 6 | 10 | 63% | 0 | 0 | 0 | 0 | 0 | |
| THTR 484 | Advanced Acting: Professional Skills | 1 | 20 | 2 | 18 | 90% | 0 | 0 | 0 | 0 | 0 | When this course last offered, it was open to all interested students. In the future, it will be restricted to BFA only. |
| THTR 499 | Senior Project | 1 | 8 | 0 | 8 | 100% | 0 | 0 | 0 | 0 | 0 | The cap on this course can fluctuate to accommodate the number of students who need to register. |
| | | | | | | | | | | | | |
| **Take one of the following:** | | | | | | | | | | | | |
| THTR 370 | Stage Management I | 1 | 12 | 4 | 8 | 67% | 0 | 0 | 0 | 0 | 0 | |
| THTR 375 | Directing I | 1 | 16 | 0 | 16 | 100% | 0 | 0 | 0 | 0 | 0 | We can raise the cap on this course as we usually have one of our GTAs assisting. |
| | | | | | | | | | | | | |
| **Currently required classes outside of program but in department** | | | | | | | | | | | | |
| DANC 100A | Intro to Modern Dance | 1 | 40 | 0 | 40 | 100% | 0 | 0 | 0 | 0 | 0 | This course's capacity already reflects the registration of all required BFA/THTR/ACT and BFA/THTR/MTHR students. |
| | | | | | | | | | | | | |
| **Currently required classes outside of program and department** | | | | | | | | | | | | |
| MAR 470 | Advanced Acting for Film I | 1 | 24 | 18 | 6 | 25% | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | | | | | |
| **Take one of the following:** | | | | | | | | | | | | |
| C&I 194 | Freshman Seminar I | 25 | 651 | 318 | 333 | 51% | 0 | 0 | 0 | 0 | 0 | |
| DANC 194 | Seminar: First Year | 1 | 10 | 9 | 1 | 10% | 0 | 0 | 0 | 0 | 0 | |
| THTR 194 | Seminar: First Year | 1 | 40 | 5 | 35 | 88% | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | | | | | |
| **Take one of the following:** | | | | | | | | | | | | |
| THTR 331Y | Theatre History II | 1 | 90 | 56 | 34 | 38% | 0 | 0 | 0 | 0 | 0 | |
| MUSI 416 | Topics in Music History | 1 | 30 | 23 | 7 | 23% | 0 | 0 | 0 | 0 | 0 | |
| MUSI 417 | Cultural Studies in Music | 1 | 20 | 11 | 9 | 45% | 0 | 0 | 0 | 0 | 0 | |

Students additionally take 8-9 elective credits (three of which must be upper-division), in cosultation with an advisor, both in and out of the program and department.

**March 5-6, 2020**

**ITEM 187-1002-R0320**

**Request for authorization to establish a design and technology option in the Theatre B.F.A.**

---

**THAT**

The University of Montana-Missoula requests authorization from the Montana Board of Regents to establish a design and technology option in the Theatre B.F.A.

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**EXPLANATION**

The School of Theatre and Dance currently recognizes only one option, Musical Theatre Performance. Recognizing the additional option in Design and Technology will allow the School to better track and more effectively advise students in the program. Students will also benefit from having Design and Technology specified on their transcript as an area of focus.

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**ATTACHMENTS**

Academic Proposal Request Form
Curriculum Proposal Form
Fiscal Analysis Form
Intent to Plan
Attachment #1: Proposed New Curriculum

# Montana Board of Regents

## ACADEMIC PROPOSAL REQUEST FORM

ITEM **XXX-1002-R0320** Submission Month or Meeting: **March 5-6, 2020**

Institution: **University of Montana-Missoula** CIP Code: **50.0502**

Program/Center/Institute Title: **Design and Technology option in the Theatre B.F.A.**

Includes (please specify below): Online Offering _____ Options _____

Please mark the appropriate type of request and submit with an Item Template and any additional materials, including those listed in parentheses following the type of request. For more information pertaining to the types of requests listed below, how to complete an item request, or additional forms please visit http://mus.edu/che/arsa/academicproposals.asp.

### ____ A. Level I:

**Campus Approvals**

____ **1a. Placing a postsecondary educational program into moratorium** (Program Termination and Moratorium Form)

____ **1b. Withdrawing a postsecondary educational program from moratorium**

____ **2. Establishing, re-titling, terminating or revising a campus certificate of 29 credits or less**

____ **3. Establishing a B.A.S./A.A./A.S. area of study**

____ **4. Offering an existing postsecondary educational program via distance or online delivery**

**OCHE Approvals**

____ **5. Re-titling an existing postsecondary educational program**

____ **6. Terminating an existing postsecondary educational program** (Program Termination and Moratorium Form)

____ **7. Consolidating existing postsecondary educational programs** (Curriculum Proposal Form)

____ **8. Establishing a new minor where there is a major or an option in a major** (Curriculum Proposal Form)

____ **9. Revising a postsecondary educational program** (Curriculum Proposal Form)

____ **10. Establishing a temporary C.A.S. or A.A.S. degree program** *Approval limited to 2 years*

**Montana Board of Regents**
**ACADEMIC PROPOSAL REQUEST FORM**

X **B. Level II:**

X **1. Establishing a new postsecondary educational program** (Curriculum Proposal and Completed Intent to Plan Form)

_____ **2. Permanent authorization for a temporary C.A.S. or A.A.S degree program** (Curriculum Proposal and Completed Intent to Plan Form)

_____ **3. Exceeding the 120 credit maximum for baccalaureate degrees** *Exception to policy 301.11*

_____ **4. Forming, eliminating or consolidating an academic, administrative, or research unit** (Curriculum or Center/Institute Proposal and Completed Intent to Plan Form, except when eliminating or consolidating)

_____ **5. Re-titling an academic, administrative, or research unit**

## Proposal Summary [360 words maximum]

**What**
The University of Montana-Missoula requests authorization from the Montana Board of Regents to establish a design and technology option in the Theatre B.F.A.

**Why**
The School of Theatre and Dance currently recognizes only one option, Musical Theatre Performance. UM's administration requested that all tracks within the Theatre B.F.A. be recognized as official options to give clarity to students. Recognizing the additional option in design and technology will allow the School to better track and more effectively advise students in the program. Students will also benefit from having design and technology specified on their transcript as an area of focus.

**Resources**
There are no additional resources at this time.

**Relationship to similar MUS programs**
UM's School of Theatre and Dance grants the only BFA in Theatre in the MUS.

# Montana Board of Regents

## CURRICULUM PROPOSAL FORM

1. **Overview of the request and resulting changes.** Provide a one-paragraph description of the proposed program. Will this program be related or tied to other programs on campus? Describe any changes to existing program(s) that this program will replace or modify. *[100 words]*

   The School of Theatre and Dance wishes to recognize the existing advising track in design and technology as an official option in order to track and more effectively advise students. This is existing curriculum and will require no new resources. The option covers the fundamental skills of performing-arts design and technology in the areas of stagecraft, scenery, costumes, lighting, stage-management, and sound. Students also take elective coursework in related disciplines in the visual and performing arts. Students participate in production practicums, professional auditions, and the business of design and artistic entrepreneurship.

2. **Relation to institutional strategic goals.** Describe the nature and purpose of the new program in the context of the institution's mission and core themes. *[200 words]*

   The design and technology program has existed since the 1970s in various forms. It is a fundamental part of our curriculum, serving both theatre and dance. Recognizing it as an official option within the existing Theatre BFA will be advantageous to student success in the areas of advising and mentorship. It will also allow design and technology to officially appear on student transcripts as an area of study.

3. **Process leading to submission.** Briefly detail the planning, development, and approval process of the program at the institution. *[100 words]*

   Last year our musical theatre option in the Theatre B.F.A. was approved by the Board of Regents. The administration requested that all tracks within the Theatre BFA be recognized as official options to add clarity for students pursuing acting, musical theatre, or design and technology as they progress to graduation.

4. **Program description.** Please include a complete listing of the proposed new curriculum in Appendix A of this document.

   a. List the program requirements using the following table.

| | Credits |
|---|---|
| Credits in required courses offered by the department offering the program | 69-76 |
| Credits in required courses offered by other departments | 0-7 |
| Credits in institutional general education curriculum | 21-24 |
| Credits of free electives | 20-23 |
| Total credits required to complete the program | 120 |

   b. List the program learning outcomes for the proposed program. Use learner-centered statements that indicate what students will know, be able to do, and/or value or appreciate as a result of completing the program.

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

1. We provide high-quality professional training of students within the context of a liberal-arts university.

   The graduating student should have demonstrated:
   - A solid, well-rounded education;
   - A working knowledge of the components of theatre, dance and music;
   - A competency of fundamental skills including text analysis, musicianship, and dance technique;
   - An ability to demonstrate an effective working process;
   - An understanding of an ability to work within an ensemble;
   - An ability to extend and express the imagination;
   - A sense of responsibility and discipline;
   - A desire to contribute to the art form; and
   - An ability to find work.

2. We bring the finest of live theatre performance and production to the immediate community, the region, and beyond.

3. We serve as a resource for the community, schools, and community colleges of the region, providing counsel, workshops and outreach performances and projects on a consistent basis.

**5. Need for the program.** To what specific student, regional, and statewide needs is the institution responding to with the proposed program? How will the proposed program meet those needs? Consider workforce, student, economic, societal, and transfer needs in your response as appropriate. *[250 words]*

We are the only design and technology program offering a B.F.A. in Theatre in the state of Montana. The program is long-standing, and we have the faculty, facilities, and resources already in place.

**6. Similar programs.** Use the table below to identify and describe the relationship between any similar programs within the Montana University System.

| Institution Name | Degree | Program Title |
|---|---|---|
| FVCC | AA | Associates of Arts (Articulation Agreement in Place for Theatre) |

a. If the proposed program substantially duplicates another program offered in the Montana University System, provide a rationale as to why any resulting duplication is a net benefit to the state and its citizens. *[200 words]*

   There is no duplication of the proposed curriculum within the MUS.

b. Describe any efforts that were made to collaborate with similar programs at other institutions. If no efforts were made, please explain why. *[200 words]*

   We have articulation agreements in place with FVCC for their two-year transfer students interested in theatre. We gladly accept relevant CCN or other transfer credits from an accredited institution.

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

7. **Implementation of the program.** When will the program be first offered? If implementation will occur in phases, please describe the phased implementation plans. *[100 words]*

   The coursework for the option is already in place and has been running since the 1970s in various configurations.

   a. Complete the following table indicating the projected enrollments in and graduates from the proposed program.

| Fall Headcount Enrollment | | | | | Graduates | | | | |
|---|---|---|---|---|---|---|---|---|---|
| FY21 | FY22 | FY23 | FY24 | FY25 | AY1819 | AY1920 | AY2021 | AY2122 | AY2223 |
| 16 | 30 | 30 | 30 | 30 | 2 | 5 | 10 | 10 | 10 |

   b. Describe the methodology and sources for determining the enrollment and graduation projections above. *[200 words]*

      The current B.F.A. in Theatre with a specialization in design and technology has around 15 interested students. Students are officially accepted into the B.F.A. in design and technology the summer prior to their second year; we generally accept 7-10 students a year.

   c. What is the initial capacity for the program?

      Limited capacity in our shops and studios, as well as limited production assignments, requires that we limit our acceptance rate to 6-10 students per academic year.

8. **Program assessment.** How will success of the program be determined? What action would result if this definition of success is not met? *[150 words]*

   Success will be measured through examining:
   - Successful enrollment of students into the program.
   - Successful graduation rates; and
   - Successful record of job placement both before and after graduation.

   After a five-year period, an evaluation of this program will give us the opportunity to rework the curriculum to remain current in the field and to serve student needs for successful completion and career placement.

   a. Describe the assessment process that will be used to evaluate how well students are achieving the intended learning outcomes of the program. When will assessment activities occur and at what frequency? *[150 words]*

      - Regular portfolio reviews
      - Feedback sessions following each production
      - Feedback and job offers from regional theatre companies during annual Professionals Weekend

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

b. What direct and indirect measures will be used to assess student learning? *[100 words]*

- Successful participation in required theatre productions
- Successful completion of skills courses, applied studies, and practicums
- Successful completion of advanced design classes
- Consistent and constant feedback to students through portfolio reviews

c. How will you ensure that the assessment findings will be used to ensure the quality of the program? *[100 words]*
- Student program and portfolio review
- Critical analysis of productions

d. Where appropriate, describe applicable specialized accreditation and explain why you do or do not plan to seek accreditation. *[100 words]*

The design and technology specializations in the School of Theatre and Dance are already accredited by the National Association of Schools of Theatre (NAST).

**9. Physical resources.**

a. Describe the existing facilities, equipment, space, laboratory instruments, computer(s), or other physical equipment available to support the successful implementation of the program. What will be the impact on existing programs of increased use of physical resources by the proposed program? How will the increased use be accommodated? *[200 words]*

The existing Performing Arts and Radio/Television Center (PARTV) will continue to function as the home of the School of Theatre and Dance. This is addition to studio spaces in McGill Hall, Schreiber Gym, and storage at Fort Missoula. We do not anticipate further physical resources beyond those that we regularly utilize.

b. List needed facilities, equipment, space, laboratory instruments, etc., that must be obtained to support the proposed program. (Enter the costs of those physical resources into the budget sheet.) How will the need for these additional resources be met? *[150 words]*

N/A

**10. Personnel resources.**

a. Describe the existing instructional, support, and administrative resources available to support the successful implementation of the program. What will be the impact on existing programs of increased use of existing personnel resources by the proposed program? How will quality and productivity of existing programs be maintained? *[200 words]*

The existing program in design and technology already has the coursework and capacity to accommodate this option. Most importantly, we recently modified the design and technology curriculum in order to offer all programs with more efficiency in tandem with the musical theatre option without sacrificing quality.

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

b. Identify <u>new</u> personnel that must be hired to support the proposed program. (Enter the costs of those personnel resources into the budget sheet.) What are the anticipated sources or plans to secure the needed qualified faculty and staff? *[150 words]*

At this time, we can offer the program with our existing number of faculty and staff.

**11. Other resources.**

a. Are the available library and information resources adequate for the proposed program? If not, how will adequate resources be obtained? *[100 words]*

Yes

b. Do existing student services have the capacity to accommodate the proposed program? What are the implications of the new program on services for the rest of the student body? *[150 words]*

Yes. None.

**12. Revenues and expenditures.** Describe the implications of the new program on the financial situation of the institution. *[100 words]*

a. Please complete the following table of budget projections using the corresponding information from the fiscal analysis form for the first three years of operation of the new program.

| | Year 1 | Year 2 | Year 3 |
|---|---|---|---|
| Revenues | $68,228 | $136,456 | $136,456 |
| Expenses | $0 | $0 | $0 |
| Net Income/Deficit (revenues-expenses) | $68,228 | $136,456 | $136,456 |

b. Describe any expenses anticipated with the implementation of the new program. How will these expenses be met? *[200 words]*

We will be able to manage the influx of new students through restructuring requirements to an alternating-year cycle which frees up tenured/tenure-track faculty to teach additional sections.

i. If funding is to come from the reallocation of existing state appropriated funds, please indicate the sources of the reallocation. What impact will the reallocation of funds in support of the program have on other programs? *[150 words]*

N/A

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

ii. If an increase in base funding is required to fund the program, indicate the amount of additional base funding and the fiscal year when the institution plans to include the base funding in the department's budget.

N/A

iii. If the funding is to come from one-time sources such as a donation, indicate the sources of other funding. What are the institution's plans for sustaining the program when that funding ends? *[150 words]*

N/A

iv. Describe the federal grant, other grant(s), special fee arrangements, or contract(s) that will be valid to fund the program. What does the institution propose to do with the program upon termination of those funds? *[150 words]*

N/A

**13. Student fees.** If the proposed program intends to impose new course, class, lab, or program fees, please list the type and amount of the fee.

N/A

**14.** Complete the fiscal analysis form.

N/A

Signature/Date

**College or School Dean:** DocuSigned by: John DeBoer 31AE7897B0244F4...

**Chief Academic Officer:**

**Chief Executive Officer:**

**Flagship Provost*:** DocuSigned by: Jon Harbor 34E1E62599324B7...

**Flagship President*:** DocuSigned by: Seth Bodnar 54D539A89F2745B...

*Not applicable to the Community Colleges.

# Montana Board of Regents

## CURRICULUM PROPOSAL FORM

### Appendix A – Proposed New Curriculum

# Academic Degree Program Proposal - Fiscal Analysis Form

**CAMPUS: UM-Missoula**
**AWARD LEVEL: U** UG
**PROGRAM NAME: Bachelor of Arts in Theatre, Concentration in Design & Technology**
**PROGRAM CODE: BA/THTR/DETE**

| | FY 2019 | FY 2020 | FY 2021 | FY 2022 | FY 2023 |
|---|---|---|---|---|---|
| **ENROLLMENT PROJECTIONS** | | | | | |
| **Headcount** | | | | | |
| annual unduplicated headcount of students with declared major or minor within the program | 15 | 30 | 30 | 30 | 30 |
| **Credit Hours** | | | | | |
| annual avg. credits hours earned per student in program related curriculum | 19 | 19 | 19 | 19 | 19 |
| **Student FTE** | | | | | |
| Undergrad: (Headcount x CH)/30<br>Graduate: (Headcount x CH)/24 | 9.5 | 19 | 19 | 19 | 19 |
| **Completions** | | | | | |
| Annual number of program completers | 2 | 5 | 10 | 10 | 10 |
| **REVENUE** | | | | | |
| Tuition Revenue (net of waivers) | $68,228 | $136,456 | $136,456 | $136,456 | $136,456 |
| Institutional Support | $0 | $0 | $0 | $0 | $0 |
| Other Outside Funds (grants, gifts, etc.) | $0 | $0 | $0 | $0 | $0 |
| Program Tuition/Fees | $0 | $0 | $0 | $0 | $0 |
| **Total Revenue** | $68,228 | $136,456 | $136,456 | $136,456 | $136,456 |
| **Total Revenue per Student FTE** | $7,182 | $7,182 | $7,182 | $7,182 | $7,182 |
| **EXPENDITURES** | | | | | |
| Tenure Track Faculty — FTE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Tenure Track Faculty — Salary + Benefits | $0 | $0 | $0 | $0 | $0 |
| Non-tenure Track Faculty *Includes Adjunct Instructors — FTE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Non-tenure Track Faculty *Includes Adjunct Instructors — Salary + Benefits | $0 | $0 | $0 | $0 | $0 |
| Graduate Teaching Assistants — FTE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Graduate Teaching Assistants — Salary + Benefits | $0 | $0 | $0 | $0 | $0 |
| Staff — FTE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Staff — Salary + Benefits | $0 | $0 | $0 | $0 | $0 |
| **Total Faculty & Staff** — FTE | **0.0** | **0.0** | **0.0** | **0.0** | **0.0** |
| **Total Faculty & Staff** — Salary + Benefits | $0 | $0 | $0 | $0 | $0 |
| Operations (supplies, travel, rent, etc) | $0 | $0 | $0 | $0 | $0 |
| Start-up Expenses (OTO) | $0 | $0 | $0 | $0 | $0 |
| **Total Expenses** | $0 | $0 | $0 | $0 | $0 |
| **Student FTE to Faculty (TT + NTT) Ratio** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! |
| **Net Income/Deficit** (Revenue - Expenses) | $68,228 | $136,456 | $136,456 | $136,456 | $136,456 |

The signature of the campus Chief Financial Officer signifies that he/she has reviewed and assessed the fiscal soundness of the proposal and provided his/her recommendations to the Chief Academic Officer as necessary.

1-9-20

**Campus Chief Financial Officer Signature**

Chief Financial Officer Comments

# Montana University System

## INTENT TO PLAN FORM

Program/Center/Institute Title: BFA Theatre Option in Design and Technology

Campus, School/Department: UM Missoula School of Theatre and Dance

Expected Submission Date: 11/2019

Contact Name/Info: Mike Monsos mike.monsos@umontana.edu

To increase communication, collaboration, and problem-solving opportunities throughout the MUS in the program/center/institute development process, please complete this form not more than 18 months in advance of the anticipated date of submission of the proposed program/center/institute to the Board of Regents for approval. The completed form should not be more than 2-3 pages. For more information regarding the Intent to Plan process, please visit http://mus.edu/che/arsa/academicproposals.asp.

**1) Provide a description of the program/center/institute.**

The School of Theatre & Dance plans to officially recognize the existing advising track in Design & Technology as an option. The official option is preferred in order to track and effectively advise students in the program. This is existing curriculum and will require no new resources. The option covers the fundamental skills of Design and Theatre Technology in the areas of Scenery, Props, Sound, Lighting, Stage Management, and Costumes. All students will gain a broad, collaborative understanding of each discipline. Students will then select a specific advanced area of study in one or more of the disciplines listed above. They will also pursue electives in related disciplines in the visual and performing arts. Most importantly students will participate in production practicums, professional portfolio reviews, and the business of Theatre Design and Entrepreneurship.

**2) Describe the need for the program/center/institute. Specifically, how the program/center/institute meets current student and workforce demands. (Please cite sources).**

We are the only Design and Technology Program offering a BFA in Theatre in the State of Montana. The program is long-standing, and we have the faculty, facilities, and resources already in place.

# Montana University System

## INTENT TO PLAN FORM

**3) Describe how the program/center/institute fits with the institutional mission, strategic plan, and existing institutional program array.**

The Design and Technology Program at the University of Montana has existed since the 1970's in various forms. It is a fundamental part of our theatre curriculum and recognizing it as an official option within the existing Theatre BFA will be advantageous to student success in the areas of advising and mentorship. It will also allow Design and Technology to officially appear on student transcripts as an area of study.

**4) Describe how the program/center/institute overlaps, complements, or duplicates existing efforts in the MUS. Describe efforts that will be made to collaborate with similar programs at other institutions. If no efforts will be made, please explain why.**

There is no duplication of the proposed curricula within the MUS.

# Montana University System

## INTENT TO PLAN FORM

**Signature/Date**

**College/School Dean:** DocuSigned by: John DeBoer 466F9E8E535D4CD... 9/8/2019

**Chief Academic Officer:**

**Chief Executive Officer:**

**Flagship Provost*:** DocuSigned by: Jon Harbor 9/9/2019

**Flagship President*:** DocuSigned by: Seth Bodnar 94F80417FFA449D... 9/10/2019

*Not applicable to the Commu... Colleges.

**Date of Final Review:**

**When submitting the proposal to the BOR, include this signed form with the Level II request.**

Please provide list of courses in curriculum, their current capacity and current enrollment.

| Course | Title | Current Sections | Capacity | Open Seats | Enrollment | % Fill | New Sections Needed Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Current classes in the program** | | | | | | | | | | | | |
| THTR 102A | Intro to Theatre Design | 2 | 47 | 22 | 25 | 53% | 0 | 0 | 0 | 0 | 0 | |
| THTR 103 | Intro to House Management | 1 | 28 | 1 | 27 | 96% | 0 | 0 | 0 | 0 | 0 | This course is experiential; the cap can fluctuates to accommodate the number of students who need to register. |
| THTR 106 | Theatre Production I: Run Crew | 1 | 50 | 11 | 39 | 78% | 0 | 0 | 0 | 0 | 0 | |
| THTR 107A | Theatre Production I: Construction Crew | 6 | 52 | 17 | 35 | 67% | 0 | 0 | 0 | 0 | 0 | |
| THTR 155 | Drawing Fundamemtals for Theatre | 1 | 15 | 2 | 13 | 87% | 0 | 0 | 0 | 0 | 0 | |
| THTR 202 | Stagecraft I | 3 | 48 | 7 | 41 | 85% | 0 | 0 | 0 | 0 | 0 | |
| THTR 206 | Theatre Production II: Run Crew | 1 | 18 | 9 | 9 | 50% | 0 | 0 | 0 | 0 | 0 | |
| THTR 220 | Acting I | 2 | 48 | 3 | 45 | 94% | 0 | 0 | 0 | 0 | 0 | This course is only open to majors and is only taken by first-year students. |
| THTR 235L | Dramatic Literature | 1 | 20 | 7 | 13 | 65% | 0 | 0 | 0 | 0 | 0 | |
| THTR 255 | Drafting for Theatre I | 1 | 12 | 0 | 12 | 100% | 0 | 0 | 0 | 0 | 0 | S19 was an anomoly; this course is usually only taken by 7-10 first-year students. |
| THTR 307 | Production Construction I | 1 | 12 | 11 | 1 | 8% | 0 | 0 | 0 | 0 | 0 | |
| THTR 330H | Theatre History I | 1 | 34 | 1 | 33 | 97% | 0 | 0 | 0 | 0 | 0 | We can raise the cap on this course as it is not a studio experience and we usually have one of our GTAs assisting. |
| THTR 370 | Stage Management I | 1 | 12 | 4 | 8 | 67% | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | | | | | |
| **Take one of the following:** | | | | | | | | | | | | |
| THTR 345 | Flat Pattern Design & Drafting | 1 | 15 | 5 | 10 | 67% | 0 | 0 | 0 | 0 | 0 | |
| THTR 355 | Computer Aided Drafting and Applications | 1 | 12 | 6 | 6 | 50% | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | | | | | |
| **Take one of the following:** | | | | | | | | | | | | |
| THTR 308 | Production Team I | 1 | 4 | 3 | 1 | 25% | 0 | 0 | 0 | 0 | 0 | |
| THTR 309 | Production Design I | 1 | 4 | 2 | 2 | 50% | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | | | | | |
| **Take one of the following:** | | | | | | | | | | | | |
| THTR 408 | Production Team II | 1 | 2 | 2 | 0 | 0% | 0 | 0 | 0 | 0 | 0 | |
| THTR 409 | Production Design II | 1 | 2 | 0 | 2 | 100% | 0 | 0 | 0 | 0 | 0 | This course is experiential; the cap can fluctuates to accommodate the number of students who need to register. |
| | | | | | | | | | | | | |
| **Currently required classes outside of program and department** | | | | | | | | | | | | |
| **Take one of the following:** | | | | | | | | | | | | |
| C&I 194 | Freshman Seminar I | 25 | 651 | 318 | 333 | 51% | 0 | 0 | 0 | 0 | 0 | |
| DANC 194 | Seminar: First Year | 1 | 10 | 9 | 1 | 10% | 0 | 0 | 0 | 0 | 0 | |
| THTR 194 | Seminar: First Year | 1 | 40 | 5 | 35 | 88% | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | | | | | |
| **Take one of the following:** | | | | | | | | | | | | |
| THTR 331Y | Theatre History II | 1 | 90 | 56 | 34 | 38% | 0 | 0 | 0 | 0 | 0 | |
| MUSI 416 | Topics in Music History | 1 | 30 | 23 | 7 | 23% | 0 | 0 | 0 | 0 | 0 | |
| MUSI 417 | Cultural Studies in Music | 1 | 20 | 11 | 9 | 45% | 0 | 0 | 0 | 0 | 0 | |

Students additionally take 26 elective credits (12 of which must be upper-division) based on primary and secondary areas of interest, in cosultation with an advisor, both in and out of the program and department.

**March 5-6, 2020**

**ITEM 187-1003-R0320**

**Request for authorization to establish an A.S. transfer degree**

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**THAT**

Missoula College requests authorization from the Montana Board of Regents to establish an associate of science transfer degree and offer online delivery of the program.

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**EXPLANATION**

The only transfer degree currently offered by Missoula College is the associate of arts. Adding an associate of science degree would bring Missoula college in line with other two-year institutions and would meet the needs of students who are interested in science, technology, engineering, and mathematics fields.

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**ATTACHMENTS**

Academic Proposal Request Form
Curriculum Proposal Form
Fiscal Analysis Form
Intent to Plan
Attachment #1: Proposed New Curriculum

# Montana Board of Regents

## ACADEMIC PROPOSAL REQUEST FORM

ITEM **XXX-1003-R0320** Submission Month or Meeting: **March 5-6, 2020**

Institution: **Missoula College – UM** CIP Code: **24.0199**

Program/Center/Institute Title: **Associate of Science**

Includes (please specify below): Online Offering X Options

Please mark the appropriate type of request and submit with an Item Template and any additional materials, including those listed in parentheses following the type of request. For more information pertaining to the types of requests listed below, how to complete an item request, or additional forms please visit http://mus.edu/che/arsa/academicproposals.asp.

## ____ A. Level I:

**Campus Approvals**

____ **1a. Placing a postsecondary educational program into moratorium** (Program Termination and Moratorium Form)

____ **1b. Withdrawing a postsecondary educational program from moratorium**

____ **2. Establishing, re-titling, terminating or revising a campus certificate of 29 credits or less**

____ **3. Establishing a B.A.S./A.A./A.S. area of study**

____ **4. Offering an existing postsecondary educational program via distance or online delivery**

**OCHE Approvals**

____ **5. Re-titling an existing postsecondary educational program**

____ **6. Terminating an existing postsecondary educational program** (Program Termination and Moratorium Form)

____ **7. Consolidating existing postsecondary educational programs** (Curriculum Proposal Form)

____ **8. Establishing a new minor where there is a major or an option in a major** (Curriculum Proposal Form)

____ **9. Revising a postsecondary educational program** (Curriculum Proposal Form)

____ **10. Establishing a temporary C.A.S. or A.A.S. degree program** *Approval limited to 2 years*

**Montana Board of Regents**
**ACADEMIC PROPOSAL REQUEST FORM**

X **B. Level II:**

X **1. Establishing a new postsecondary educational program** (Curriculum Proposal and Completed Intent to Plan Form)

_____ **2. Permanent authorization for a temporary C.A.S. or A.A.S degree program** (Curriculum Proposal and Completed Intent to Plan Form)

_____ **3. Exceeding the 120 credit maximum for baccalaureate degrees** *Exception to policy 301.11*

_____ **4. Forming, eliminating or consolidating an academic, administrative, or research unit** (Curriculum or Center/Institute Proposal and Completed Intent to Plan Form, except when eliminating or consolidating)

_____ **5. Re-titling an academic, administrative, or research unit**

## Proposal Summary [360 words maximum]

**What**
Missoula College requests authorization from the Montana Board of Regents to establish an associate of science transfer degree and offer online delivery of the program.

**Why**
The only transfer degree currently offered by Missoula College is the associate of arts. Adding an associate of science degree would bring Missoula college in line with other two-year institutions and would meet the needs of students who are interested in science, technology, engineering, and mathematics fields.

**Resources**
Additional resources are not currently needed, as Missoula College already offers the general education curriculum and courses in mathematics, environmental and biological sciences, and computer science.

**Relationship to similar MUS programs**
An associate of science is closely related to an associate of arts, but allows for different emphasis areas. For the wide range of bachelors degrees that exist at Montana's four-year institutions, it is necessary to add an associates degree in science for students who wish to transfer their associates to a bachelors degree.

# Montana Board of Regents

## CURRICULUM PROPOSAL FORM

1. **Overview of the request and resulting changes.** Provide a one-paragraph description of the proposed program. Will this program be related or tied to other programs on campus? Describe any changes to existing program(s) that this program will replace or modify. *[100 words]*

   Missoula College proposes to offer an associate of science degree in response to the increased focus of transfer education in the Montana University System (MUS). The AS will expand Missoula College's offerings to meet the needs of students who are interested in transferring into baccalaureate programs in the sciences. Completion of the AS degree would indicate the student's preparedness for upper-division study in a baccalaureate program. The AS degree will also appeal to the growing population of students seeking college credits to move forward in science, technology, engineering, and mathematics (STEM) careers in fields such as computing, engineering, environmental and physical sciences, and health professions. A general AS degree will provide a pathway to support student transfer needs and act as a gateway to science-specific fields.

2. **Relation to institutional strategic goals.** Describe the nature and purpose of the new program in the context of the institution's mission and core themes. *[200 words]*

   The A.S. degree responds to growing student interest in and marketability for STEM-related degrees and careers. This degree will support other transfer initiatives and widen the transfer opportunity for Missoula College students. This is well aligned with Missoula College's mission to provide outstanding occupational and technical education.

3. **Process leading to submission.** Briefly detail the planning, development, and approval process of the program at the institution. *[100 words]*

   Our records indicate that the AS degree was initially constructed at Missoula College as early as 2008. Unfortunately, it was never brought forward for review and approval. With enhanced attention, demand, and support for transfer education on the UM campus and across MUS, there is a high need for the AS degree to develop transfer education for STEM pathways and to meet student demands and expand enrollment.

4. **Program description.** Please include a complete listing of the proposed new curriculum in Appendix A of this document.

   a. List the program requirements using the following table.

| | Credits |
|---|---|
| Credits in required courses offered by the department offering the program | TBD |
| Credits in required courses offered by other departments | 9 |
| Credits in institutional general education curriculum | 30 |

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

| | |
|---|---|
| Credits of free electives | 21 |
| Total credits required to complete the program | Minimum of 60 |

b. List the program learning outcomes for the proposed program. Use learner-centered statements that indicate what students will know, be able to do, and/or value or appreciate as a result of completing the program.

Because this is a general education transfer degree, the outcomes parallel those of UM's general education curriculum.

1. Develop competent and humane individuals who are informed, ethical, literate, and engaged citizens of local and global communities.
2. Become acquainted with issues facing contemporary society.
3. Participate in the creative arts.
4. Cultivate an appreciation of the humanities.
5. Examine the history of different American and global cultures.
6. Articulate ideas orally and in writing.
7. Critically evaluate tangible and abstract concepts.
8. Employ mathematical skills in a technologically focused society.
   Unique to AS degree:

Develop broad range of foundational skills in science, technology, engineering, and mathematics (STEM) to create pathways to STEM-related B.A. and B.S. degrees.

**5. Need for the program.** To what specific student, regional, and statewide needs is the institution responding to with the proposed program? How will the proposed program meet those needs? Consider workforce, student, economic, societal, and transfer needs in your response as appropriate. *[250 words]*

The Montana University System's Comprehensive Two-Year Education Mission/Vision States that the goal of two-year education is to "provide a comprehensive, accessible, responsive, student-centered learning environment that facilitates and supports the achievement of individuals' professional and personal goals, and enhances the development of Montana's citizens, communities, and economy." Also, three of the key purposes of two-year education are to provide transfer education that is affordable, open to all and responsive to local needs. The addition of an Associate of Science Degree at Missoula College would help us more fully accomplish this mission.

As noted above, Missoula College is the only two-year college in the state that does not offer an Associate of Science degree. Like the Associate of Arts Degree, the Associate of Science degree would provide open and affordable access to transfer pathways at the University of Montana. Most importantly, however, it would respond to local needs to provide opportunities for education in STEM related areas. According to the Montana Department of Labor and Industry, "Montana's 55,000 STEM workers make up 12% of the state's payroll employment, similar to the U.S. as a whole, where STEM occupations are 13% of payroll employment. STEM workers in Montana earn more than non-STEM workers, with an average annual wage of $68,695 compared to $36, 643, respectively" ("Stem Jobs in Montana," 2016 November).

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

6. **Similar programs.** Use the table below to identify and describe the relationship between any similar programs within the Montana University System.

| Institution Name | Degree | Program Title |
|---|---|---|
| City College-MSU Billings | AS | General Studies |
| Highlands College of MT Tech | AS | General Studies |
| Great Falls College-MSU | AS | General Studies |
| Dawson CC | AS | General Studies |

a. If the proposed program substantially duplicates another program offered in the Montana University System, provide a rationale as to why any resulting duplication is a net benefit to the state and its citizens. *[200 words]*

Missoula College is the only two-year college in the MUS system that does not offer an AS transfer degree. The fact that this degree is widely offered alongside the AA degree is an indicator of the usefulness of these degrees in two-year settings. This degree will help Missoula College respond to student needs as they enter higher education, and being conscious of student needs helps students toward paths that lead to persistence and retention. This degree will help Missoula College become a more comprehensive college of the Montana University System, an outcome that was a strategic element of the College!Now initiative.

b. Describe any efforts that were made to collaborate with similar programs at other institutions. If no efforts were made, please explain why. *[200 words]*

Collaborations are in place with all academic departments at Missoula College. Intercollege collaborations with the College of Humanities & Sciences have been discussed in constructing a pre-engineering pathway with transfer opportunities to Montana Tech.

7. **Implementation of the program.** When will the program be first offered? If implementation will occur in phases, please describe the phased implementation plans. *[100 words]*

Implementation will take place beginning Fall 2020.

a. Complete the following table indicating the projected enrollments in and graduates from the proposed program.

| Fall Headcount Enrollment | | | | | Graduates | | | | |
|---|---|---|---|---|---|---|---|---|---|
| AY16-AY18 | AY___ | AY___ | AY___ | AY___ | AY16-18 | AY___ | AY___ | AY___ | AY___ |
| 555-622 | | | | | 110-118 | | | | |

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

b. Describe the methodology and sources for determining the enrollment and graduation projections above. *[200 words]*

Enrollment and graduation projections are based upon the last three years of University data for the AA general studies degree. We seek to attract new students with an interest in STEM transfer pathways.

c. What is the initial capacity for the program?

Based upon the success of the AA – general education degree, we envision a similar capacity for the AS degree and general education in STEM pathways.

**8. Program assessment.** How will success of the program be determined? What action would result if this definition of success is not met? *[150 words]*

a. Describe the assessment process that will be used to evaluate how well students are achieving the intended learning outcomes of the program. When will assessment activities occur and at what frequency? *[150 words]*

Assessment will occur on a biennial basis in line with the University of Montana's assessment process. In addition, Missoula College regularly considers data on our transfer students' matriculation into four-year degree programs. We are in search of ways to collect data on the specifics pathways our students take as they matriculate from the transfer degrees into four-year degree programs. The Associate of Science degree would help us collect more specific data related to our STEM pathways. We anticipate further collaboration across the University of Montana as well as other MUS colleges in developing concentrations/pathways within the AS degree, thus allowing us to collect more specific retention data on this transfer degree.

b. What direct and indirect measures will be used to assess student learning? *[100 words]*

Enrollment and graduation. Additionally, faculty have started identifying assessment methods as part of general education proposals and rolling review. This process as well as the biennial assessment process will able us to assess student learning in our general education transfer degrees.

c. How will you ensure that the assessment findings will be used to ensure the quality of the program? *[100 words]*

At some point, we'll need to construct a systemic method of assessing baccalaureate degree completion for students beginning their education at a two-year college.

d. Where appropriate, describe applicable specialized accreditation and explain why you do or do not plan to seek accreditation. *[100 words]*

Northwest Commission on College & Universities. No specialized accreditation will take place.

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

**9. Physical resources.**

a. Describe the existing facilities, equipment, space, laboratory instruments, computer(s), or other physical equipment available to support the successful implementation of the program. What will be the impact on existing programs of increased use of physical resources by the proposed program? How will the increased use be accommodated? *[200 words]*

Existing facilities are sufficient. The physical needs of the AS degree parallels the AA degree.

b. List needed facilities, equipment, space, laboratory instruments, etc., that must be obtained to support the proposed program. (Enter the costs of those physical resources into the budget sheet.) How will the need for these additional resources be met? *[150 words]*

No additional facilities are required.

**10. Personnel resources.**

a. Describe the existing instructional, support, and administrative resources available to support the successful implementation of the program. What will be the impact on existing programs of increased use of existing personnel resources by the proposed program? How will quality and productivity of existing programs be maintained? *[200 words]*

Sufficient resources are in place to begin the AS general studies STEM pathway.

b. Identify new personnel that must be hired to support the proposed program. (Enter the costs of those personnel resources into the budget sheet.) What are the anticipated sources or plans to secure the needed qualified faculty and staff? *[150 words]*

The AS degree will eventually require a STEM tenure-track discipline lead to develop additional transfer pathways.

**11. Other resources.**

a. Are the available library and information resources adequate for the proposed program? If not, how will adequate resources be obtained? *[100 words]*

Yes.

b. Do existing student services have the capacity to accommodate the proposed program? What are the implications of the new program on services for the rest of the student body? *[150 words]*

Yes. The AS degree will disperse AA general education students. We anticipate minimal changes to current advising functions. Additional resources will be needed with program growth.

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

**12. Revenues and expenditures.** Describe the implications of the new program on the financial situation of the institution. *[100 words]*

a. Please complete the following table of budget projections using the corresponding information from the fiscal analysis form for the first three years of operation of the new program.

| | Year 1 | Year 2 | Year 3 |
|---|---|---|---|
| Revenues | $18,730 | $37,460 | $74,920 |
| Expenses | $0 | $0 | $0 |
| Net Income/Deficit (revenues-expenses) | $18,730 | $37,460 | $74,920 |

b. Describe any expenses anticipated with the implementation of the new program. How will these expenses be met? *[200 words]*

N/A

i. If funding is to come from the reallocation of existing state appropriated funds, please indicate the sources of the reallocation. What impact will the reallocation of funds in support of the program have on other programs? *[150 words]*

ii. If an increase in base funding is required to fund the program, indicate the amount of additional base funding and the fiscal year when the institution plans to include the base funding in the department's budget.

iii. If the funding is to come from one-time sources such as a donation, indicate the sources of other funding. What are the institution's plans for sustaining the program when that funding ends? *[150 words]*

iv. Describe the federal grant, other grant(s), special fee arrangements, or contract(s) that will be valid to fund the program. What does the institution propose to do with the program upon termination of those funds? *[150 words]*

**13. Student fees.** If the proposed program intends to impose new course, class, lab, or program fees, please list the type and amount of the fee.
N/A

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

**14.** Complete the fiscal analysis form.

Signature/Date

**College or School Dean:** DocuSigned by: Tom Gallagher D11D15E82DAF45C...

**Chief Academic Officer:**

**Chief Executive Officer:**

**Flagship Provost*:** DocuSigned by: Jon Harbor 34E1E62599324B7...

**Flagship President*:** DocuSigned by: Seth Bodnar 94F80417FFA449D...

*Not applicable to the Community Colleges.

# Montana Board of Regents

## CURRICULUM PROPOSAL FORM

### Appendix A – Proposed New Curriculum

## Academic Degree Program Proposal - Fiscal Analysis Form

| | |
|---|---|
| **CAMPUS:** | Missoula College UM |
| **AWARD LEVEL:** | UG |
| **PROGRAM NAME:** | AS, Associate of Science |
| **PROGRAM CODE:** | |

| | FY 2021 | FY 2022 | FY 2023 | FY 2024 | FY 2025 |
|---|---|---|---|---|---|
| **ENROLLMENT PROJECTIONS** | | | | | |
| **Headcount** | | | | | |
| annual unduplicated headcount of students with declared major or minor within the program | 5 | 10 | 20 | 30 | 40 |
| **Credit Hours** | | | | | |
| annual avg. credits hours earned per student in program related curriculum | 30 | 30 | 30 | 30 | 30 |
| **Student FTE** | | | | | |
| Undergrad: (Headcount x CH)/30<br>Graduate: (Headcount x CH)/24 | 5 | 10 | 20 | 30 | 40 |
| **Completions** | | | | | |
| Annual number of program completers | 0 | 5 | 10 | 20 | 40 |
| **REVENUE** | | | | | |
| Tuition Revenue (net of waivers) | $18,730 | $37,460 | $74,920 | $112,380 | $149,840 |
| Institutional Support | | | | | |
| Other Outside Funds (grants, gifts, etc.) | | | | | |
| Program Tuition/Fees | | | | | |
| **Total Revenue** | $18,730 | $37,460 | $74,920 | $112,380 | $149,840 |
| **Total Revenue per Student FTE** | $3,746 | $3,746 | $3,746 | $3,746 | $3,746 |
| **EXPENDITURES** | | | | | |
| Tenure Track Faculty — FTE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Tenure Track Faculty — Salary + Benefits | $0 | $0 | $0 | $0 | $0 |
| Non-tenure Track Faculty *Includes Adjunct Instructors — FTE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Non-tenure Track Faculty *Includes Adjunct Instructors — Salary + Benefits | $0 | $0 | $0 | $0 | $0 |
| Graduate Teaching Assistants — FTE | | | | | |
| Graduate Teaching Assistants — Salary + Benefits | | | | | |
| Staff — FTE | | | | | |
| Staff — Salary + Benefits | | | | | |
| **Total Faculty & Staff** — FTE | | | | | |
| **Total Faculty & Staff** — Salary + Benefits | $0 | $0 | $0 | $0 | $0 |
| Operations (supplies, travel, rent, etc) | | | | | |
| Start-up Expenses (OTO) | | | | | |
| **Total Expenses** | $0 | $0 | $0 | $0 | $0 |
| **Student FTE to Faculty (TT + NTT) Ratio** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! |
| **Net Income/Deficit** (Revenue - Expenses) | $18,730 | $37,460 | $74,920 | $112,380 | $149,840 |

The signature of the campus Chief Financial Officer signifies that he/she has reviewed and assessed the fiscal soundness of the proposal and provided his/her recommendations to the Chief Academic Officer as necessary.

1-9-20

**Campus Chief Financial Officer Signature**

Chief Financial Officer Comments

There are not specific courses required for this degree. Rather, much like the AA Degree, a student complete UM's lower-division General Education Requirements (GERs) as well as 9 additional credits in the areas of Science, Technology, Engineering, and Mathematics (see catalogue description below). Initially, we do not expect enrollment to increase significantly. Rather, we expect to see students who would otherwise be completing the AA degree, to choose a pathway toward the AS degree. Missoula College offers a variety of courses that fulfill UM's lower-division general education requirements as well as elective courses in Science, Technology, and Mathematics. Because we anticipate greater pressure on these courses and currently don't have a tenure-track discipline lead in this area, we hope to hire a Tenure-Track faculty person to facilitate growth and two-year and four-year partnerships in these discipline areas. With time, the addition of part-time faculty may be necessary to develop additional foundational courses (e.g. Calculus, Chemistry) that are part of AS transfer pathways.

# Montana University System

## INTENT TO PLAN FORM

Program/Center/Institute Title: Associate of Science Degree

Campus, School/Department: Missoula College-UM/Applied Arts and Sciences

Expected Submission Date: 9/23/2019

Contact Name/Info: Kim Reiser/Chair of the Department of Applied Arts and Sciences

To increase communication, collaboration, and problem-solving opportunities throughout the MUS in the program/center/institute development process, please complete this form not more than 18 months in advance of the anticipated date of submission of the proposed program/center/institute to the Board of Regents for approval. The completed form should not be more than 2-3 pages. For more information regarding the Intent to Plan process, please visit http://mus.edu/che/arsa/academicproposals.asp.

**1) Provide a description of the program/center/institute.**

The Department of Applied Arts and Sciences, which houses the Associate of Arts transfer degree at Missoula College, plans to propose to also offer an Associate of Science transfer degree to UM students. All other two-year campuses in Montana offer an Associate of Science degree with a general program of study. An Associate of Science degree will expand Missoula College's offerings to meet the needs of those students who are interested in transferring into baccalaureate programs with the potential to strengthen partnerships between two and four-year institutions.

**2) Describe the need for the program/center/institute. Specifically, how the program/center/institute meets current student and workforce demands. (Please cite sources).**

Missoula College is the only two-year college in the state that does not offer an Associate of Science degree. Like the Associate of Arts Degree, the Associate of Science degree would provide open and affordable access to transfer pathways at the University of Montana. Most importantly, however, it would respond to local needs to provide opportunities for education in STEM related areas. According to the Montana Department of Labor and Industry, "Montana's 55,000 STEM workers make up 12% of the state's payroll employment, similar to the U.S. as a whole, where STEM occupations are 13% of payroll employment. STEM workers in Montana earn more than non-STEM workers, with an average annual wage of $68,695 compared to $36, 643, respectively" ("Stem Jobs in Montana," 2016 November).

# Montana University System

## INTENT TO PLAN FORM

**3) Describe how the program/center/institute fits with the institutional mission, strategic plan, and existing institutional program array.**

The Montana University System's Comprehensive Two-Year Education Mission/Vision States that the goal of two-year education is to "provide a comprehensive, accessible, responsive, student-centered learning environment that facilitates and supports the achievement of individuals' professional and personal goals, and enhances the development of Montana's citizens, communities, and economy." Also, three of the key purposes of two-year education are to provide transfer education that is affordable, open to all and responsive to local needs. The addition of an Associate of Science Degree at Missoula College would help us more fully accomplish this mission.

**4) Describe how the program/center/institute overlaps, complements, or duplicates existing efforts in the MUS. Describe efforts that will be made to collaborate with similar programs at other institutions. If no efforts will be made, please explain why.**

An Associate of Science (AS) degree is closely related to an Associate of Arts degree. The new AS degree would require 9 credits of transferable STEM courses and lead to different emphasis areas for students to take with them to baccalaureate campuses. For the wide range of possible BA and BS degrees, providing two options gives students more direct pathways between two and four-year campuses.

# Montana University System

## INTENT TO PLAN FORM

**Signature/Date**

**College/School Dean:** DocuSigned by: Tom Gallagher D11D15E82DAF45C... 9/23/2019

**Chief Academic Officer:**

**Chief Executive Officer:**

**Flagship Provost*:** DocuSigned by: Jon Harbor 9/23/2019

**Flagship President*:** DocuSigned by: Seth Bodnar 9/23/2019

*Not applicable to the Community Colleges.

**Date of Final Review:**

**When submitting the proposal to the BOR, include this signed form with the Level II request.**

**Attachment to AS Degree Required Courses Form-**

There are not specific courses required for this degree. Rather, much like the AA Degree, a student complete UM's lower-division General Education Requirements (GERs) as well as 9 additional credits in the areas of Science, Technology, Engineering, and Mathematics (see catalogue description below). Initially, we do not expect enrollment to increase significantly. Rather, we expect to see students who would otherwise be completing the AA degree, to choose a pathway toward the AS degree. Missoula College offers a variety of courses that fulfill UM's lower-division general education requirements as well as elective courses in Science, Technology, and Mathematics. Our students can also take 6 credits of mountain campus courses a semester, which could include elective courses beyond what we offer at the college. With time, our hope would be to develop additional science offerings and to collaborate with two-year of four-year partners to develop specific concentrations within the AS degree. This would warrant a specifics analysis of the required courses within these concentration.

CATALOGUE DESCRIPTION:

The Department of Applied Arts and Sciences offers the Associate of Science Degree. The Associate of Science Degree is considered a general education transfer degree and does not include a major or minor course of study. To receive an Associate of Science degree, students must:

1. **Complete UM's lower-division General Education Requirements (GERs),**
2. **Earn a minimum of 60 credits,**
3. **Have a minimum cumulative GPA of 2.0, and**
4. **Complete 9 credits of transferable coursework in the areas of Science, Technology, Engineering, and Mathematics (STEM) beyond those taken as general education requirements.**

**At least 30 of the total 60 degree credits must be earned from Missoula College or UM-Missoula. Missoula College students are limited to enrolling in lower-division coursework (course level 100 or 200).**

**March 5-6, 2020**

**ITEM 187-1004-R0320**

**Request for authorization to establish an option in Game Design and Interactive Media to the B.F.A. in Media Arts**

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**THAT**

The University of Montana-Missoula requests authorization from the Montana Board of Regents to establish an option in Game Design and Interactive Media in the bachelor of fine arts in Media Arts, and offer online delivery of the program.

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**EXPLANATION**

There is widespread community and student interest in competitive gaming, game design for civic and social betterment, and research interests in serious game development for engaging programs across sectors. There are no game design programs in the MUS, and there is workforce demand for students with professional skills in this high-growth and high-pay field.

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**ATTACHMENTS**

Academic Proposal Request Form
Curriculum Proposal Form
Fiscal Analysis From
Intent to Plan

# Montana Board of Regents

## ACADEMIC PROPOSAL REQUEST FORM

ITEM **XXX-1004-R0320** Submission Month or Meeting: **March 5-6, 2020**

Institution: **University of Montana-Missoula** CIP Code: **50.0411**

Program/Center/Institute Title: **Game Design and Interactive Media option in Media Arts B.F.A.**

Includes (please specify below): Online Offering X Options

Please mark the appropriate type of request and submit with an Item Template and any additional materials, including those listed in parentheses following the type of request. For more information pertaining to the types of requests listed below, how to complete an item request, or additional forms please visit http://mus.edu/che/arsa/academicproposals.asp.

## ____ A. Level I:

**Campus Approvals**

____ **1a. Placing a postsecondary educational program into moratorium** (Program Termination and Moratorium Form)

____ **1b. Withdrawing a postsecondary educational program from moratorium**

____ **2. Establishing, re-titling, terminating or revising a campus certificate of 29 credits or less**

____ **3. Establishing a B.A.S./A.A./A.S. area of study**

____ **4. Offering an existing postsecondary educational program via distance or online delivery**

**OCHE Approvals**

____ **5. Re-titling an existing postsecondary educational program**

____ **6. Terminating an existing postsecondary educational program** (Program Termination and Moratorium Form)

____ **7. Consolidating existing postsecondary educational programs** (Curriculum Proposal Form)

____ **8. Establishing a new minor where there is a major or an option in a major** (Curriculum Proposal Form)

____ **9. Revising a postsecondary educational program** (Curriculum Proposal Form)

____ **10. Establishing a temporary C.A.S. or A.A.S. degree program** *Approval limited to 2 years*

**Montana Board of Regents**
**ACADEMIC PROPOSAL REQUEST FORM**

X **B. Level II:**

X **1. Establishing a new postsecondary educational program** (Curriculum Proposal and Completed Intent to Plan Form)

_____ **2. Permanent authorization for a temporary C.A.S. or A.A.S degree program** (Curriculum Proposal and Completed Intent to Plan Form)

_____ **3. Exceeding the 120 credit maximum for baccalaureate degrees** *Exception to policy 301.11*

_____ **4. Forming, eliminating or consolidating an academic, administrative, or research unit** (Curriculum or Center/Institute Proposal and Completed Intent to Plan Form, except when eliminating or consolidating)

_____ **5. Re-titling an academic, administrative, or research unit**

## Proposal Summary [360 words maximum]

**What**
The University of Montana-Missoula requests authorization from the Montana Board of Regents to establish an option in Game Design and Interactive Media in the bachelor of fine arts in Media Arts, and offer online delivery of the program.

**Why**
There is widespread community and student interest in competitive gaming, game design for civic and social betterment, and research interests in serious game development for engaging programs across sectors. There are no game design programs in the MUS, and there is workforce demand for students with professional skills in this high-growth and high-pay field.

**Resources**
No additional resources are requested at this time.

**Relationship to similar MUS programs**
There are no existing bachelor degree options in game design and interactive media. Flathead Valley Community College offers an A.A.S. in Programming and Game Development.

# Montana Board of Regents

## CURRICULUM PROPOSAL FORM

1. **Overview of the request and resulting changes.** Provide a one-paragraph description of the proposed program. Will this program be related or tied to other programs on campus? Describe any changes to existing program(s) that this program will replace or modify. *[100 words]*

   We propose an option in Game Design and Interactive Media (GDIM) in the existing B.F.A. in Media Arts. The GDIM concentration focuses on the fundamentals of coding for games, apps and interactive art; the visual design of these environments and user experiences; the history and theory of gaming.

   We are requesting the development of this concentration due to widespread student and community interest in competitive gaming, game design for civic and social betterment, and research interests in serious game development for engaging problems across sectors.

2. **Relation to institutional strategic goals.** Describe the nature and purpose of the new program in the context of the institution's mission and core themes. *[200 words]*

   The study and practice of game theory and design includes many facets and potential applications closely aligned with a liberal arts flagship. It is both a format for information/data communication and an expressive form of storytelling and interactivity. Because the content area is itself a type of format, and is relevant to contemporary research and the workforce, it has potential applications in all six Communities of Excellence (CoEx) at UM.

   Navigable computation and game theory are closely aligned with Science and Technology CoEx, yet game design and interactive media exemplify the Communication and Artistic Expression CoEx. In the Serious Gaming sub-field, games developed to crowd-source solutions to field-specific design problems, make it vital exploration for the remaining CoEx.

   Beyond GDIM's fit within UM's CoEx and the void it fills within the MUS, it will focus on holistic education and the formation of liberal arts skillsets alongside industry-centric technical skills. It is this combination of coding, interactive media, and knowledge of gaming engines, intertwined with skillsets such as tiered problem-solving, empathy, critical analysis and iterative design, that make the GDIM concentration representative of UM's 21st Century education.

3. **Process leading to submission.** Briefly detail the planning, development, and approval process of the program at the institution. *[100 words]*

   Planning for the GDIM concentration began 5 years ago with the initial discussions surrounding merging of the School of Art and the School of Media Arts. We explored assets, strengths and areas for growth in the new School of Visual and Media Arts (SVMA).

   Coding, gaming and interactivity were isolated as areas of departmental overlap and proven growth potential. In 2019 the School made a strategic faculty hire for a coder/dynamic educator (Assistant Professor Michael Cassens) and the Curriculum Committee worked with Directors Bell and Shogren, under the encouragement of Provost Harbor, to develop the GDIM concentration. Dean Gordon Jones, College of Innovation and Design at Boise State University, provided statistics and mentorship.

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

4. **Program description.** Please include a complete listing of the proposed new curriculum in Appendix A of this document.

   a. List the program requirements using the following table.

| | Credits |
|---|---|
| Credits in required courses offered by the department offering the program | 75 |
| Credits in required courses offered by other departments | 0 |
| Credits in institutional general education curriculum | 29 |
| Credits of free electives | 16 |
| Total credits required to complete the program | 120 |

   b. List the program learning outcomes for the proposed program. Use learner-centered statements that indicate what students will know, be able to do, and/or value or appreciate as a result of completing the program.

5. **Need for the program.** To what specific student, regional, and statewide needs is the institution responding to with the proposed program? How will the proposed program meet those needs? Consider workforce, student, economic, societal, and transfer needs in your response as appropriate. *[250 words]*

   Video-game design jobs require a mix of artistic creativity and technical skills. The GDIM concentration for the Media Arts B.F.A. also represents a new type of STEAM-based hybrid. Heavy in both art and coding, story-telling and asset management, it could exemplify an innovation-centric application of 21st century skillsets. There are no game design programs in the MUS, and there is workforce demand for students with professional skills in this high-growth and high-pay field.

6. **Similar programs.** Use the table below to identify and describe the relationship between any similar programs within the Montana University System.

| Institution Name | Degree | Program Title |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |

   No such similar degree exists in MUS. Across the common course numbering system of MUS, there are 4 classes that touch on game design. Three of them are lower division courses taught at FVCC. One is an upper-division course taught in Computer Science at UM. This concentration is vitally necessary to the MUS system.

   a. If the proposed program substantially duplicates another program offered in the Montana University System, provide a rationale as to why any resulting duplication is a net benefit to the state and its citizens. *[200 words]*

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

N/A

b. Describe any efforts that were made to collaborate with similar programs at other institutions. If no efforts were made, please explain why. *[200 words]*

N/A

**7. Implementation of the program.** When will the program be first offered? If implementation will occur in phases, please describe the phased implementation plans. *[100 words]*

The program would begin immediately upon approval as most of these courses are already offered. Two are currently Special Topics that will get a permanent course number, and three are new courses, which would be introduced incrementally. As the first cohort advances these three courses will be offered, to be as efficient as possible with faculty resources.

a. Complete the following table indicating the projected enrollments in and graduates from the proposed program.

| Fall unduplicated majors | | | | | Graduates | | | | |
|---|---|---|---|---|---|---|---|---|---|
| AY 20 | AY 21 | AY 22 | AY 23 | AY 24 | AY_20 | AY_21 | AY_22 | AY_23 | AY_24 |
| 27 | 63 | 90 | 112 | 125 | 0 | 0 | 0 | 27 | 36 |

b. Describe the methodology and sources for determining the enrollment and graduation projections above. *[200 words]*

- In 2015, Boise State University (BSU) started a new program in Gaming and Interactive Mobile Media (GIMM). In year one, BSU had 66 GIMM students in their program and delivered 306 credit hours.
- Using UM's 2019 enrollment numbers of 10,644 students, we have 42% of the overall student body of Boise State University's 25,540 students
- Extrapolating based on their shared statistics within similar program, and calculating for smaller student numbers and smaller marketing reach, we can project enrollment curve.

c. What is the initial capacity for the program?

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

- Adjusting BSU's numbers to our own enrollment, we project 27 majors in year one.
- Year 2 showed the largest rate of increase for BSU's GIMM program, +127% growth. They served 150 students in the program, and generated 846 credit hours. Adjusting for our size, we could expect 63 majors in Year 2.
- Year 3 shows continued growth of +44% at BSU, for our GDIM program this translates to potentially 90 majors, and the addition of two graduate TAs in SVMA to be teaching resources for staff lower-division courses and labs.
- Year 4 and 5 at BSU show 13% and 10% increases respectively, bringing the year 5 expected GDIM majors at UM to around 112, and credit hours in the 800 range
- With a potential 2-year online pathway into the program via distance, targeted marketing, and success of our ESports team, SCH numbers generated could top 1,200 in the first 5 years.

8. **Program assessment.** How will success of the program be determined? What action would result if this definition of success is not met? *[150 words]*

Success of the GDIM concentration would be met if students were visibly engaged, courses were near capacity, and the competitive ESports momentum was mirrored in widespread student body interest in game design and interactive media. The potential for 2-year soft-start (online student at a distance) via SVMA's fully-online shared foundations courses and successes in ESports team play should direct student enrollment into our online courses, and we would expect an increase in out-of-state students. We can monitor resources like UM's homepage search statistics, student orientation interest, student/family tour requests, and through advising within SVMA.

a. Describe the assessment process that will be used to evaluate how well students are achieving the intended learning outcomes of the program. When will assessment activities occur and at what frequency? *[150 words]*

GDIM will comply with all UM assessment processes for programs of study, including regional accreditation of the university and its units, individual program reviews, our national accreditor National Association of Schools of Art and Design, rolling progress reviews of online programming with the College of the Arts and Media, questionnaires designed to accompany course evaluations in Moodle courses to learn more about our distance students, face-to-face events designed for engaging local online students, and individual course evaluations.

b. What direct and indirect measures will be used to assess student learning? *[100 words]*

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**CURRICULUM PROPOSAL FORM**

Direct assessment measures include individual course evaluations by students and a summative student evaluation committee report for each faculty, as they apply for advancement through the Faculty Evaluation process. To gauge student involvement, student advancement in the program, and availability of courses needed by each cohort with limited faculty resources, we may design an online feedback badge for this option. Student learning is also assessed through the quality of exhibitions in the community, scale of projects, and internships and placements with industry leaders. The Spring Showcase program for Media Arts majors is one such opportunity for students to present their research.

c. How will you ensure that the assessment findings will be used to ensure the quality of the program? *[100 words]*

Strategic decisions regarding programming and faculty resources will be made by the SVMA Director after compiling data and feedback, pulling from Student Evaluation Committee reports. The Director will guide SVMA through careful coordination with our accrediting body to ensure best-practices and a contemporary curriculum and assessment structures. We will seek the appropriate accrediting body for GDIM to reside under.

d. Where appropriate, describe applicable specialized accreditation and explain why you do or do not plan to seek accreditation. *[100 words]*

We will seek to have the GDIM concentration accredited by the appropriate national organization to ensure high standards of programming, facility, student resources and educational data, which is consistent with all other programs in SVMA being nationally accredited.

**9. Physical resources.**

a. Describe the existing facilities, equipment, space, laboratory instruments, computer(s), or other physical equipment available to support the successful implementation of the program. What will be the impact on existing programs of increased use of physical resources by the proposed program? How will the increased use be accommodated? *[200 words]*

The Media Arts facilities include all appropriate labs, access to robust computer stations, sensor technologies, state of the art video equipment, software, meeting spaces, classrooms and exhibition spaces on campus and in the community. In addition, the Mansfield Library is developing a gaming development and practice lab for GDIM and ESports students. In our University Center, SVMA is partnering with the Innovation Factory and the UC Game Room to build a competitive ESports arena with many programming opportunities for GDIM students, using donor funds dedicated to this arena build-out.

b. List needed facilities, equipment, space, laboratory instruments, etc., that must be obtained to support the proposed program. (Enter the costs of those physical resources into the budget sheet.) How will the need for these additional resources be met? *[150 words]*
Any technology-dependent field will require assessment of new technologies and rotations of equipment. GDIM will apply for student technology equipment funding, carefully utilize college-wide shared equipment funds, allocate revenue from online course fees wisely, and work with the UM Foundation to solicit donor sponsorships and private partnerships with applied gaming technologies.

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

**10. Personnel resources.**

a. Describe the existing instructional, support, and administrative resources available to support the successful implementation of the program. What will be the impact on existing programs of increased use of existing personnel resources by the proposed program? How will quality and productivity of existing programs be maintained? *[200 words]*

Strategic faculty hire of Assistant Professor/Coder/Web Developer/Game Designer Michael Cassens enables SVMA to offer the necessary upper division gaming courses to initiate the program. His expertise, when paired with Assistant Professor Mike Musick's creative coding and interactive media experience, covers necessary game-related content and experiences. The design, illustration, motion design, sonic art components are all existing courses in SVMA with capacity. Existing tracks will not be impacted, rather we anticipate some student enrollment navigation from existing programs in SVMA into the GDIM concentration.

b. Identify new personnel that must be hired to support the proposed program. (Enter the costs of those personnel resources into the budget sheet.) What are the anticipated sources or plans to secure the needed qualified faculty and staff? *[150 words]*

The above mentioned faculty cover necessary coursework to initialize the program.

**11. Other resources.**

a. Are the available library and information resources adequate for the proposed program? If not, how will adequate resources be obtained? *[100 words]*

Yes.

b. Do existing student services have the capacity to accommodate the proposed program? What are the implications of the new program on services for the rest of the student body? *[150 words]*

Yes.

**12. Revenues and expenditures.** Describe the implications of the new program on the financial situation of the institution. *[100 words]*

We anticipate, based on the extrapolated comparative statistics from Boise State University referenced above, that the program will scale to over 100 majors in 5 years and include 800+ SCH. This includes potential increases in out-of-state students and distance students in rural parts of Montana. The financial impact over 5 years is (1) full-time tenure-track faculty line teaching six full sections (3/3 load), and (2) graduate TA's overseeing 200 students annually.

a. Please complete the following table of budget projections using the corresponding information from the fiscal analysis form for the first three years of operation of the new program.

| | Year 1 | Year 2 | Year 3 |
|---|---|---|---|
| Revenues | $193,911 | $273,809 | $395,003 |
| Expenses | $0 | $0 | $0 |

**Montana Board of Regents**

**CURRICULUM PROPOSAL FORM**

| | | | |
|---|---|---|---|
| Net Income/Deficit (revenues-expenses) | $193,911 | $273,809 | $395,003 |

b. Describe any expenses anticipated with the implementation of the new program. How will these expenses be met? *[200 words]*

Program generates revenue from point of initialization with existing faculty teaching existing courses in Year 1. In Year 2 the program should grow rapidly and will need a new faculty line to support that expansion, but still generating revenue of $206,309 afterwards.

i. If funding is to come from the reallocation of existing state appropriated funds, please indicate the sources of the reallocation. What impact will the reallocation of funds in support of the program have on other programs? *[150 words]*

We are seeking new resources to scale the program in Years 2-5. We will start with existing faculty/graduate assistant resources to initialize the program, then build momentum and prove concept.

ii. If an increase in base funding is required to fund the program, indicate the amount of additional base funding and the fiscal year when the institution plans to include the base funding in the department's budget.

N/A

iii. If the funding is to come from one-time sources such as a donation, indicate the sources of other funding. What are the institution's plans for sustaining the program when that funding ends? *[150 words]*

SVMA has donor funds, which are being directed to scholarship endowments, facility improvements and sponsorships for direct costs and student engagement events, not sustaining personnel or instruction.

iv. Describe the federal grant, other grant(s), special fee arrangements, or contract(s) that will be valid to fund the program. What does the institution propose to do with the program upon termination of those funds? *[150 words]*

We will seek grant funding for GDIM and associated projects, but have no such arrangements at this time. These will likely be written collaboratively with campus researchers or other programs utilizing the power of serious gaming and crowd-sourcing solutions to field-specific research problems.

**Montana Board of Regents**

**CURRICULUM PROPOSAL FORM**

13. **Student fees.** If the proposed program intends to impose new course, class, lab, or program fees, please list the type and amount of the fee.

    Online courses at UM have online fee of $35/course and all Media Arts rubric courses have a Media Arts fee of $60/course. ARTZ and GDSN rubric courses have the Online course fee above if applicable, and a material/consumables fee that varies by studio and materials necessary for instruction. In many cases online ARTZ students receive packets mailed to them with necessary hand tools and/or supplies.

14. Complete the fiscal analysis form.

    See attached.

# Montana Board of Regents

## CURRICULUM PROPOSAL FORM

Signature/Date

**College or School Dean:**

DocuSigned by:
John DeBoer
31AE7897B0244F4...

**Chief Academic Officer:**

**Chief Executive Officer:**

**Flagship Provost*:**

DocuSigned by:
Jon Harbor
34E1E62599324B7...

**Flagship President*:**

DocuSigned by:
Seth Bodnar
94F80417FFA449D...

*Not applicable to the Community Colleges.

## Academic Degree Program Proposal - Fiscal Analysis Form

**CAMPUS: UM-Missoula**
**AWARD LEVEL: U** UG
**PROGRAM NAME: Bachelors of Media Arts, Option in Game Design and Interactive Media**
**PROGRAM CODE: BFA/MART, GDIM Option**

| | FY 2020 | FY 2021 | FY 2022 | FY 2023 | FY 2024 |
|---|---|---|---|---|---|
| **ENROLLMENT PROJECTIONS** | | | | | |
| **Headcount** | | | | | |
| annual unduplicated headcount of students with declared major or minor within the program | 27 | 61 | 88 | 99 | 110 |
| **Credit Hours** | | | | | |
| annual avg. credits hours earned per student in program related curriculum | 18.75 | 18.75 | 18.75 | 18.75 | 18.75 |
| **Student FTE** | | | | | |
| Undergrad: (Headcount x CH)/30<br>Graduate: (Headcount x CH)/24 | 16.875 | 38.125 | 55 | 61.875 | 68.75 |
| **Completions** | | | | | |
| Annual number of program completers | 0 | 0 | 0 | 27 | 34 |
| **REVENUE** | | | | | |
| Tuition Revenue (net of waivers) | $193,911 | $273,809 | $395,003 | $445,277 | $495,550 |
| Institutional Support | $0 | $0 | $0 | $0 | $0 |
| Other Outside Funds (grants, gifts, etc.) | $0 | $0 | $0 | $0 | $0 |
| Program Tuition/Fees | $0 | $0 | $0 | $0 | $0 |
| **Total Revenue** | $193,911 | $273,809 | $395,003 | $445,277 | $495,550 |
| **Total Revenue per Student FTE** | $11,491 | $7,182 | $7,182 | $7,196 | $7,208 |
| **EXPENDITURES** | | | | | |
| Tenure Track Faculty — FTE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Tenure Track Faculty — Salary + Benefits | $0 | $0 | $0 | $0 | $0 |
| Non-tenure Track Faculty *Includes Adjunct Instructors — FTE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Non-tenure Track Faculty *Includes Adjunct Instructors — Salary + Benefits | $0 | $0 | $0 | $0 | $0 |
| Graduate Teaching Assistants — FTE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Graduate Teaching Assistants — Salary + Benefits | $0 | $0 | $0 | $0 | $0 |
| Staff — FTE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Staff — Salary + Benefits | $0 | $0 | $0 | $0 | $0 |
| **Total Faculty & Staff** — FTE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Total Faculty & Staff** — Salary + Benefits | $0 | $0 | $0 | $0 | $0 |
| Operations (supplies, travel, rent, etc) | $0 | $0 | $0 | $0 | $0 |
| Start-up Expenses (OTO) | $0 | $0 | $0 | $0 | $0 |
| **Total Expenses** | $0 | $0 | $0 | $0 | $0 |
| **Student FTE to Faculty (TT + NTT) Ratio** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! |
| **Net Income/Deficit** (Revenue - Expenses) | $193,911 | $273,809 | $395,003 | $445,277 | $495,550 |

The signature of the campus Chief Financial Officer signifies that he/she has reviewed and assessed the fiscal soundness of the proposal and provided his/her recommendations to the Chief Academic Officer as necessary.

1-9-20

**Campus Chief Financial Officer Signature**

Chief Financial Officer Comments

# Montana University System

## INTENT TO PLAN FORM

Program/Center/Institute Title: BFA Concentration in Gaming and Interactive Media

Campus, School/Department: UM--Mountain, School of Visual and Media Arts

Expected Submission Date: 9/13/2019

Contact Name/Info: Mark Shogren

To increase communication, collaboration, and problem-solving opportunities throughout the MUS in the program/center/institute development process, please complete this form not more than 18 months in advance of the anticipated date of submission of the proposed program/center/institute to the Board of Regents for approval. The completed form should not be more than 2-3 pages. For more information regarding the Intent to Plan process, please visit http://mus.edu/che/arsa/academicproposals.asp.

**1) Provide a description of the program/center/institute.**

We propose coalescing select existing courses within the School of Visual and Media Arts, and adding 3 new courses, that in total offer a concentration in Gaming and Interactive Media. The concentration (option) focuses on the 1) fundamentals of coding for games and interactive art, 2) the visual design of these environments 3) the history and theory of gaming 3) content and the user experience. The BFA in Media Arts is a 75 credit undergraduate degree.

**2) Describe the need for the program/center/institute. Specifically, how the program/center/institute meets current student and workforce demands. (Please cite sources).**

The Gaming and Interactive Media concentration (GIM) responds directly to the workforce and growth of gaming in all three, entertainment, competition, and serious gaming sectors. "Last year, 2018, the US Gaming industry was the largest in the world, and it matched the US Film industry netting $43 billion in revenue (1)." "By 2022", with growth in virtual/augmented/and serious gaming sectors, "the US Gaming industry is predicted to reach $230 billion, leading all world markets (2)."

No such gaming program exists in the state, in fact only 4 lower-division gaming courses exist outside of UM in the MUS. The largest ASUM student group on campus is the gaming group.

(1) Minoitti, Mike (January 22, 2019). "NPD: U.S. game sales hit a record $43.4 billion in 2018". Venture Beat. Retrieved January 22, 2019. From Wiki: (https://en.wikipedia.org/wiki/Video_game_industry)

(2) "Games software/hardware $165B+ in 2018, $230B+ in 5 years, record $2B+ investment last year | Digi Capital". Retrieved August 24, 2019.

# Montana University System
## INTENT TO PLAN FORM

**3) Describe how the program/center/institute fits with the institutional mission, strategic plan, and existing institutional program array.**

The study and practice of gaming/game design includes many facets and applications. In fact, it is both a format for information and networked data navigation and an expressive form of storytelling. Because the content area serves as a type of format itself, it has application potential in all 6 Communities of Excellence at UM. The history of gaming/computing and game theory are closely aligned with Science and Technology CoEx, and game design and interactive media exemplifies Communication and Artistic Expression CoEx. However, the vast applications possible with serious gaming, those games developed to crowd-source solutions to field-specific design problems, make it a vital partner to Environment & Sustainability, Health and Human Development, and Justice, Policy, and Public Safety CoEx's respectively. Beyond GIM's fit within UM's CoEx and the void it fills within the MUS, it is housed in the School of Visual and Media Arts, a newly merged department that houses two of the few fully online BA degrees in the state. In SVMA, a focus is placed on educating the whole student, partnering with place and the formalization of liberal arts skillsets. It is this combination of coding, interactive media, gaming engines, with skillsets such as tiered problem-solving, empathy, critical analysis and iterative design that make the GIM concentration representative of UM's 21st Century education.

**4) Describe how the program/center/institute overlaps, complements, or duplicates existing efforts in the MUS. Describe efforts that will be made to collaborate with similar programs at other institutions. If no efforts will be made, please explain why.**

No such program exists in the MUS.

There are 4 lower-division courses in the MUS, 3 at FVCC, and these don't fit the shared foundations program in SVMA, nor do they cover the depth of creative coding content necessary for progression in the proposed concentration. The program would be open to collaboration at other institutions if they existed. GIM may find the most collaboration by leading MUS efforts in serious gaming, crowd-sourcing state-wide solutions for complex problems, engaging local communities with iterative design tools through constructive gaming, GIM will collaborate with the Innovation Factory at UM to cross-program and in design a gaming arena for its eSports team, with the Mansfield Library for a game development and training lab, and work to develop 1-credit modules in gaming innovation. The Missoula youth community is showing considerable interest in gaming education and programming with area middle and high school students will be engaged.

As a leader in gaming within the MUS, UM is excited to break ground in our region, learning through strong partnership with Boise State University's College of Innovation and Design. Due to the established online programming in SVMA, the GIM concentration will be available to distance only students at least through the first year, and may be expanded through the second year as staffing is expanded to mirror new majors.

# Montana University System

## INTENT TO PLAN FORM

**Signature/Date**

**College/School Dean:** DocuSigned by: 466F9E8E535D4CD... 9/13/2019

**Chief Academic Officer:**

**Chief Executive Officer:**

**Flagship Provost*:** DocuSigned by: Jon Harbor 9/16/2019

**Flagship President*:** DocuSigned by: Seth Bodnar 94F80417FFA449D... 9/16/2019

*Not applicable to the Commu... Colleges.

**Date of Final Review:**

**When submitting the proposal to the BOR, include this signed form with the Level II request.**

Please provide list of courses in curriculum, their current capacity and current enrollment

| Course | Title | Current Sections | Capacity | Open Seats | Enrollment | % Fill | New Sections Needed Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Current classes in the program** | | | | | | | | | | | |
| MART 101L | Introduction to Media Arts | 2 | 200 | 52 | 148 | 74% | | | | | |
| MART 112A | Introduction to Film Editing | 1 | 100 | 32 | 68 | 68% | | | | | |
| MART 120 | Creative Coding I | 1 | 75 | 24 | 51 | 68% | | | | 1 | |
| ARTH 150HY | Introduction to Art History | 1 | 100 | 31 | 69 | 69% | | | | | |
| ARTZ 105 A | Visual Language: Drawing | 6 | 195 | 57 | 138 | 71% | | | | | |
| GDSN 149A | Digital Imaging I | 1 | 100 | 61 | 39 | 39% | | | | | |
| MAR 210 | Creation of Media Story | 1 | 20 | 2 | 18 | 90% | | | | | |
| MART 220 | Creative Coding II | 1 | 24 | 1 | 23 | 96% | | 1 | | | |
| MART 245 | Introduction to Sonic Arts | 1 | 24 | 10 | 14 | 58% | | | | 1 | |
| MAR 252 | Screenwriting | 1 | 22 | 1 | 21 | 95% | | | | | |
| ARTZ 214 | Illustration | 1 | 20 | 0 | 20 | 100% | | 1 | | | |
| MART 302 | Introduction to Motion Design | 1 | 30 | 11 | 19 | 63% | | | | | |
| MART 305 | 3D Animation | 1 | 24 | 1 | 23 | 96% | | 1 | | | |
| MART 340 | Principles of Interactive Media | 1 | 30 | 9 | 21 | 70% | | 1 | | | |
| MART 341 | Introduction to Web Design | 1 | 40 | 3 | 37 | 93% | | | | | |
| MART 342 | Art and Science of Interactive Games | 1 | 30 | 1 | 29 | 97% | | | | | |
| MART 441 | Web Technologies | 1 | 50 | 24 | 26 | 52% | | | | | |
| MART 450 | Topics in Film/Media | 1 | 30 | 1 | 29 | 97% | | | | | |
| MART 460* | Game Engines* | 1 | 30 | 5 | 25 | 83% | | 1 | | | |
| MART 461* | Web Server Tech* | 1 | 30 | 10 | 20 | 67% | | | | | |
| MART 499 | Senior Project | 1 | 24 | 14 | 10 | 42% | | | | | |
| MART 499 | Senior Project 2 | | | | | | | | | | |
| | | | | | | | | | | | |
| **Currently required classes outside of program but inside department** | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| **Proposed classes (Newly submitted with concentration)** | | | | | | | | | | | |
| * MART 460 and MART 461 are being taught currently as Special Topics, and will apply for permanent course numbers in Autumn 201 | | | | | | | | | | | |
| MART 360 | History, Ethics, and Theory of Games | na | 100 | na | na | na | 1 | | | | |
| MART 361 | Serious Games | na | 30 | na | na | na | | 1 | | | |
| MART 462 | Mobile Game Development | na | 24 | na | na | na | | | 1 | | |
| | | | | | | | | | | | |
| | | | | | | Total Sect. | | | | 10 in 5 yr | |

**March 5-6, 2020**

**ITEM 187-1005-R0320**

**Request for authorization to move the option in Community and Environmental Planning from the Geography B.A. to the Geography B.S.**

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**THAT**

The University of Montana-Missoula requests authorization from the Montana Board of Regents to move the option in Community and Environmental Planning from the bachelor of arts in Geography to the bachelor of sciences in Geography.

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**EXPLANATION**

The Community and Environmental Planning option currently resides in the B.A. degree. We request to terminate the B.A. degree, while retaining this one option and moving it into the B.S., as it provides critical professional training for aspiring planners. Moving the option from the B.A. to the B.S. will enhance student learning outcomes and mastery of the science underpinning environmental planning for air and water quality, magnitude and frequency of natural hazards, conservation planning for biodiversity, etc. The Community and Environmental Planning option is one of Geography's higher-demand undergraduate degree programs. We believe that moving it to the B.S. will produce a more rigorous and more attractive program, and the B.S. credential will serve alumni better for the purpose of obtaining civil service employment.

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**ATTACHMENTS**

Academic Proposal Request Form
Attachment #1: OCHE Guidance regarding moving an option from B.A. to B.S. degree

# Montana Board of Regents

## ACADEMIC PROPOSAL REQUEST FORM

ITEM **XXX-XXXX-XXXX** Submission Month or Meeting: **March 5-6, 2020**

Institution: **University of Montana-Missoula** CIP Code: **45.0701**

Program/Center/Institute Title: **Community and Environmental Planning option moving from Geography B.A. to Geography B.S.**

Includes (please specify below): Online Offering _____ Options _____

Please mark the appropriate type of request and submit with an Item Template and any additional materials, including those listed in parentheses following the type of request. For more information pertaining to the types of requests listed below, how to complete an item request, or additional forms please visit http://mus.edu/che/arsa/academicproposals.asp.

## ____ A. Level I:

**Campus Approvals**

____ **1a. Placing a postsecondary educational program into moratorium** (Program Termination and Moratorium Form)

____ **1b. Withdrawing a postsecondary educational program from moratorium**

____ **2. Establishing, re-titling, terminating or revising a campus certificate of 29 credits or less**

____ **3. Establishing a B.A.S./A.A./A.S. area of study**

____ **4. Offering an existing postsecondary educational program via distance or online delivery**

**OCHE Approvals**

____ **5. Re-titling an existing postsecondary educational program**

____ **6. Terminating an existing postsecondary educational program** (Program Termination and Moratorium Form)

____ **7. Consolidating existing postsecondary educational programs** (Curriculum Proposal Form)

____ **8. Establishing a new minor where there is a major or an option in a major** (Curriculum Proposal Form)

____ **9. Revising a postsecondary educational program** (Curriculum Proposal Form)

____ **10. Establishing a temporary C.A.S. or A.A.S. degree program** *Approval limited to 2 years*

**Montana Board of Regents**
**ACADEMIC PROPOSAL REQUEST FORM**

**X B. Level II:**

1. **Establishing a new postsecondary educational program** (Curriculum Proposal and Completed Intent to Plan Form)
2. **Permanent authorization for a temporary C.A.S. or A.A.S degree program** (Curriculum Proposal and Completed Intent to Plan Form)
3. **Exceeding the 120 credit maximum for baccalaureate degrees** *Exception to policy 301.11*
4. **Forming, eliminating or consolidating an academic, administrative, or research unit** (Curriculum or Center/Institute Proposal and Completed Intent to Plan Form, except when eliminating or consolidating)
5. **Re-titling an academic, administrative, or research unit**

## Proposal Summary [360 words maximum]

**What**
The University of Montana-Missoula requests authorization from the Montana Board of Regents to move the option in Community and Environmental Planning from the bachelor of arts in geography to the bachelor of sciences in Geography.

**Why**
The Department of Geography at UM currently offers B.A. and B.S. degrees, each with a different option for specialized training in Community and Environmental Planning (in the B.A.) and Physical Geography (in the B.S.). The option in Community and Environmental Planning provides important and critical professional training for students wishing to pursue a career in planning (urban, rural, natural resources, environmental) and has been one of our higher-demand degree programs. Many alumni who have completed this program are employed in city, county, state, and private-sector planning departments in Montana and elsewhere. The Department of Geography is seeking to consolidate its degree programs by terminating the B.A. (planned submission for March Level I proposals) and moving the Community and Environmental Planning Option to the existing B.S. degree. The underlying degree requirements in the B.S. are also being modified slightly to reduce the basic science credit requirement (from 6 to 3 credits) and modify the mathematics requirement (M 115 and STAT 216 at a minimum). Moving the option will have no impact on resources and will simplify our curricula.

Moving the option from the B.A. to the B.S. will enhance student learning outcomes and mastery of the science underpinning environmental planning for air and water quality, magnitude and frequency of natural hazards, conservation planning for biodiversity, etc. Next to the Certificate in Geographic Information Sciences and Technologies, the Community and Environmental Planning option is one of Geography's higher-demand undergraduate degree programs. We believe that moving it to the B.S. will produce a more rigorous and more attractive program, and the B.S. credential will serve alumni better for the purpose of obtaining civil service employment.

**Resources**
There are no additional resources needed to implement this change.

## Montana Board of Regents

### ACADEMIC PROPOSAL REQUEST FORM

**Relationship to similar MUS programs**

The Community and Environmental Planning Option in the BA was first offered at UM in AY 1996-97 and is the only program of its nature in the MUS.

## Laine, Jasmine Zink

**From:** Thiel, Joe <jthiel@montana.edu>
**Sent:** Thursday, May 23, 2019 10:49 AM
**To:** Lindsay, Nathan; Laine, Jasmine Zink
**Subject:** Re: moving an option from BA to BS degree

Hi Jasmine and Nathan:

I apologize for my lack of response to your question, Jasmine, and for the long delay.

I think we can make an exception for this move. I would still like for you to submit this as a Level II proposal for BOR approval, but you need not complete the full curricular paperwork, but rather complete an item template and request form (perhaps with a slightly lengthier description than usual). I can append a note explaining OCHE's decision to forego the usual process in this case.

Changing the policy overall has been delayed as Brock and I work through what other changes we and the CAOs would like to make to the overall process.

Best,

Joe

On 5/23/19, 10:19 AM, "Lindsay, Nathan" <nathan.lindsay@mso.umt.edu> wrote:

NOTICE: This email originated from outside of your organization. Do not click links, open attachments, or respond unless you were expecting this message and know the content is safe.

Hi Joe,

You can see the long thread below, which outlines that Geography wants to put their BA in moratorium but keep one of the options and move it into the BS. Currently, I believe that OCHE considers making that a new degree, but it seems excessive to complete all of this paperwork for something that essentially already exists. If you agree that this is unnecessary, I am wondering if it is possible to change this policy/path. In the past, this was a Level II choice that wasn't a new degree, but changing the degree type.

So, let me know if you see another path for this proposal. If not, we need to start the process to make the new degree.

Thank you,

Nathan

From: Laine, Jasmine Zink
Sent: Wednesday, May 8, 2019 9:53 AM
To: 'Thiel, Joe' <jthiel@montana.edu>
Subject: RE: moving an option from BA to BS degree

Hi Joe,

I know that making a change to the process for moving an option from a BA to a BS is not so easy. Any chance of it happening sometime soon? If not, I need to submit the moratorium for the Geography BA and start the paperwork for the full Level II for the one option they want to keep.

Thanks!

Jasmine

JASMINE ZINK LAINE | 406-243-6135
OFFICE OF THE EXECUTIVE VICE PRESIDENT AND PROVOST
U N I V E R S I T Y O F M O N T A N A

From: Thiel, Joe <jthiel@montana.edu<mailto:jthiel@montana.edu>>
Sent: Friday, December 7, 2018 3:58 PM
To: Laine, Jasmine Zink <JasmineZink.Laine@mso.umt.edu<mailto:JasmineZink.Laine@mso.umt.edu>>
Subject: RE: moving an option from BA to BS degree

Hi Jasmine:

This has been a difficult question. We agree, but are hesitant to change the process without running this question past the CAO group. I'm concerned there is some recent history – but before my time – that caused the switch in requirements.

So, I will raise this on the December CAO call for brief discussion.

Joe

From: Laine, Jasmine Zink <JasmineZink.Laine@mso.umt.edu<mailto:JasmineZink.Laine@mso.umt.edu>>
Sent: Wednesday, November 7, 2018 3:44 PM
To: Thiel, Joe <jthiel@montana.edu<mailto:jthiel@montana.edu>>
Subject: RE: moving an option from BA to BS degree

Hi Joe,

Here is a proposal that we sent in March 2016 to change some of our Biology options from a BA to BS—it was a Level II review but not considered a new proposal and that seemed to make sense.

Thanks again for your consideration of this issue!

Jasmine

Jasmine Zink Laine | Office of the Provost | University of Montana | 406-243-6135

From: Thiel, Joe <jthiel@montana.edu<mailto:jthiel@montana.edu>>
Sent: Monday, October 29, 2018 11:52 AM
To: Laine, Jasmine Zink <JasmineZink.Laine@mso.umt.edu<mailto:JasmineZink.Laine@mso.umt.edu>>
Cc: Lindsay, Nathan <nathan.lindsay@mso.umt.edu<mailto:nathan.lindsay@mso.umt.edu>>
Subject: RE: moving an option from BA to BS degree

Hi Jasmine,

I am not fully up on the logic here, but the handbook suggests that such a revision be submitted as a new academic program. Under option 5 "Re-titling an existing postsecondary educational program" the handbook says:

"This does not include the change in type of degree, for example a B.A. to a B.S. This type of change is equivalent to establishing a new program"

To me, that seems an unnecessary level of review. I will talk with Brock to see if we can arrive at an alternative.

Good question.

Joe

From: Laine, Jasmine Zink <JasmineZink.Laine@mso.umt.edu<mailto:JasmineZink.Laine@mso.umt.edu>>
Sent: Monday, October 29, 2018 11:48 AM
To: Thiel, Joe <jthiel@montana.edu<mailto:jthiel@montana.edu>>
Cc: Lindsay, Nathan <nathan.lindsay@mso.umt.edu<mailto:nathan.lindsay@mso.umt.edu>>
Subject: moving an option from BA to BS degree

Hi Joe,
Our Geography Department is contemplating some changes to their curriculum. One of those proposed changes is getting rid of their BA and only offering a BS. However, they wanted to keep one of the BA options, but move it over to the BS degree. I feel like this move is something we should submit to OCHE/BOR, but I'm not quite sure how it fits on the Academic Request Form. Could you please advise? I thought maybe consolidation, maybe program revision?
Thank you!
Jasmine

Jasmine Zink Laine | Office of the Provost | University of Montana | 406-243-6135

**March 5-6, 2020**

**ITEM 187-1006-R0320**

**Request for authorization to establish a B.A. in multidisciplinary studies**

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**THAT**

The University of Montana-Missoula requests authorization from the Montana Board of Regents to establish a bachelor of arts in Multidisciplinary Studies.

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**EXPLANATION**

The B.A. in Multidisciplinary Studies is intended for students seeking to complete a bachelor's degree with coursework from departments across the University, providing each student an opportunity to reach beyond disciplinary boundaries and create a degree program tailored to their unique education and career goals. The multidisciplinary nature of the program is designed to develop students' ability to combine different fields into a structured format and is meant to encourage and support creativity, innovation, critical thinking, and integrative and experiential learning.

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**ATTACHMENTS**

Academic Proposal Request Form
Curriculum Proposal Form
Fiscal Analysis From
Intent to Plan

# Montana Board of Regents

## ACADEMIC PROPOSAL REQUEST FORM

ITEM **XXX-1006-R0320** Submission Month or Meeting: **March 5-6, 2020**

Institution: **University of Montana-Missoula** CIP Code: **30.0000**

Program/Center/Institute Title: **College of Humanities and Sciences**

Includes (please specify below): Online Offering X Options

Please mark the appropriate type of request and submit with an Item Template and any additional materials, including those listed in parentheses following the type of request. For more information pertaining to the types of requests listed below, how to complete an item request, or additional forms please visit http://mus.edu/che/arsa/academicproposals.asp.

### ____ A. Level I:

**Campus Approvals**

____ **1a. Placing a postsecondary educational program into moratorium** (Program Termination and Moratorium Form)

____ **1b. Withdrawing a postsecondary educational program from moratorium**

____ **2. Establishing, re-titling, terminating or revising a campus certificate of 29 credits or less**

____ **3. Establishing a B.A.S./A.A./A.S. area of study**

____ **4. Offering an existing postsecondary educational program via distance or online delivery**

**OCHE Approvals**

____ **5. Re-titling an existing postsecondary educational program**

____ **6. Terminating an existing postsecondary educational program** (Program Termination and Moratorium Form)

____ **7. Consolidating existing postsecondary educational programs** (Curriculum Proposal Form)

____ **8. Establishing a new minor where there is a major or an option in a major** (Curriculum Proposal Form)

____ **9. Revising a postsecondary educational program** (Curriculum Proposal Form)

____ **10. Establishing a temporary C.A.S. or A.A.S. degree program** *Approval limited to 2 years*

**Montana Board of Regents**
**ACADEMIC PROPOSAL REQUEST FORM**

**X B. Level II:**

**X** **1. Establishing a new postsecondary educational program** (Curriculum Proposal and Completed Intent to Plan Form)

_____ **2. Permanent authorization for a temporary C.A.S. or A.A.S degree program** (Curriculum Proposal and Completed Intent to Plan Form)

_____ **3. Exceeding the 120 credit maximum for baccalaureate degrees** *Exception to policy 301.11*

_____ **4. Forming, eliminating or consolidating an academic, administrative, or research unit** (Curriculum or Center/Institute Proposal and Completed Intent to Plan Form, except when eliminating or consolidating)

_____ **5. Re-titling an academic, administrative, or research unit**

## Proposal Summary [360 words maximum]

**What**
The University of Montana-Missoula requests authorization from the Montana Board of Regents to establish a bachelor of arts in Multidisciplinary Studies.

**Why**
The B.A. in Multidisciplinary Studies is intended for students seeking to complete a bachelor's degree with coursework from departments across the University, providing each student an opportunity to reach beyond disciplinary boundaries and create a degree program tailored to their unique education and career goals. The multidisciplinary nature of the program is designed to develop students' ability to combine different fields into a structured format and is meant to encourage and support creativity, innovation, critical thinking, and integrative and experiential learning.

**Resources**
This degree will be offered with the existing curriculum. Advising and administrative infrastructure for this program will need to be developed in order to help students tailor their degree programs and navigate the requirements of this program, which are not housed in any one academic department.

**Relationship to similar MUS programs**
There are similar programs at Montana Tech (Interdisciplinary Arts and Sciences B.S.), UM–Western (Interdisciplinary Social Science B.A.), MSU-Billings (Liberal Studies B.A.), MSU-Northern (Liberal Studies B.A.), and MSU-Bozeman (Liberal Studies B.A.). This Multidisciplinary Studies degree program at UM is needed to:

- Provide students from MUS 2-Year Colleges, including Montana's tribal colleges, with a flexible interdisciplinary 2+2 bachelor's degree completion transfer pathway to UM;
- Serve bachelor's degree completion needs of adult learners and other target student audiences who are seeking to complete a bachelor's degree from UM that prepares them for emerging careers which require knowledge, skills and competencies from multiple disciplines not currently available within other individual majors at UM;
- Offer students with credits from many sources the opportunity to complete UM baccalaureate degree with focus and integrity;

**Montana Board of Regents**

**ACADEMIC PROPOSAL REQUEST FORM**

- Enable UM students who successfully complete high demand certificate programs to integrate these as stackable credentials into this flexible interdisciplinary degree completion framework.

# Montana Board of Regents

## CURRICULUM PROPOSAL FORM

1. **Overview of the request and resulting changes.** Provide a one-paragraph description of the proposed program. Will this program be related or tied to other programs on campus? Describe any changes to existing program(s) that this program will replace or modify. *[100 words]*

The Bachelor of Arts in Multidisciplinary Studies is intended for students seeking to complete a bachelor's degree with coursework from departments across the university, providing each student an opportunity to reach beyond disciplinary boundaries and create a degree program tailored to their unique education and career goals. The multidisciplinary nature of the program is designed to develop students' ability to combine different fields into a structured format and is meant to encourage and support creativity, innovation, critical thinking, and integrative and experiential learning. This degree serves students from local 2-year colleges and provides a 2+2 pathway tailored to students with A.S. and A.A. degrees.

2. **Relation to institutional strategic goals.** Describe the nature and purpose of the new program in the context of the institution's mission and core themes. *[200 words]*

Providing this flexible, interdisciplinary degree is aligned with UM's priority of "Placing student success at the center of all that we do." The proposed degree meets the goal of providing accessible education that meets the needs and broad disciplinary interests of undergraduate students by allowing them to explore many subjects. By encouraging more breadth of study, the proposed degree is intended to provide more pathways for finishing a bachelor's degree, which should contribute to higher completion rates. This degree also fulfills elements of "Partnering with Place," as efforts will be made to meet the needs of students transferring from local 2-year colleges.

3. **Process leading to submission.** Briefly detail the planning, development, and approval process of the program at the institution. *[100 words]*

Faculty in the College of Humanities and Sciences have been discussing concepts for a degree like this since 2016. It is an appropriate time to move forward with this at the current time, given the MUS priority of providing clearer 2+2 pathways for the region's 2-year college students. This degree will reach a new market of students and provide the ability to create a flexible, multifaceted degree plan that will serve the students well in the current labor market.

4. **Program description.** Please include a complete listing of the proposed new curriculum in Appendix A of this document.

Attached.

a. List the program requirements using the following table.

| | Credits |
|---|---|
| Credits in required courses offered by the department offering the program | 39 |
| Credits in required courses offered by other departments | 0 |
| Credits in institutional general education curriculum | 45 |
| Credits of free electives | 36 |
| Total credits required to complete the program | 120 |

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

b. List the program learning outcomes for the proposed program. Use learner-centered statements that indicate what students will know, be able to do, and/or value or appreciate as a result of completing the program.

Multidisciplinary Studies degree graduates work in a variety of fields and in different levels of leadership, therefore the learning objectives for this program are broad enough that students can apply lessons learned in their workplace as well as improve their career potential, no matter the discipline area(s) which they study.

Students completing the Multidisciplinary Studies degree will be able to:

a. Integrate knowledge and modes of thinking drawn from two or more disciplines.
b. Describe how the multidisciplinary areas of study contrast with each other, and/or complement one another, in ways that create a greater understanding than either would provide alone, and how the concepts, skills and values of the chosen areas of study will help the student to reach identified educational/career goals.
c. Recognize and articulate meaningful questions in the chosen area of study
d. Demonstrate advanced critical thinking skills at levels required for effective performance in professional and other social or cultural contexts.

5. **Need for the program.** To what specific student, regional, and statewide needs is the institution responding to with the proposed program? How will the proposed program meet those needs? Consider workforce, student, economic, societal, and transfer needs in your response as appropriate. *[250 words]*

This program is intended to serve multidisciplinary bachelor's degree completion goals of UM students, and prospective student audiences who desire this type of multidisciplinary bachelor's degree completion option from UM. This degree will serve as an important part of several UM strategic partnership and enrollment development initiatives, including:

- Providing students from MUS 2-Year Colleges, including Montana's tribal colleges, with a flexible interdisciplinary 2+2 bachelor's degree completion transfer pathway to UM;
- Serving bachelor's degree completion needs of adult learners and other target student audiences who are seeking to complete a bachelor's degree from UM that prepares them for emerging careers which require knowledge, skills and competencies from multiple disciplines not currently available within other individual majors at UM;
- Offering students with credits from many sources the opportunity to complete a UM baccalaureate degree with focus and integrity;
- Enabling UM students who successfully complete high demand certificate programs to integrate these as stackable credentials into this flexible interdisciplinary degree completion framework.

6. **Similar programs.** Use the table below to identify and describe the relationship between any similar programs within the Montana University System.

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

| Institution Name | Degree | Program Title |
|---|---|---|
| Montana Tech | B.S. | Interdisciplinary Arts and Sciences |
| UM–Western | B.A. | Interdisciplinary Social Science |
| MSU-Billings | B.S. | Liberal Studies |
| MSU-Northern | B.A. | Liberal Studies |
| MSU-Bozeman | B.A. | Liberal Studies |

a. If the proposed program substantially duplicates another program offered in the Montana University System, provide a rationale as to why any resulting duplication is a net benefit to the state and its citizens. *[200 words]*

This program is intended to serve multidisciplinary bachelor's degree completion goals of UM students, and prospective student audiences who desire this type of multidisciplinary bachelor's degree completion option from UM. This degree will serve as an important part of several UM strategic partnership and enrollment development initiatives.

b. Describe any efforts that were made to collaborate with similar programs at other institutions. If no efforts were made, please explain why. *[200 words]*

This program is a key part of UM's efforts to establish stronger inter-campus collaborations between UM and MUS 2-year Colleges and Tribal Colleges to support more flexible, efficient and effective 2+2 transfer student bachelor's degree completion pathways.

**7. Implementation of the program.** When will the program be first offered? If implementation will occur in phases, please describe the phased implementation plans. *[100 words]*

Program will begin in AY20/21.

a. Complete the following table indicating the projected enrollments in and graduates from the proposed program.

| Fall Headcount Enrollment | | | | | Graduates | | | | |
|---|---|---|---|---|---|---|---|---|---|
| AY20/21 | AY21/22 | AY22/23 | AY23/24 | AY24/25 | AY21/22 | AY21/22 | AY22/23 | AY23/24 | AY24/25 |
| 10 | 20 | 30 | 40 | 50 | 0 | 5 | 10 | 15 | 20 |

b. Describe the methodology and sources for determining the enrollment and graduation projections above. *[200 words]*

Projections are based leveraging connections and transfer pathways. These will dovetail with efforts to expand online and summer opportunities for adult learners.

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

c. What is the initial capacity for the program?

Since no new courses are planned, there is no upper limit to the capacity. It will take some time to ramp up with the marketing, so it is not anticipated that there will be a large number of additional students in the initial two years of the program.

**8. Program assessment.** How will success of the program be determined? What action would result if this definition of success is not met? *[150 words]*

The success of the program will be evaluated by the number of students who successfully complete this degree each year. This evaluation will also entail identifying the numbers of students who started at UM, transfer students, and other demographic analyses. Program success will also be determined by the achievement of student learning outcomes.

a. Describe the assessment process that will be used to evaluate how well students are achieving the intended learning outcomes of the program. When will assessment activities occur and at what frequency? *[150 words]*

The learning outcomes will be assessed using a survey of students who are pursuing this degree. The survey will allow students to identify their year of study, which will provide data according to class level. Students will also be asked how their learning and experience within the degree could be improved, and how advising and mentoring could be enhanced. The survey will include both quantitative and qualitative questions.

b. What direct and indirect measures will be used to assess student learning? *[100 words]*

In addition to the student survey (indirect assessment) described above, faculty teaching courses that meet the requirements for this degree will be encouraged to use VALUE rubrics (direct assessments) from the Association of American Colleges and Universities (see https://www.aacu.org/value-rubrics). These rubrics have been nationally vetted and used at universities across the country, including the University of Montana.

c. How will you ensure that the assessment findings will be used to ensure the quality of the program? *[100 words]*

Assessment findings will be reviewed by the Faculty Advisory Committee for this degree. Learning outcomes data that are relatively lower will be addressed in conversations with faculty and advisors. Areas for improvement that arise from feedback in the student survey will similarly be addressed.

d. Where appropriate, describe applicable specialized accreditation and explain why you do or do not plan to seek accreditation. *[100 words]*

N/A

**9. Physical resources.**

a. Describe the existing facilities, equipment, space, laboratory instruments, computer(s), or other physical equipment available to support the successful implementation of the program. What will be the impact

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

on existing programs of increased use of physical resources by the proposed program? How will the increased use be accommodated? *[200 words]*

Only existing courses will be incorporated into this degree, no new resources are required.

b. List <u>needed</u> facilities, equipment, space, laboratory instruments, etc., that must be obtained to support the proposed program. (Enter the costs of those physical resources into the budget sheet.) How will the need for these additional resources be met? *[150 words]*

N/A

**10. Personnel resources.**

a. Describe the <u>existing</u> instructional, support, and administrative resources available to support the successful implementation of the program. What will be the impact on existing programs of increased use of existing personnel resources by the proposed program? How will quality and productivity of existing programs be maintained? *[200 words]*

The main impact will be on advising staff and faculty who advise students on the degree plan. If the major grows larger (>50 students), we will need to consider having a professional advisor dedicated to these students. This program should not affect the quality and productivity of existing programs. It may necessitate additional sections of certain courses if the major grows, but likely this group of students will be accommodated within the existing course offerings.

b. Identify <u>new</u> personnel that must be hired to support the proposed program. (Enter the costs of those personnel resources into the budget sheet.) What are the anticipated sources or plans to secure the needed qualified faculty and staff? *[150 words]*

There will be no new personnel hired. The H&S Advising Center will serve as the point of contact and this center has the capacity to advise the students. If the program grows substantially, more resources may be needed to increase advising capacity.

**11. Other resources.**

a. Are the available library and information resources adequate for the proposed program? If not, how will adequate resources be obtained? *[100 words]*

Existing resources are adequate.

b. Do existing student services have the capacity to accommodate the proposed program? What are the implications of the new program on services for the rest of the student body? *[150 words]*

Existing services are adequate. Every student will have a faculty mentor and professional academic advisor. There are no implications for rest of student body.

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

**12. Revenues and expenditures.** Describe the implications of the new program on the financial situation of the institution. *[100 words]*

Given that this program will utilize existing course offerings and that we cannot predict exactly which departments will be impacted or how many students will opt in to this degree option, it is not feasible to conduct a thorough fiscal analysis and predict revenues with accuracy. However, the program will operate fully under existing course and departmental structures, and thus has no additional expenses.

a. Please complete the following table of budget projections using the corresponding information from the fiscal analysis form for the first three years of operation of the new program.

| | Year 1 | Year 2 | Year 3 |
|---|---|---|---|
| Revenues | $57455 | $114910 | $172365 |
| Expenses | $0 | $0 | $0 |
| Net Income/Deficit (revenues-expenses) | $57455 | $114910 | $172365 |

b. Describe any expenses anticipated with the implementation of the new program. How will these expenses be met? *[200 words]*

None.

i. If funding is to come from the reallocation of existing state appropriated funds, please indicate the sources of the reallocation. What impact will the reallocation of funds in support of the program have on other programs? *[150 words]*

N/A

ii. If an increase in base funding is required to fund the program, indicate the amount of additional base funding and the fiscal year when the institution plans to include the base funding in the department's budget.

N/A

iii. If the funding is to come from one-time sources such as a donation, indicate the sources of other funding. What are the institution's plans for sustaining the program when that funding ends? *[150 words]*

N/A

iv. Describe the federal grant, other grant(s), special fee arrangements, or contract(s) that will be valid to fund the program. What does the institution propose to do with the program upon termination of those funds? *[150 words]*

N/A

**13. Student fees.** If the proposed program intends to impose new course, class, lab, or program fees, please list the type and amount of the fee.

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

N/A

**14.** Complete the fiscal analysis form.

Signature/Date

**College or School Dean:** DocuSigned by: 1829FE6B3E644DC...

**Chief Academic Officer:**

**Chief Executive Officer:**

**Flagship Provost*:** DocuSigned by: Jon Harbor 34E1E62599324B7...

**Flagship President*:** DocuSigned by: Seth Bodnar 94F80417FFA449D...

*Not applicable to the Community Colleges.

# Montana Board of Regents

## CURRICULUM PROPOSAL FORM

### Appendix A – Proposed New Curriculum

## Academic Degree Program Proposal - Fiscal Analysis Form

| | |
|---|---|
| CAMPUS: | UM |
| AWARD LEVEL: | UG |
| PROGRAM NAME: | Multidisciplinary Studies |
| PROGRAM CODE: | |

| | FY 2019 | FY 2020 | FY 2021 | FY 2022 | FY 2023 |
|---|---|---|---|---|---|
| **ENROLLMENT PROJECTIONS** | | | | | |
| **Headcount** | | | | | |
| annual unduplicated headcount of students with declared major or minor within the program | 10 | 20 | 30 | 40 | 50 |
| **Credit Hours** | | | | | |
| annual avg. credits hours earned per student in program related curriculum | 24 | 24 | 24 | 24 | 24 |
| **Student FTE** | | | | | |
| Undergrad: (Headcount x CH)/30<br>Graduate: (Headcount x CH)/24 | 8 | 16 | 24 | 32 | 40 |
| **Completions** | | | | | |
| Annual number of program completers | 0 | 5 | 10 | 15 | 20 |
| **REVENUE** | | | | | |
| Tuition Revenue (net of waivers) | $57,455 | $114,910 | $172,365 | $229,820 | $287,275 |
| Institutional Support | | | | | |
| Other Outside Funds (grants, gifts, etc.) | | | | | |
| Program Tuition/Fees | | | | | |
| **Total Revenue** | $57,455 | $114,910 | $172,365 | $229,820 | $287,275 |
| **Total Revenue per Student FTE** | $7,182 | $7,182 | $7,182 | $7,182 | $7,182 |
| **EXPENDITURES** | | | | | |
| Tenure Track Faculty — FTE | | | | | |
| Tenure Track Faculty — Salary + Benefits | | | | | |
| Non-tenure Track Faculty *Includes Adjunct Instructors — FTE | | | | | |
| Non-tenure Track Faculty *Includes Adjunct Instructors — Salary + Benefits | | | | | |
| Graduate Teaching Assistants — FTE | | | | | |
| Graduate Teaching Assistants — Salary + Benefits | | | | | |
| Staff — FTE | | | | | |
| Staff — Salary + Benefits | | | | | |
| **Total Faculty & Staff** — FTE | | | | | |
| **Total Faculty & Staff** — Salary + Benefits | | | | | |
| Operations (supplies, travel, rent, etc) | | | | | |
| Start-up Expenses (OTO) | | | | | |
| **Total Expenses** | $0 | $0 | $0 | $0 | $0 |
| **Student FTE to Faculty (TT + NTT) Ratio** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! |
| **Net Income/Deficit** (Revenue - Expenses) | $57,455 | $114,910 | $172,365 | $229,820 | $287,275 |

The signature of the campus Chief Financial Officer signifies that he/she has reviewed and assessed the fiscal soundness of the proposal and provided his/her recommendations to the Chief Academic Officer as necessary.

1-9-20

**Campus Chief Financial Officer Signature**

Chief Financial Officer Comments

# Montana University System

## INTENT TO PLAN FORM

Program/Center/Institute Title: BA in Multidisciplinary Studies

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

Expected Submission Date: 9/2019

Contact Name/Info: Julia Baldwin

To increase communication, collaboration, and problem-solving opportunities throughout the MUS in the program/center/institute development process, please complete this form not more than 18 months in advance of the anticipated date of submission of the proposed program/center/institute to the Board of Regents for approval. The completed form should not be more than 2-3 pages. For more information regarding the Intent to Plan process, please visit http://mus.edu/che/arsa/academicproposals.asp.

**1) Provide a description of the program/center/institute.**

The Bachelor of Arts in Multidisciplinary Studies (B.M.S) degree at the University of Montana (UM) is intended for students seeking to complete a bachelor's degree with coursework from departments across the university, providing each student an opportunity to reach beyond disciplinary boundaries, and to create a degree program that is tailored to meet their unique education and career goals. The multidisciplinary nature of the program is designed to develop students' ability to combine different fields into a structured format and is meant to encourage and support creativity, innovation, critical thinking, and integrative and experiential learning.

**2) Describe the need for the program/center/institute. Specifically, how the program/center/institute meets current student and workforce demands. (Please cite sources).**

This program is intended to serve multidisciplinary bachelor's degree completion goals of UM students, and prospective student audiences who desire this type of multidisciplinary bachelor's degree completion option from UM. This degree will serve as an important part of several UM strategic partnership and enrollment development initiatives, including: 1) Providing students from MUS 2-Year Colleges, including Montana's tribal colleges, with a flexible interdisciplinary 2+2 bachelor's degree completion transfer pathway to UM; 2) Serving bachelor's degree completion needs of adult learners and other target student audiences who are seeking to complete a bachelor's degree from UM that prepares them for emerging careers which require knowledge, skills and competencies from multiple disciplines not currently available within other individual majors at UM; and 3) Offering students with credits from many sources the opportunity to complete a UM baccalaureate degree with focus and integrity.

# Montana University System

## INTENT TO PLAN FORM

**3) Describe how the program/center/institute fits with the institutional mission, strategic plan, and existing institutional program array.**

Providing this flexible, interdisciplinary degree is aligned with UM's core theme of "Placing student success at the center of all that we do." The proposed degree meets the goal of providing "accessible education" that meets the needs and broad disciplinary interests of undergraduate students, by allowing them the opportunities to explore many subjects. By encouraging more breadth of study, the proposed degree is intended to provide more pathways for finishing a bachelor's degree, which should contribute to higher completion rates. This degree also fulfills elements of "Partnering with Place," as efforts will be made to meet the needs of students transferring from local 2-year colleges.

**4) Describe how the program/center/institute overlaps, complements, or duplicates existing efforts in the MUS. Describe efforts that will be made to collaborate with similar programs at other institutions. If no efforts will be made, please explain why.**

There are similar programs at Montana Tech (Interdisciplinary Arts and Sciences B.S.), UM–Western (Interdisciplinary Social Science B.A.), MSU-Billings (Liberal Studies B.A.), MSU-Northern (Liberal Studies B.A.), and MSU-Bozeman (Liberal Studies B.A.). These programs can be collectively marketed to students at 2-year colleges in the MUS system as well as the region's tribal colleges.

This degree also complements the existing B.A.S. degree in that it targets students from local 2-year colleges, but provides a 2+2 pathway that is tailored to students with A.S. and A.A. degrees. The degree will also serve students that matriculate on the Mountain campus seeking an interdisciplinary program of study.

# Montana University System

## INTENT TO PLAN FORM

**Signature/Date**

**College/School Dean:** DocuSigned by: 1829FE6B3E644DC... 10/21/2019

**Chief Academic Officer:**

**Chief Executive Officer:**

**Flagship Provost*:** DocuSigned by: Jon Harbor 10/21/2019

**Flagship President*:** DocuSigned by: Seth Bodnar 10/21/2019

*Not applicable to the Community Colleges.

**Date of Final Review:**

**When submitting the proposal to the BOR, include this signed form with the Level II request.**

**March 5-6, 2020**

**ITEM 187-1007-R0320**

**Request for authorization to establish a B.S. in Sustainability Science and Practice**

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**THAT**

The University of Montana-Missoula requests authorization from the Montana Board of Regents to establish a bachelor of science in Sustainability Science and Practice, and offer online delivery of the program.

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**EXPLANATION**

Demand for sustainability degrees is growing and finding pathways to sustainability required an integrative approach to meeting the needs of humanity now and in the future. Whether in business, government, or non-profits, sustainability professions are in high-demand, especially for professionals who understand the science of sustainability and know how to translate ideas into practice. Environmental Studies is uniquely positioned to offer this degree that combines science with practice. This degree will prepare students to work in a wide array of fields where sustainability efforts include planning, implementation, monitoring, and evaluation.

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**ATTACHMENTS**

Academic Proposal Request Form
Curriculum Proposal Form
Fiscal Analysis From
Intent to Plan
Attachment #1: Proposed New Curriculum

# Montana Board of Regents

## ACADEMIC PROPOSAL REQUEST FORM

ITEM **XXX-1007-R0320** Submission Month or Meeting: **March 5-6, 2020**

Institution: **University of Montana-Missoula** CIP Code: **30.3301**

Program/Center/Institute Title: **Sustainability Science and Practice**

Includes (please specify below): Online Offering _____ Options _____

Please mark the appropriate type of request and submit with an Item Template and any additional materials, including those listed in parentheses following the type of request. For more information pertaining to the types of requests listed below, how to complete an item request, or additional forms please visit http://mus.edu/che/arsa/academicproposals.asp.

## ____ A. Level I:

**Campus Approvals**

____ **1a. Placing a postsecondary educational program into moratorium** (Program Termination and Moratorium Form)

____ **1b. Withdrawing a postsecondary educational program from moratorium**

____ **2. Establishing, re-titling, terminating or revising a campus certificate of 29 credits or less**

____ **3. Establishing a B.A.S./A.A./A.S. area of study**

____ **4. Offering an existing postsecondary educational program via distance or online delivery**

**OCHE Approvals**

____ **5. Re-titling an existing postsecondary educational program**

____ **6. Terminating an existing postsecondary educational program** (Program Termination and Moratorium Form)

____ **7. Consolidating existing postsecondary educational programs** (Curriculum Proposal Form)

____ **8. Establishing a new minor where there is a major or an option in a major** (Curriculum Proposal Form)

____ **9. Revising a postsecondary educational program** (Curriculum Proposal Form)

____ **10. Establishing a temporary C.A.S. or A.A.S. degree program** *Approval limited to 2 years*

**Montana Board of Regents**
**ACADEMIC PROPOSAL REQUEST FORM**

**X B. Level II:**

**X** **1. Establishing a new postsecondary educational program** (Curriculum Proposal and Completed Intent to Plan Form)

_____ **2. Permanent authorization for a temporary C.A.S. or A.A.S degree program** (Curriculum Proposal and Completed Intent to Plan Form)

_____ **3. Exceeding the 120 credit maximum for baccalaureate degrees** *Exception to policy 301.11*

_____ **4. Forming, eliminating or consolidating an academic, administrative, or research unit** (Curriculum or Center/Institute Proposal and Completed Intent to Plan Form, except when eliminating or consolidating)

_____ **5. Re-titling an academic, administrative, or research unit**

## Proposal Summary [360 words maximum]

**What**
The University of Montana-Missoula requests authorization from the Montana Board of Regents to establish a bachelor of science in Sustainability Science and Practice, and offer online delivery of the program.

**Why**
Demand for sustainability degrees is growing and finding pathways to sustainability required an integrative approach to meeting the needs of humanity now and in the future. Whether in business, government, or non-profits, sustainability professions are in high-demand, especially for professionals who understand the science of sustainability and know how to translate ideas into practice. Environmental Studies is uniquely positioned to offer this degree that combines science with practice. This degree will prepare students to work in a wide array of fields where sustainability efforts include planning, implementation, monitoring, and evaluation.

**Resources**
There are no additional resources requested.

**Relationship to similar MUS programs**
While other MUS programs offer environmental science curricula oriented to ecology or natural resource management, our BS would stretch beyond those programs and offer hands-on opportunities to integrate science and civic engagement in solving the greatest problems of our times: transitioning to renewable energy resources, sustaining agriculture and food systems, safeguarding water, and protecting communities from pollution. We will draw on our existing strengths in sustainability within our curriculum, including our campus-community farm and our living-learning sustainability residence (the UM FLAT).

# Montana Board of Regents

## CURRICULUM PROPOSAL FORM

1. **Overview of the request and resulting changes.** Provide a one-paragraph description of the proposed program. Will this program be related or tied to other programs on campus? Describe any changes to existing program(s) that this program will replace or modify. *[100 words]*

   The new major in Sustainability Science and Practice will award a Bachelor of Science degree from the Environmental Studies Program (EVST) in the UM College of Humanities and Sciences. This interdisciplinary curriculum integrates existing courses in sustainability theory, environmental science, and integrative, analytical thinking, as well as sustainability planning, monitoring, and reporting. Moreover, this new major gives students hands-on opportunities in sustainability practice through our supervised internships in community agriculture (PEAS farm), native plants and ethnobotany, sustainable living at the UM FLAT, and other sustainability-related internships. We provide a capstone course that is problem-driven and gives students experience integrating scientific and local knowledge to develop practical solutions.

2. **Relation to institutional strategic goals.** Describe the nature and purpose of the new program in the context of the institution's mission and core themes. *[200 words]*

   UM is uniquely positioned to be the premier environmental university in the Rocky Mountain West, and this proposed BS major fits with the vision articulated in Strategy for Distinction in several ways. First, the Sustainability degree fosters interdisciplinary inquiry in several of the identified "Communities of Excellence," including Environment & Sustainability; Business & Entrepreneurship; and Science & Technology through our curriculum which draws from a wide variety of disciplines and interdisciplinary programs. For instance, we plan to incorporate courses from Biology, Chemistry, Geography (including GIS and land use planning), Geology, Public Health, Economics, and Business (e.g., BGEN 445 - Sustainability Reporting). Our approach offers a STEM program that is less intimidating for some students than many of the physical or biological sciences majors. Students will succeed in this rare interdisciplinary STEM program integrating science into the enterprise of problem solving. Our proposed major not only incorporates sustainability science and experiential learning, it also includes indigenous, non-western, and community perspectives on sustainability, a distinctive feature.

   Secondly, the Strategy also identifies "An Appreciation for People and Place." EVST has long excelled at hands-on, experiential learning that also contributes to environmental problem solving. We routinely "blur the boundaries between on-campus classroom learning and learning that happens in our natural setting and wider communities, including global communities" (p. 7). Just a few recent examples include a major greenhouse gas inventory for the City of Missoula that led to the Climate Action Plan; an extensive report on the 2016 Governor's Summit on Local Food and Agriculture; and restoration projects and on-going monitoring of the water quality in the Clark Fork River Basin for local, state, and federal agencies.

3. **Process leading to submission.** Briefly detail the planning, development, and approval process of the program at the institution. *[100 words]*

   EVST identified the need for a B.S. in Sustainability Science during a faculty curriculum-building workshop in 2018. We submitted an Intent to Plan to the Provost in April, 2018. In August, 2018 the Provost asked us to wait a year in order to discuss our proposal among other B.S. proposals coming from other programs and colleges through the new Environment & Sustainability Community of Excellence. The Provost recently signed off on the original Intent to Plan form, and both Provost Harbor and Dean Jenny McNulty from the College of Humanities and Sciences asked EVST to submit a full Curriculum Proposal, which we do here.

4. **Program description.** Please include a complete listing of the proposed new curriculum in Appendix A of this document.

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

a. List the program requirements using the following table.

| | Credits |
|---|---|
| Credits in required courses offered by the department offering the program | 21 |
| Credits in required courses offered by other departments | 19 |
| Credits in institutional general education curriculum | 21 |
| Credits of free electives | 12 |
| Total credits required to complete the program | 52 |

b. List the program learning outcomes for the proposed program. Use learner-centered statements that indicate what students will know, be able to do, and/or value or appreciate as a result of completing the program.

Understand and apply core concepts from sustainability and environmental sciences to examine and resolve contemporary environmental and social sustainability issues.

Develop and apply written and oral communication skills needed to address and resolve contemporary environmental and social sustainability issues.

Develop and apply both quantitative and qualitative analytical skills, as well as problem-solving and critical thinking skills to address and resolve contemporary environmental and social sustainability issues.

Develop interdisciplinary pathways to sustainability using an integrative approach to meet human and environmental needs while protecting and restoring the planet's life support systems.

Connect and apply core concepts from sustainability science to real-world problems in society and the environment.

Develop the knowledge, skills, and experience to prepare for and succeed in careers related to sustainability and the environment.

5. **Need for the program.** To what specific student, regional, and statewide needs is the institution responding to with the proposed program? How will the proposed program meet those needs? Consider workforce, student, economic, societal, and transfer needs in your response as appropriate. *[250 words]*

Sustainability degrees are growing in demand across the nation. In a major report by the National Council for Science and the Environment, sustainability degrees accounted for only 11% of the existing environmental

programs.[1] Growth rates in sustainability programs are, however, fairly astounding, with an 89% increase between 2012 and 2016.

Finding pathways to sustainability requires an integrative approach to meeting human needs – now and in the future – while also restoring and guarding the planet's life support systems. Whether in business, government, or the non-profit sector, there are increasing demands for sustainability professionals who understand the science of sustainability, know how to translate ideas into practice, will work effectively with a wide range of stakeholders, and have the skills to measure and evaluate success.

EVST is uniquely positioned to offer a BS option that combines the science and practice of sustainability. EVST began offering a Master of Science degree in 1970, making it one of the oldest environmental studies programs in the world. The Program added an undergraduate BA major and minor in 1999. At that time we added a focus area in Environmental Science to the BA. Sustainability Studies has been a focus area of the Environmental Studies major for over a decade and includes roughly 50% or more of the EVST majors. This new major will cement those areas in a degree that appears on student transcripts and elevates their potential for employment in a rapidly developing field. The new degree complements our current offerings, enables us to build on our past investments, and meets demand from students who want to emphasize natural science and combine it with sustainability in practice. This degree will prepare students to work in government, business, higher education, and other arenas where sustainability efforts include planning, implementation, monitoring and evaluation.

6. **Similar programs.** Use the table below to identify and describe the relationship between any similar programs within the Montana University System.

| Institution Name | Degree | Program Title |
|---|---|---|
| MSU-Bozeman | BS | Environmental Sciences |
| UM-Western | BS | Environmental Science |
| UM-Western | BS | Environmental Sustainability |

a. If the proposed program substantially duplicates another program offered in the Montana University System, provide a rationale as to why any resulting duplication is a net benefit to the state and its citizens. *[200 words]*

While other MUS programs offer environmental science curricula oriented to ecology or natural resource management, our BS would stretch beyond those programs and offer hands-on opportunities to integrate science and civic engagement in solving the greatest problems of our times: transitioning to renewable energy resources, sustaining agriculture and food systems, safeguarding water, and protecting communities from pollution. We will draw on our existing strengths in sustainability within

[1] Vincent, S., Rao, S., Fu, Q., Gu, K., Huang, X., Lindaman, K., Mittleman, E., Nguyen, K., Rosenstein, R., Suh, Y. (2017). *Scope of Interdisciplinary Environmental, Sustainability, and Energy Baccalaureate and Graduate Education in the United States. National Council for Science and the Environment: Washington DC.*

our curriculum, including our campus-community farm and our living-learning sustainability residence (the UM FLAT).

These experiences in sustainability are tremendously powerful for students, and these and other practice-based initiatives are what sets our proposed program apart from others. While Montana State is proposing a sustainability minor, ours will be a Sustainability Science and Practice major, leading to a Bachelor of Science, which is not offered elsewhere in the MUS system. Also, our experiential learning opportunities in sustainability differentiate our proposed Sustainability Science and Practice major from the current major in Resource Conservation offered through the Franke College of Forestry and Conservation (FCFC). Through the Environment and Sustainability Community of Excellence and direct consultation with the FCFC, we have had extensive discussions with FCFC faculty and FCFC Dean Tom DeLuca to best delineate the facets of sustainability and environmental science that we deliver and how our proposed BS differs from the new FCFC proposed BS.

In crafting the details of the major, we plan to draw on UM's many strengths as well as our extensive experience running interdisciplinary programs. Moreover, we will work with our colleagues in the MUS system to ensure our program is complementary rather than duplicative.

b. Describe any efforts that were made to collaborate with similar programs at other institutions. If no efforts were made, please explain why. *[200 words]*

While there are no other Sustainability Science programs in the MUS system, we have sent our proposed BS in Sustainability Science and Practice to the Environmental Science program at MSU Bozeman and the Environmental Science and Environmental Sustainability programs at UM-Western for their review and comment. We have also had extensive discussion with colleagues in the FCFC, and with Geosciences and Climate Change Studies through the Environment and Sustainability Community of Excellence process. The FCFC is proposing to consolidate two of their degrees into a BS in Environmental Science and Sustainability, and Geosciences is proposing a BS in Earth and Environmental Science. The EVST degree focuses on the field of Sustainability Science, examining the interactions between natural and social systems, and how those interactions affect the challenge of sustainability. Distinctive elements in the EVST BS include agroecology, urban waste, air pollution, energy, built environment, environmental justice, environmental and community health, traditional ecological knowledge, project development and implementation, and policy connected to the above fields. Currently all courses needed for our proposed BS in Sustainability Science and Practice are offered at UM, and we will continue our historic collaboration with other UM colleges and programs so that important courses they offer will benefit students in our proposed BS.

**7. Implementation of the program.** When will the program be first offered? If implementation will occur in phases, please describe the phased implementation plans. *[100 words]*

Pending approval by the Board of Regents, the B.S. in Sustainability Science and Practice will be implemented Fall 2020, to complement the current B.A. in Environmental Studies.

a. Complete the following table indicating the projected enrollments in and graduates from the proposed program.

| Fall Headcount Enrollment | | | | | Graduates | | | | |
|---|---|---|---|---|---|---|---|---|---|
| AY20-21 | AY21-22 | AY22-23 | AY23-24 | AY24-25 | AY20-21 | AY21-22 | AY22-23 | AY23-24 | AY24-25 |

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**CURRICULUM PROPOSAL FORM**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5 | 12 | 20 | 26 | 28 | 0 | 2 | 4 | 10 | 16 |

b. Describe the methodology and sources for determining the enrollment and graduation projections above. *[200 words]*

EVST currently has about 135 undergraduates in the BA in Environmental Studies, and we typically enroll 25-30 new undergraduates each year, along with 3-5 transfer students. About 15-20 of the new undergraduates and 3-4 of the transfer students each year go on to complete focus areas in the EVST BA in either Environmental Science, or one of the several Sustainability Studies options, so we know these are attractive options for our students. We anticipate that, (1) the new BS in Sustainability Science and Practice will be attractive to a new pool of students entering UM and EVST who want to focus on using sustainability and environmental sciences to resolve current sustainability challenges, hence growing the EVST undergraduate program; and, (2) some students who currently enroll in the BA in EVST may find the BS in SSP attractive and hence elect to pursue the BS in SSP. The numbers above are based on current numbers of new and transfer students declaring EVST, as well as anticipated growth as UM's current recruitment efforts begin to bear fruit in increasing the entering class of UM first year students.

c. What is the initial capacity for the program?

In the past decade, EVST's undergraduate enrollment reached 250 undergraduates, which stretched our resources, especially in advising, but we were able to accommodate that many students. Currently we have one less full-time TT professor in the environmental sciences, but much of the advising now is done through the College's Advising Center, freeing up our faculty for teaching and mentoring our students. We anticipate accommodating 50-60 new students in the new BS in Sustainability Science and Practice program within the first three years, which would require adding another section of ENSC 105. With the recovery of the 1.0 TT Environmental Science position we would be able to cover the additional ENSC 105 section, move our Applied Ecology ENSC 360 from adjunct instruction, and cover the capstone experience in SSP.

**8. Program assessment.** How will success of the program be determined? What action would result if this definition of success is not met? *[150 words]*

Assessment will utilize best practices for measuring individual student and program-wide outcomes across the program. These include exams to test student knowledge of core concepts, student evaluations of courses and internships, supervisor evaluations of student internships and practicums, exit surveys of student success and outcomes in the program.

a. Describe the assessment process that will be used to evaluate how well students are achieving the intended learning outcomes of the program. When will assessment activities occur and at what frequency? *[150 words]*

Each course in the curriculum has course evaluations tailored to the specific learning objectives and outcomes of that course, so there will be ongoing assessment by students and instructors as to how effectively the course is meeting the needs of the broader program.

Regular course examinations, writing assignments, and practicums will assess the success of student learning objectives and outcomes across the curriculum.

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Degree-specific learning outcomes are being developed to correlate specific courses to general learning objectives and outcomes for the B.S., drawing on outcomes in place for the current Environmental Science and Sustainability Studies focus areas.

EVST already uses exit surveys with graduating seniors to understand how graduating students assess their learning and preparation for future jobs and careers; these will be adapted to the specific objectives of the BS in SSP for graduates of the program.

As the program develops over time (and the number of alumni from the program grows), we plan to develop alumni surveys to assess how well the BS in SSP prepared them for employment, careers or additional education.

b. What direct and indirect measures will be used to assess student learning? *[100 words]*

Direct measures include course examinations, graded writing assignments, and internship evaluations that speak to specific course and program outcomes.

Indirect measures include course evaluations, student exit surveys, alumni and internship supervisor surveys.

c. How will you ensure that the assessment findings will be used to ensure the quality of the program? *[100 words]*

EVST has two biannual day-long faculty workdays where we review our curriculum in light of our program goals and changes in the environmental and sustainability fields, and make adjustments, revisions or additions as needed. EVST faculty regularly engage in the fields of sustainability and environmental sciences through scholarship, teaching, mentoring and service, and we use this deep familiarity with these fields to evaluate our curriculum. We evaluate, monitor and revise our curriculum throughout the year, and especially at our summer work day at the end of the academic year.

d. Where appropriate, describe applicable specialized accreditation and explain why you do or do not plan to seek accreditation. *[100 words]*

N/A

**9. Physical resources.**

a. Describe the <u>existing</u> facilities, equipment, space, laboratory instruments, computer(s), or other physical equipment available to support the successful implementation of the program. What will be the impact on existing programs of increased use of physical resources by the proposed program? How will the increased use be accommodated? *[200 words]*

EVST's existing facilities are located primarily in Rankin Hall, with one additional office and attached laboratory for environmental testing in the Natural Science building. In Rankin we have one computer lab available to students with five computers; our students also regularly make use of the computer lab in the Social Sciences building. Sustainability practicums take place both at the University's PEAS Farm where we work with Garden City Harvest to provide internships for many of our undergraduate students, as well as the UM Forum for Living with Appropriate Technology (FLAT), a six student residential community dedicated to demonstrating sustainable urban living techniques. Courses with

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extensive field trip components carry a modest field trip fee that facilitates critical learning in the field for our students. We expect the primary impact on existing programs to be a modest increase in classroom and laboratory usage as students in the BS in SSP take some required courses in the natural sciences outside EVST.

b. List needed facilities, equipment, space, laboratory instruments, etc., that must be obtained to support the proposed program. (Enter the costs of those physical resources into the budget sheet.) How will the need for these additional resources be met? *[150 words]*

None.

**10. Personnel resources.**

a. Describe the existing instructional, support, and administrative resources available to support the successful implementation of the program. What will be the impact on existing programs of increased use of existing personnel resources by the proposed program? How will quality and productivity of existing programs be maintained? *[200 words]*

EVST currently has 6 TT faculty, 1 Lecturer, 1 affiliated TT faculty in Education, and several adjunct faculty who teach as needed. All ENST & ENSC courses in the proposed program currently are taught on a regular basis within EVST so we do not anticipate any negative impacts on the existing BA in Environmental Studies by adding the BS in Sustainability Science and Practice.

b. Identify new personnel that must be hired to support the proposed program. (Enter the costs of those personnel resources into the budget sheet.) What are the anticipated sources or plans to secure the needed qualified faculty and staff? *[150 words]*

EVST recently lost one TT Faculty in the environmental sciences due to retirement and nonreplacement; replacing this TT position would enhance, but is not currently necessary to implement the proposed BS in SSP. As enrollment grows in the program, additional NTT and TT positions will be requested to support the growing need. We also anticipate that the new Cobell Director position with a focus on GIS and environmental science may strengthen the SSP curriculum. Getting personnel in these positions would greatly strengthen the BS in SSP and secure it for the future. With this new personnel, we would strengthen course offerings in the core course areas of Sustainability Knowledge and Science, Sustainability Theory, and Analysis, Research and Integrative Thinking.

**11. Other resources.**

a. Are the available library and information resources adequate for the proposed program? If not, how will adequate resources be obtained? *[100 words]*

Yes – they are adequate.

b. Do existing student services have the capacity to accommodate the proposed program? What are the implications of the new program on services for the rest of the student body? *[150 words]*

Yes, existing student services have the capacity to accommodate the proposed program. Because of the decline in undergraduate enrollment at UM in the past decade, growing EVST's enrollment through adding the BS in SSP should help to address this shortfall without having negative implications for other services in the rest of the student body.

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**CURRICULUM PROPOSAL FORM**

**12. Revenues and expenditures.** Describe the implications of the new program on the financial situation of the institution. *[100 words]*

As stated above, growth rates in sustainability programs with sustainability degrees is rapid across the nation – with an 89% increase between 2012 and 2016. We anticipate modest growth initially in EVST through the BS in SSP, and more substantial growth as the program develops and becomes known, which will increase revenue, enrollment and retention of undergraduates at UM.

a. Please complete the following table of budget projections using the corresponding information from the fiscal analysis form for the first three years of operation of the new program.

| | Year 1 | Year 2 | Year 3 |
|---|---|---|---|
| Revenues | $15,560.26 | $37,345.36 | $62,238.17 |
| Expenses | $0 | $0 | $0 |
| Net Income/Deficit (revenues-expenses) | $15,560.26 | $37,345.36 | $62,238.17 |

b. Describe any expenses anticipated with the implementation of the new program. How will these expenses be met? *[200 words]*

Any expenses for implementing the new program would come from revising marketing materials for EVST to include the new BS in SSP. While this would include some printed material, most would be on the web and through social media, effectively ameliorating any additional costs.

i. If funding is to come from the reallocation of existing state appropriated funds, please indicate the sources of the reallocation. What impact will the reallocation of funds in support of the program have on other programs? *[150 words]*

N/A

ii. If an increase in base funding is required to fund the program, indicate the amount of additional base funding and the fiscal year when the institution plans to include the base funding in the department's budget.

N/A

iii. If the funding is to come from one-time sources such as a donation, indicate the sources of other funding. What are the institution's plans for sustaining the program when that funding ends? *[150 words]*

There is no proposal for funding to come from one-time sources.

iv. Describe the federal grant, other grant(s), special fee arrangements, or contract(s) that will be valid to fund the program. What does the institution propose to do with the program upon termination of those funds? *[150 words]*

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

N/A

13. **Student fees.** If the proposed program intends to impose new course, class, lab, or program fees, please list the type and amount of the fee.

No new course, class, lab, or program fees are needed to implement the program.

14. Complete the fiscal analysis form.

N/A

Signature/Date

**College or School Dean:**

DocuSigned by:
1829FE6B3E644DC...

**Chief Academic Officer:**

**Chief Executive Officer:**

**Flagship Provost*:**

DocuSigned by:
Jon Harbor
34E1E62599324B7...

**Flagship President*:**

DocuSigned by:
Seth Bodnar
94F80417FFA449D...

*Not applicable to the Community Colleges.

# Montana Board of Regents

## CURRICULUM PROPOSAL FORM

### Appendix A – Proposed New Curriculum

**Proposed Bachelor of Science Degree in Sustainability Science & Practice**

Environmental Studies Program, College of Humanities and Sciences

Total Credits: 52

| | Credits |
|---|---|
| **Sustainability Knowledge and Science (27)** | |
| ENSC 105N – Environmental Science | 3 |
| BIOB 160 or 170 – Principles of Biology | 3 |
| GEO 103- Intro to Environmental Geology | 3 |
| CHMY 121 – Intro to General Chemistry | 3 |
| NRSM 281 – Science of Climate Change | |
| Or ERTH 303 – Weather and Climate | |
| Or GEO 318 – Earth's Changing Climate | 3 |
| ENSC 360 – Applied Ecology | 3 |
| ENST 410- Traditional Ecological Knowledge of Native Peoples | 3 |
| At least two from among the following: | 6 |
| NRSM 281 – Science of Climate Change | |
| NRSM 408-Global Cycles and Climate | |
| NRSM 418-Ecosystem Climatology | |
| ENSC 470 – Agroecology | |
| ERTH 303 – Weather and Climate | |
| NRSM 265 – Elements of Ecological Restoration | |
| NRSM 385 – Watershed Hydrology | |
| NRSM 465 – Restoration Ecology | |
| BIOE 428 -- Freshwater Ecology (is this offered at FLBS?) | |
| GEO 318 – Earth's Changing Climate | |
| GEO 327 -- Geochemistry | |

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

GEO 421 -- Hydrology

STAT 451 -- Statistical Methods I

BIOE 439 -- Stream Ecology

BIOE 440 -- Conservation Ecology

CHMY 2xx -- Chemistry in the Environment

**Sustainability Theory (9)**

| | |
|---|---|
| ENST 225 – Sustainable Communities | 3 |
| COMX 349 -- Community Climate and Consumption | 3 |
| At least one of the following courses: | 3 |

ENST 310 – Environment Montana: A-Z

ENST 480 – Food Justice and Sustainability

ENST 487 – Globalization, Justice, and Environment

ECNS 433 -- Economics of the Environment

GPHY 433 – Community Resilience

GPHY 421 – Sustainable Cities

**Analysis, Research, and Integrative Thinking (10)**

| | |
|---|---|
| ENST 201 – Environmental Information Resources | 3 |
| STAT 216 – (M 115 = pre-req. or test out) | 4 |
| At least <u>one</u> of the following courses: | 3 |

BGEN 445 – Sustainability Reporting

GPHY 284/FOR 250 – Intro to GIS and Cartography

GPHY 465 – Planning Principles and Policies

GPHY 466 – Environmental Planning

GPHY 486 -- Transport Planning

**Sustainability in Practice: Internship (3 required; 6 recommended)** 3

At least <u>one</u> of the following: ENST 398 – advisor- approved internship in a sustainability related organization, agency, or business; existing supervised internships at the ENST 390 PEAS Farm; Forum for Living with Appropriate Technology (FLAT); Native Plants and Ethnobotany; and/or an advisor-approved field course, such as ENST 427 Social Issues: The Mekong Delta.

## Montana Board of Regents

### CURRICULUM PROPOSAL FORM

**Sustainability in Practice: Capstone Experience (3)** 3

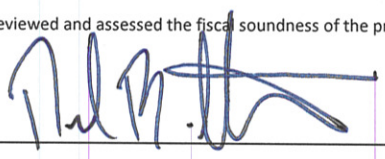
ENST 476: Environmental Citizenship. Capstone will be problem-driven and give students an experience integrating interdisciplinary knowledge to develop practical solutions and monitor results.

# Academic Degree Program Proposal - Fiscal Analysis Form

| | |
|---|---|
| CAMPUS | UM-Missoula |
| AWARD LEVEL | UG |
| PROGRAM NAME | Sustainability Science & Practice |
| PROGRAM CODE: | EVST (?) |

| | FY 2019 | FY 2020 | FY 2021 | FY 2022 | FY 2023 |
|---|---|---|---|---|---|
| **ENROLLMENT PROJECTIONS** | | | | | |
| **Headcount** | | | | | |
| annual unduplicated headcount of students with declared major or minor within the program | 0 | 5 | 12 | 20 | 26 |
| **Credit Hours** | | | | | |
| annual avg. credits hours earned per student in program related curriculum (~13 cr/yr/student) | 0 | 13 | 13 | 13 | 13 |
| **Student FTE** | | | | | |
| Undergrad: (Headcount x CH)/30<br>Graduate: (Headcount x CH)/24 | 0 | 2.166666667 | 5.2 | 8.666666667 | 11.26666667 |
| **Completions** | | | | | |
| Annual number of program completers | 0 | 0 | 2 | 4 | 10 |
| **REVENUE** | | | | | |
| Tuition Revenue (net of waivers) | 0.00 | 15,560.26 | 37,345.36 | 62,238.17 | 80,907.48 |
| Institutional Support | $0 | $0 | $0 | $0 | $0 |
| Other Outside Funds (grants, gifts, etc.) | $0 | $0 | $0 | $0 | $0 |
| Program Tuition/Fees | $0 | $0 | $0 | $0 | $0 |
| **Total Revenue** | $0 | $15,560 | $37,345 | $62,238 | $80,907 |
| **Total Revenue per Student FTE** | #DIV/0! | $7,182 | $7,182 | $7,181 | $7,181 |
| **EXPENDITURES** | | | | | |
| Tenure Track Faculty — FTE | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 |
| Tenure Track Faculty — Salary + Benefits | $0 | $0 | $0 | $72,648 | $72,648 |
| Non-tenure Track Faculty *Includes Adjunct Instructors — FTE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Non-tenure Track Faculty *Includes Adjunct Instructors — Salary + Benefits | $0 | $0 | $0 | $0 | $0 |
| Graduate Teaching Assistants — FTE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Graduate Teaching Assistants — Salary + Benefits | $0 | $0 | $0 | $0 | $0 |
| Staff — FTE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Staff — Salary + Benefits | $0 | $0 | $0 | $0 | $0 |
| **Total Faculty & Staff** — FTE | **0.0** | **0.0** | **0.0** | **0.0** | **0.0** |
| **Total Faculty & Staff** — Salary + Benefits | **$0** | **$0** | **$0** | **$0** | **$0** |
| Operations (supplies, travel, rent, etc) | $0 | $0 | $0 | $0 | $0 |
| Start-up Expenses (OTO) | $0 | $0 | $0 | $0 | $0 |
| **Total Expenses** | $0 | $0 | $0 | $0 | $0 |
| **Student FTE to Faculty (TT + NTT) Ratio** | #DIV/0! | #DIV/0! | #DIV/0! | 8.7 | 11.3 |
| **Net Income/Deficit** (Revenue - Expenses) | $0 | $15,560 | $37,345 | $62,238 | $80,907 |

The signature of the campus Chief Financial Officer signifies that he/she has reviewed and assessed the fiscal soundness of the proposal and provided his/her recommendations to the Chief Academic Officer as necessary.



1-9-20

**Campus Chief Financial Officer Signature**

Chief Financial Officer Comments

# Montana University System

## INTENT TO PLAN FORM

Program/Center/Institute Title: Sustainability Science and Practice – Bachelor of Science

Campus, School/Department: UM College of Humanities and Sciences, Environmental Studies Program (EVST)

Expected Submission Date: Sept. 2018

Contact Name/Info: Neva Hassanein, Professor, neva.hassanein@umontana.edu

To increase communication, collaboration, and problem-solving opportunities throughout the MUS in the program/center/institute development process, please complete this form not more than 18 months in advance of the anticipated date of submission of the proposed program/center/institute to the Board of Regents for approval. The completed form should not be more than 2-3 pages. For more information regarding the Intent to Plan process, please visit http://mus.edu/che/arsa/academicproposals.asp.

1) **Provide a description of the program/center/institute.**

The new major in Sustainability Science and Practice will award a Bachelor of Science degree from the Environmental Studies Program (EVST), which is housed in the UM College of Humanities and Sciences. This interdisciplinary curriculum will integrate existing courses in sustainability theory, environmental science, and integrative, analytical thinking, as well as sustainability planning, monitoring of key indicators, and reporting. Moreover, this new major will give students exciting hands-on opportunities in sustainability practice through our existing supervised internships in community agriculture (PEAS farm), native plants and ethnobotany on campus, sustainable living at the UM FLAT, and/ or other sustainability-related internships. We hope to also provide a capstone course which will be problem-driven and will give students an experience integrating scientific and local knowledge to develop practical solutions and monitor results.

2) **Describe the need for the program/center/institute. Specifically, how the program/center/institute meets current student and workforce demands. (Please cite sources).**

Finding pathways to sustainability requires an integrative approach to meeting human needs – now and in the future – while also restoring and guarding the planet's life support systems. Whether in business, government, or the non-profit sector, there are increasing demands for sustainability professionals who understand the science of sustainability, know how to translate ideas into practice, will work effectively with a wide range of stakeholders, and have the skills to measure and evaluate success.

EVST is uniquely positioned to offer a BS option that combines the science and practice of sustainability. EVST began offering a Master of Science degree in 1970, making it one of the oldest environmental studies programs in the world. The Program added an undergraduate BA major and minor in 1999. For nearly 20 years, sustainability studies have been an existing emphasis within our programs. This new major will complement our offerings, enable us to build on our past investments, and meet demand from students who want to emphasize natural science and combine it with sustainability in practice. This degree will prepare students to work in government, business, higher education, and other arenas where sustainability efforts include planning, implementation, monitoring and evaluation.

## Montana University System
INTENT TO PLAN FORM

3) **Describe how the program/center/institute fits with the institutional mission, strategic plan, and existing institutional program array.**

The UM is uniquely positioned to be the premier environmental university in the Rocky Mountain West, and this proposed BS major fits with the vision articulated in Strategy for Distinction in several ways. First, the Sustainability Science and Practice degree will foster interdisciplinary inquiry in several of the identified "Communities of Excellence," including Environment and Sustainability; Business and Entrepreneurship; and Science and Technology through our curriculum which will draw from a wide variety of disciplines and interdisciplinary programs. For instance, we plan to incorporate courses from Biology, Chemistry, Geography (including GIS and land use planning), Geology, Public Health, Economics, and Business (e.g., BGEN 445 - Sustainability Reporting). Our approach will offer a STEM program that will be less intimidating for some students than many of the physical or biological sciences majors. Students will succeed in this rare interdisciplinary STEM program integrating science into the enterprise of problem solving. Our proposed major will not only incorporate sustainability science and experiential learning, it will also include indigenous, non-western, and community perspectives on sustainability, a distinctive feature.

Secondly, the Strategy also identifies "An Appreciation for People and Place." Our program has long excelled at hands-on, experiential learning that also contributes to environmental problem solving. We routinely "blur the boundaries between on-campus classroom learning and learning that happens in our natural setting and wider communities, including global communities" (p. 7). Just a few recent examples include a major greenhouse gas inventory for the City of Missoula that led to the Climate Action Plan; an extensive report on the 2016 Governor's Summit on Local Food and Agriculture; and restoration projects and on-going monitoring of the water quality in the Clark Fork River Basin for local, state, and federal agencies.

4) **Describe how the program/center/institute overlaps, compliments, or duplicates existing efforts in the MUS.**

While other programs offer environmental-science curricula oriented to ecology or natural resource management, our BS would stretch beyond those programs and offer hands-on opportunities to integrate science and technology in solving the greatest problems of our times: transitioning to renewable energy resources, sustaining agriculture and food systems, safeguarding water, and protecting communities from pollution. We will draw on our existing strengths in sustainability within our curriculum, including our campus-community farm and our living-learning sustainability residence (the UM FLAT).

These experiences in sustainability are tremendously powerful for students, and these and other practice-based initiatives are what sets our proposed program apart from others. While Montana State is proposing a sustainability minor, ours will be a Sustainability Science and Practice major, leading to a Bachelor of Science, which is not offered elsewhere in the MUS system. Also, our experiential learning opportunities in sustainability differentiate our proposed Sustainability Science and Practice major from the major in Resource Conservation offered through the College of Forestry and Conservation, which tends to train students for natural resource management. We have been in discussions with the CFC Dean Tom DeLuca to best delineate the facets of environmental science that we deliver.

In crafting the details of the major, we plan to draw on UM's many strengths as well as our extensive experience running interdisciplinary programs. Moreover, we will work with our colleagues in the MUS system to ensure our program is complementary rather than duplicative.

# Montana University System
## INTENT TO PLAN FORM

Signature/Date

College/School Dean:

Chief Academic Officer:

Chief Executive Officer:

Flagship Provost*:

Flagship President*:

*Not applicable to the Community Colleges.

Date of Final Review:

When submitting the proposal to the BOR, include this signed form with the Level II request.

Please provide list of courses in curriculum, their current capacity and current enrollment.

| Course | Title | Current Sections | Capacity | Open Seats | Enrollment | % Fill | New Sections Needed Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Current classes in the program** | | | | | | | | | | | |
| ENSC 105 | Environmental Science | 1 | 80 | 16 | 64 | 80% | | | | | |
| ENSC 360 | Applied Ecology | 1 | 28 | 8 | 20 | 71% | | | | | |
| ENST 410 | Traditional Ecological Knowledge | 1 | 30 | 5 | 25 | 83% | | | | | |
| ENST 225 | Sustainable Communities | 1 | 105 | 27 | 78 | 74% | | | | | |
| ENST 201 | Environmental Information Resources | 1 | 28 | 4 | 24 | 86% | | | | | |
| ENST 476 | Environmental Citizenship | 1 | 20 | 14 | 6 | 30% | | | | | |
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| **Currently required classes outside of program but in department** | | | | | | | | | | | |
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| | | | | | | | | | | | |
| **Take one of the following:** | | | | | | | | | | | |
| | | | | | | | | | | | |
| **Currently required classes outside of program and department** | | | | | | | | | | | |
| BIOB 160 | Principles of Biology | 1 | 446 | 24 | 422 | 94% | | | | | |
| GEO 103 | Intro to Environmental Geology | 1 | 208 | 177 | 31 | 15% | | | | | |
| CHMY 121 | Intro to General Chemistry | 1 | 250 | 57 | 193 | 77% | | | | | |
| NRSM 281 | Science of Climate Change | 1 | 25 | 7 | 18 | 72% | | | | | |
| COMX 379 | Community, Climate and Consumption | 1 | 45 | 15 | 30 | 67% | | | | | |
| STAT 216 | Statistics | 1 | 248 | 13 | 235 | 95% | | | | | |
| | | | | | | | | | | | |
| **Take one of the following:** | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| **Proposed classes** | | | | | | | | | | | |
| | | | | | | | | | | | |

**March 5-6, 2020**

**ITEM 187-1008-R0320**

**Requests for authorization to establish the American Indian Governance and Policy Institute**

---

**THAT**

The University of Montana-Missoula requests authorization from the Montana Board of Regents to establish a new research center, the American Indian Governance and Policy Institute (AIGPI).

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**EXPLANATION**

In keeping with the University of Montana's goal of serving the State of Montana, the American Indian Governance and Policy Institute (AIGPI) brings its pedagogical research and service resources to work with the tribes of Montana to address core causes of poor socioeconomic health on reservations. By enhancing tribal governing structures to increase effective functioning, regulatory authority and self-governing abilities through tribal-level policy reform and creation, tribal communities will greatly benefit. To this end, AIGPI provides tribal policymakers with credible, in-depth research and analysis of tribal-level policies and associated legal documents with the goal of furthering tribal leaders' efforts to strengthen reservation economies and build community and individual health and prosperity.

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**ATTACHMENTS**

Academic Proposal Request Form
Center/Institute Proposal Form
Intent to Plan
Attachment #1: Letter of Support

# Montana Board of Regents

## ACADEMIC PROPOSAL REQUEST FORM

ITEM **XXX-1008-R0320** Submission Month or Meeting: **March 5-6, 2020**

Institution: **University of Montana-Missoula** CIP Code: **N/A**

Program/Center/Institute Title: **American Indian Governance and Policy Institute**

Includes (please specify below): Online Offering _____ Options _____

Please mark the appropriate type of request and submit with an Item Template and any additional materials, including those listed in parentheses following the type of request. For more information pertaining to the types of requests listed below, how to complete an item request, or additional forms please visit http://mus.edu/che/arsa/academicproposals.asp.

## ____ A. Level I:

**Campus Approvals**

____ **1a. Placing a postsecondary educational program into moratorium** (Program Termination and Moratorium Form)

____ **1b. Withdrawing a postsecondary educational program from moratorium**

____ **2. Establishing, re-titling, terminating or revising a campus certificate of 29 credits or less**

____ **3. Establishing a B.A.S./A.A./A.S. area of study**

____ **4. Offering an existing postsecondary educational program via distance or online delivery**

**OCHE Approvals**

____ **5. Re-titling an existing postsecondary educational program**

____ **6. Terminating an existing postsecondary educational program** (Program Termination and Moratorium Form)

____ **7. Consolidating existing postsecondary educational programs** (Curriculum Proposal Form)

____ **8. Establishing a new minor where there is a major or an option in a major** (Curriculum Proposal Form)

____ **9. Revising a postsecondary educational program** (Curriculum Proposal Form)

____ **10. Establishing a temporary C.A.S. or A.A.S. degree program** *Approval limited to 2 years*

**Montana Board of Regents**
**ACADEMIC PROPOSAL REQUEST FORM**

**X B. Level II:**

_____ **1. Establishing a new postsecondary educational program** (Curriculum Proposal and Completed Intent to Plan Form)

_____ **2. Permanent authorization for a temporary C.A.S. or A.A.S degree program** (Curriculum Proposal and Completed Intent to Plan Form)

_____ **3. Exceeding the 120 credit maximum for baccalaureate degrees** *Exception to policy 301.11*

**X** **4. Forming, eliminating or consolidating an academic, administrative, or research unit** (Curriculum or Center/Institute Proposal and Completed Intent to Plan Form, except when eliminating or consolidating)

_____ **5. Re-titling an academic, administrative, or research unit**

## Proposal Summary [360 words maximum]

**What**
The University of Montana-Missoula requests authorization from the Montana Board of Regents to establish a new research center, the American Indian Governance and Policy Institute (AIGPI).

**Why**
The first of its kind in the Rocky Mountain West, the proposed American Indian Governance and Policy Institute (AIGPI) will be a Native-led research entity and think tank that expands knowledge and positively impacts society through informing policy and systemic change. Recognizing that many tribal governments lack access to the type of policy research, analysis and related legal expertise that is supplied in-house to state legislators and federal policymakers, AIGPI will fill this void by offering expert as well as student-produced, faculty-guided research and analysis of tribal policies that impact the full range of social determinants of health in Indian Country. This includes policies related to internal governing structures and functions, social and health issues, and revenue generation and economic development.

**Resources**
There are no resources requested at this time.

**Relationship to similar MUS programs**
There is not an existing entity in the state or surrounding region like the proposed American Indian Governance and Policy Institute.

# Montana Board of Regents

## RESEARCH CENTER AND INSTITUTE PROPOSAL FORM

Research Centers and Institutes differ from one another in focus, scope, and staffing, but each contributes in unique ways to the common goals of expanding knowledge, generating new discoveries and/or having a positive impact on society through informing policy and systemic change. Communities of researchers and staff in Research Centers and Institutes provide a stimulating environment that encourages early researchers and challenges experienced researchers. Research Centers and Institutes also contribute to the education and training of the researchers of the future by serving as learning environments for students. Interdisciplinary collaboration is promoted by Research Centers and Institutes both within the Institution and among MUS Institutions. Research Centers and Institutes do not provide didactic coursework, confer academic degrees or academic certificates or require accreditation by external accrediting bodies. Research Centers and Institutes frequently provide a portal for obtaining external funding in response to federal and/or state research priorities. As such, apparent duplication of mission between MUS research centers and institutes is not generally problematic as with academic programs due to the different sources of funding.

**1. State the proposed Institute/Center's name and purpose.**

The first of its kind in the Rocky Mountain West, the proposed American Indian Governance and Policy Institute (AIGPI) will be a Native-led research entity and think tank that expands knowledge and positively impacts society through informing policy and systemic change. Recognizing that many tribal governments lack access to the type of policy research, analysis and related legal expertise that is supplied in-house to state legislators and federal policymakers, AIGPI will fill this void by offering expert as well as student-produced, faculty-guided research and analysis of tribal policies that impact the full range of social determinants of health in Indian Country. This includes policies related to internal governing structures and functions, social and health issues, and revenue generation and economic development.

AIGPI will be housed within the Native American Studies Department in the College of Humanities and Sciences (CHS) at the University of Montana (UM), under the leadership of Heather Cahoon, PhD, and in partnership with the nationally recognized Alexander Blewett III School of Law's Margery Hunter Brown Indian Law Clinic and the Department of Public Administration and Policy's Master of Public Administration program, located within the Max Baucus Institute. Thus, through interdisciplinary collaboration, AIGPI will coalesce faculty experts and existing programs to provide tribal nations with a critical service while at the same time contributing to the education and training of future researchers by serving as an active learning environment for students. Experts in other fields such as Political Science, Economics, Forestry or Public Health, as well experts within the broader Montana University System (MUS) will also be enlisted according to their particular area of expertise and the policy topic at hand. This community of researchers, comprised of AIGPI-affiliated core faculty, experts from across the MUS, AIGPI Advisory Council members, as well as select students doing exceptional work, will comprise the AIGPI think tank. They will work to develop an innovative and important body of work related to the complex and little-understood area of tribal public policymaking by producing white papers, policy briefs, general statements, and topical articles for publication. All materials developed through AIGPI will be stored in a free online database accessible to tribal leaders, policymakers and the general public.

**2. A comprehensive statement of the Institute/Center's mission and its relationship to the University mission.**

# Montana Board of Regents

## RESEARCH CENTER AND INSTITUTE PROPOSAL FORM

**A. State the Institute/Center's mission.**

In keeping with the University of Montana's goal of serving the State of Montana, the American Indian Governance and Policy Institute (AIGPI) brings its pedagogical research and service resources to work with the tribes of Montana to address core causes of poor socioeconomic health on reservations. By enhancing tribal governing structures to increase effective functioning, regulatory authority and self-governing abilities through tribal-level policy reform and creation, tribal communities will greatly benefit. To this end, AIGPI provides tribal policymakers with credible, in-depth research and analysis of tribal-level policies and associated legal documents with the goal of furthering tribal leaders' efforts to strengthen reservation economies and build community and individual health and prosperity.

**B. Identify the Institute/Center's goals and objectives.**

While the primary objective of AIGPI is to provide tribes with access to information critical to reforming unresponsive public policies and developing ones that foster economic growth, opportunity and individual and community wellbeing, these analyses will also help educate local, state and federal policymakers and the broader public on an array of complex policy matters relating to American Indians that have real quality of life implications on reservations across the country. A secondary goal is, through an active learning environment, for tribal community members and student leaders to gain a comprehensive understanding of the tribal policymaking process, how various levels of policy interact, and how outdated, unresponsive and harmful public policies can be reengineered to encourage systems that support socioeconomic health and tribal sovereignty.

**C. What specific need is being responded to in developing the proposed Institute/Center?**

The general need for the proposed AIGPI is immense. Many tribal government officials lack access to the type of policy research, analysis and related legal expertise that is supplied in-house by a staff of researchers employed to serve state legislators through Legislative Services Divisions (LSD) and federal policymakers through Congressional Research Services (CRS). Many tribal leaders are also not trained in conducting the research necessary to access relevant materials produced by these entities. Furthermore, it would not be enough for tribes to simply access relevant materials, as tribes need specialized analyses and resources designed specifically for them, for the reasons described below. Entities such as LSD and CRS serve as shared staff to legislative and congressional committees, legislators, and members of Congress. They provide expert assistance at every stage of the legislative process including bill and amendment drafting, performing in-depth policy and legal research on policy topics and presenting the potential impacts of policy proposals. Because individual policymakers naturally do not have expertise in every area in which they are tasked with developing policy, entities such as LSD and CRS provide a crucial service to policymakers as well as the general public, whose lives are very much impacted by the laws crafted by their legislative representatives. The CRS website says it best: "With public policy issues growing more complex, the need for insightful and comprehensive analysis has become vital. Congress relies on CRS to marshal interdisciplinary resources, encourage critical thinking and create innovative frameworks to help legislators form sound policies and reach decisions on a host of difficult issues. These decisions will guide and shape the nation today and for generations to come." The complexities surrounding tribal public policymaking are even more complicated given the history and impacts of federal Indian policies and the relative newness of modern day tribal governing structures, many of which were

formed after the passage of the Indian Reorganization Act of 1934. Likewise, U.S. Supreme Court rulings affecting tribal sovereignty, the range of tribes' self-governing abilities, and the array of overlapping governmental jurisdictions and intertwined local, state, and federal laws further complicates matters. Thus, AIGPI will provide tribal policy makers with a critical professional service that can further their efforts to strengthen reservation economies and build community and individual health and prosperity.

The proposed institute also meets the needs of current students and workforce demand by creating an invaluable active learning environment where students will gain a comprehensive understanding of policymaking processes, how various levels of policy interact, and how outdated, unresponsive and harmful public policies can be reengineered to encourage systems that foster economic growth, opportunity and individual and community wellbeing. The critical thinking and communication skills students cultivate will advantage them in virtually every field of the labor market as will valuable experience working as part of a team.

**D. Describe how the Institute/Center benefits the department, college, or institution.**

There are many ways that AIGPI benefits UM. First, AIGPI embodies the ideas undergirding the development of UM's Communities of Excellence. These Communities exist at the intersection of current UM strengths and societal need and are groupings of areas of research, creative scholarship, study and community partnerships that bridge multiple disciplines and allow for elasticity across degree paths and faculty collaboration. AIGPI falls well within the Justice, Policy and Public Service Community of Excellence through its development of students who will serve their communities and participate in democratic governance through advocacy, dialogue, dissent, and ethical decision making.

AIGPI also hits on many tenets undergirding each of the four guiding principles articulated in the UM Strategic Vision—innovation and creativity, openness, impact and partnership. Additionally, it furthers several of the strategic opportunities identified in the Strategic Vision including enhancing faculty-student mentoring and the development of opportunities for students to cultivate leadership abilities. It exemplifies UM's goal of generating and making visible research that benefits our region and shows our commitment to fostering civic engagement. It demonstrates our value of diversity by partnering with and developing knowledge and best practices with tribal communities, colleges, and people by becoming a premier institution for Native American education, scholarship, and engagement. It can assist in the important act of identifying local, statewide, regional and tribal economic development needs and promoting sustainable economic development through research. It fosters critical thinking, diverse and inclusive engagement, ethical and informed decision making, and effective communication. It is innovation that matters and, as the first-ever tribal public policy institute in the Rocky Mountain West, it will help distinguish UM regionally and nationally as an institution that assists tribal communities and prepares students to solve complex interdisciplinary challenges and that contributes to the economic prosperity and societal quality of life for our region, state, and well beyond.

**E. Describe the Institute/Center's relationship to the University mission.**

AIGPI's mission relates directly to the mission of the University of Montana by providing a unique educational experience and professional training with an interdisciplinary emphasis, producing more educated, competent and humane professionals, and helping to create informed, ethical, and

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engaged citizens of local and global communities. Likewise, it will provide opportunities for basic and applied research, cultural outreach and service benefitting the local community region, state and nation.

**3. Briefly describe the Institute/Center's anticipated activities.**

AIGPI's anticipated activities include utilizing existing UM faculty, expertise and relevant courses in Native American Studies, Law, and Public Administration and Policy, as well as in such fields as Economics and Political Science when needed, to provide tribal nations with credible, in-depth research and analysis of tribal public policies and associated legal documents. Other departments and units may become resources depending on what kids of expertise may be required or desired. For example, AIGPI might turn to one of the science departments for assistance and advice. Additional anticipated activities include developing an innovative and important body of work related to tribal public policymaking, a complex and often little-understood area of public policy, by producing typical think tank outputs like white papers, policy briefs, general statements, and topical articles. AIGPI will also provide a technical training to tribal elected officials and staffers. These activities will be accomplished through service and scholarship.

1. **Service: Policy Research, Analysis and Related Services.** AIGPI will provide tribal governments in Montana with expert as well as student-produced, faculty-guided policy research and analysis services and associated legal documents through the process described below.

   A. **AIGPI Student Consultants.** Upper-division and graduate students who successfully complete a selection of prerequisite and elective courses will be able to apply to participate for credit in AIGPI's work as Student Consultants. Examples of relevant course topics include tribal sovereignty, history of Indian affairs, tribal governance and public policymaking, tribal nations of Montana, reservation economic development, federal Indian law, Indian law and policy, and public policy issues and analysis. Student Consultants will take part in a practice-based curricular opportunity that enables them to actively research, analyze and develop recommendations concerning a wide range of tribal-level policies and issue areas under the guidance of AIGPI-affiliated faculty mentors. These findings will be disseminated to tribes in the form of reports, briefs, statements and presentations, and, whenever appropriate, also inform the development of any accompanying legal documents (such as tribal codes, ordinances, and intergovernmental agreements, among other items) created in collaboration with students and faculty in the Indian Law Clinic.

   B. **AIGPI American Indian Student Fellows.** Tribal community members have valuable insights into potential policy impacts and solutions based on lived experience that only local insiders can understand. As demonstrated in Heather Cahoon's research on federal Indian policy effects and implementation, the inclusion of a local, lived perspective oftentimes makes the difference between the creation of effective policy and policy riddled with unanticipated negative outcomes that have real and lasting consequences for American Indian individuals and tribal communities. Therefore, as fundraising allows, an emphasis will be to establish a student fellowship program that offers scholarships to American Indian students participating in AIGPI as Student Consultants.

   C. **AIGPI Visiting Faculty Fellows.** As fundraising allows, AIGPI will provide funding to bring locally, regionally, and nationally-acclaimed experts, thought leaders and innovators to UM

to deliver lectures, teach undergraduate and graduate workshops, short courses, as well as full-semester courses related to AIGPI's purpose and objectives.

D. **Tribal Elected Leaders Training.** As fundraising allows, AIGPI will offer a professional development training to tribal policymakers similar to freshman orientations for state and federal policymakers but reflective of the unique roles, responsibilities and structures of tribal governments. These trainings will be developed by the AIGPI Director in conjunction with tribal leaders through the Rocky Mountain Tribal Leaders Council and delivered by faculty in UM's NAS, Law, and MPA programs, as well as relevant experts from within the broader MUS and tribal communities.

2. **Scholarship: The AIGPI Think Tank.** AIGPI-affiliated faculty at UM, including Visiting Faculty Fellows, AIGPI Advisory Council members, experts within the MUS, and Student Consultants doing exceptional work, will have the opportunity to author or co-author a variety of publications including white papers, policy briefs, general statements, and topical articles. These materials will be disseminated to tribal leaders, submitted for publication in appropriate academic journals and media outlets, and stored in AIGPI's free online database accessible to policymakers and the general public.

**A. Identify faculty expertise available for participation in the Institute/Center's activities.**

UM possesses a formidable combination of faculty expertise and unique programs that will form the basis of AIGPI. Core AIGPI-affiliated faculty and expertise available for participation in AIGPI's activities are listed below and come from the Native American Studies Department, the nationally recognized Margery Hunter Brown Indian Law Clinic and the MPA program, housed within the Max Baucus Institute. The MPA program is working to develop a tribal emphasis and has the Big Sky Poll, as well as experts in budgeting/methods. Altogether, these faculty bring to the table the right mix of expertise, existing relationships with tribal leaders across the state and throughout the nation, and proven commitments to Indian Country. While only the core AGIPI-affiliated faculty are described below, experts in other CHS fields such as Political Science and Economics, as well as from within the broader MUS will be enlisted when the necessary. One example of other MUS faculty included in AIGPI is Advisory Council member and assistant professor at Montana State University Vernon Grant who is introduced in more detail below in 4.B.

**Heather Cahoon**, Assistant Professor in NAS, will serve as the Director of AIGPI. She is a federal Indian policy scholar from the Flathead Reservation and is a member of the Confederated Salish and Kootenai Tribes. Heather has been engaged in policy research and analysis affecting Indian Country for much of the past twenty years, working with stakeholders at many levels including policymakers elected to tribal and state office, agency personnel and department heads, the Montana Governor's Office of Indian Affairs, tribal-led advocacy organizations, and individual tribal community members to identify and develop strategies to address the foundational causes of poor socioeconomic health on reservations. Prior to teaching at UM, she worked as the State-Tribal Policy Analyst at the Montana Budget and Policy Center (MBPC) where she led MBPC's effort to advance meaningful state investments in Indian Country, thoughtfully packaging Indian Country perspectives into policy briefs, presentations, and public speeches to inform elected officials, balancing intentionality in policy development with listening to tribal communities. Besides engaging in policy research and analysis, she also conducted regular outreach to tribes and curated, maintained and led MBPC's State-Tribal Advisory Council, which represented a broad range of demographics including urban-

and reservation-residing American Indians who provided important feedback on the policy priorities voiced by tribal leaders and helped identify additional issues in their respective areas of Indian Country, ultimately helping to shape Heather's research agenda. She also organized and facilitated MBPC's biennial State-Tribal Policy Symposium a training for tribal leaders and community members on understanding and engaging in the state budget and legislative processes. Heather has served on the board of directors for some of the top advocacy organizations in Indian Country in the state including the Montana Indian Business Alliance and Western Native Voice. In 2015, she was named UM's first Cobell Land and Culture Institute Scholar, a title reserved for faculty who are continuing Elouise Cobell's legacy of working for justice and equity for American Indians and tribal communities.

**David Beck** is a Professor of Native American Studies who served as department chair from 2010-2014. Previously, he served as Senior Resident Faculty and Dean of Native American Education Services (NAES) College in Chicago. David is an award-winning historian with research interests in federal Indian policy, twentieth century American Indian history, tribal sovereignty, and urban Indian history. His work focuses on identifying and analyzing American Indian agency in the course of tribal history, fields that he has studied in relation to the Menominee Indian Tribe of Wisconsin, the southwest Oregon coast, and the Chicago American Indian community. David has also been involved in tribal community engagement and development projects for more than a quarter of a century, including working on a range of Menominee tribal history projects, the Red Thunder Oral History Project, and serving as an advisor and faculty member to the premiere American Indian leadership program in the U.S., the Americans for Indian Opportunity Ambassador Program. In his teaching he attempts to provide students with the analytical tools and knowledge base to promote tribal community development. He has been honored by the Menominee Treaty Office, the Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians Education Office, and the Chicago American Indian Center, and has won book awards from the Western History Association and the Wisconsin Historical Society.

**Monte Mills** is an Associate Professor of Law and the Director of the nationally recognized Margery Hunter Brown Indian Law Clinic at the Alexander Blewett III School of Law. He teaches a variety of Indian law courses and works with clinical students on a range of legal matters in the Indian Law Clinic. Prior to joining the faculty at the Alexander Blewett III School of Law, Monte was the Director of the Legal Department for the Southern Ute Indian Tribe in Colorado, an in-house counsel department that he helped organize and implement in 2005 following completion of a unique two-year in-house attorney training program. As Director of the Tribe's Legal Department, Monte represented and counseled the Tribe on a broad array of issues, including litigation in tribal, state and federal courts, legislative matters before the Colorado General Assembly and the United States Congress, and internal tribal matters such as contracting, code-drafting, and gaming issues.

**Sara Rinfret** is an Associate Professor and Chair of the Department of Public Administration and Policy and Director for the Master of Public Administration Program. She teaches courses on regulatory policy, environmental policy, state and local government, public policy, and public administration. Her main area of research is focused on environmental regulations, specifically, the interactions between agencies and interest groups during the stages of environmental rulemaking at the federal and state level. To date, her work has been published in Society and Natural Resources, Environmental Politics, Review of Policy Research, Journal of Environmental Studies and Sciences, PS: Political Science and Politics, Public Administration Quarterly, and the Oxford Handbook of U.S.

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Environmental Policy, to name a few. She is a recipient of the Fulbright Specialist Program in public administration and studied with scholars at the University of Aarhus (Denmark) in 2016. In 2018, she was selected by UM student alumni as the "most inspirational teacher" of the year. She was nominated and selected for NASPAA Next, an institute for the future of public affairs education, Fall 2018. She serves as a faculty fellow for the University of Montana's Women's Leadership Initiative (2019).

**B. Which departments on campus will be involved and how will the Institute/Center contribute to the academic programs of the institution?**

The primary UM departments that will be involved in AIGPI are the ones where core APIGI-affiliated faculty teach, including Native American Studies, where AIGPI will be housed, and the Law School's Indian Law Clinic and Department of Public Administration and Policy. However, other CHS departments such as Economics and Political Science, as well as topic-specific departments such as Forestry or Public Health, for example, are anticipated to be periodically involved when the need arises.

In accordance with the Montana Board of Regents criteria governing the role and functions of research centers and institutes, AIGPI will not provide didactic coursework, confer academic degrees or certificates or require accreditation by external accrediting bodies. Therefore, AIGPI will contribute to UM's academic programs through its Student Consultant program, providing a new and valuable experiential learning opportunity that strategically utilizes the teaching abilities, faculty expertise and course offerings available in NAS, Law, and the Department of Public Administration and Policy (DPAP). Likewise, although NAS currently offers a range of class on topics relevant to the mission and work of AIGPI, 1-3 proposed new courses will be developed and taught by NAS Assistant Professor, Heather Cahoon, and/or AIGPI Visiting Faculty Fellows, as fundraising allows. These include: Tribal Governance and Policymaking; Public Policy Research and Analysis in Indian Country; and Indian Country Economics. The development of these new courses contributes to the NAS department by expanding the course offerings in both number and topic to include important contemporary and highly relevant topics for all students of Native American Studies. Finally, AIGPI's Visiting Faculty Fellows will infuse new experts, ideas and opportunities to collaborate into the current academic programming at UM.

**4. Identify the organizational structure of the Institute/Center within the institution.**

Heather Cahoon, PhD, Assistant Professor of Native American Studies, will serve as the Director AIGPI. The Director will report to the Dean of the College of Humanities and Sciences. As fundraising allows, a Program Coordinator will assist the Director and be tasked with carrying out most day-to-day operations of AIGPI. The AIGPI Advisory Council will provide the Director with programmatic and other advice related to the development of AIGPI's research agenda and related think tank outputs.

**A. Identify all agencies, organizations and/or institutions that will be involved.**

In terms of non-MUS entities that will be involved with AIGPI, the foremost, critical one is the involvement of every tribal government in the state of Montana. Through the Rocky Mountain Tribal Leaders Council, this includes the Blackfeet Nation, Chippewa Cree Tribe, Crow Tribe of Indians,

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Confederated Salish and Kootenai Tribes, Fort Belknap Indian Community, Fort Peck Tribes, Little Shell Tribe of Chippewa Indians, and the Northern Cheyenne Tribe. *(See enclosed Letter of Support from these tribal leaders.)*

Other organizations include the Montana Tribal College Presidents Association and the Montana Governor's Office of Indian Affairs. The involvement of each of these entities is linked to their service as permanent members of AIGPI's Advisory Council.

**B. Identify advisory council information.**

An Advisory Council comprised of stakeholders and thought leaders is nearly done being crafted. This Council will provide advisory information related to the development of AIGPI. As experts in a broad range of fields related to the mission of AIGPI, Advisory Council members will also be invited to participate in AIGPI's think tank activities and outputs including authoring or co-authoring white papers, policy briefs, general statements, and topical articles. For continuity and to ensure research agendas are relevant and responsive to the needs of tribal communities, nearly half of the Council memberships are linked directly to specific tribal stakeholder seats (not necessarily to the individuals holding that seat at the moment); these are indicated below. Thus far, members include:

1. PERMANENT SEAT: Chair, Board of Directors, Rocky Mountain Tribal Leaders Council - Gerald Gray (Little Shell Chippewa), Chairman, Little Shell Tribe; VP at G&G Advertising
2. PERMANENT SEAT: Chair, Montana Tribal College Presidents Association - Sandra Boham, PhD (CSKT), President of Salish Kootenai College
3. PERMANENT SEAT: Chair, Montana American Indian Health Leaders (Invited but not yet confirmed)
4. PERMANENT SEAT: Director, Montana Governor's Office of Indian Affairs - Jason Smith (CSKT)
5. PERMANENT SEAT: Director, University of Montana Alexander Blewett III School of Law Margery Hunter Brown Indian Law Clinic - Monte Mills, PhD, Associate Professor of Law, University of Montana
6. Michael Lipsky, PhD – Former Distinguished Senior Fellow at Demos; past Senior Program Officer at the Ford Foundation; retired Professor of Political Science at MIT
7. Gail Small, JD (Northern Cheyenne) - Director of Native Action and Program Director at Spirit Aligned
8. Vernon Grant, PhD (Blackfeet) - Assistant Research Professor, Center for American Indian and Rural Health Equity, Montana State University; Outgoing Chair of the Rocky Mountain Tribal Institutional Review Board
9. Preston Parish (Ojibwe) - State-Tribal Policy Analyst at the Montana Budget and Policy Center
10. Proposed: Native youth representative (Yet to be identified)
11. Proposed: Tribal economic development specialist (Yet to be identified)
12. Proposed: Tribal Tax Commissioner or expert (Yet to be identified)

**5. Identify first year and continuing finances necessary to support the Center/Institute, including the sources of funding.**

The initial creation of the proposed AIGPI is designed to be budget-neutral by utilizing existing faculty expertise and programming already available at UM. NAS Assistant Professor, Heather Cahoon, will

serve as Director of AIGPI. She is already a UM employee and will use her current status and salary to perform Director duties while she works to secure outside funding. Likewise, the other three core AIGPI-affiliated faculty—David Beck, Monte Mills, and Sara Rinfret—also already work at UM and will not receive additional compensation for their participation in initial activities related to AIGPI. That said, outside funding will be sought to grow AIGPI, including securing compensation for the Director's administrative duties and the core faculty's increased workload as mentors, as well as AIGPI's general ability to realize its mission and to work on specific policy topics and projects. The potential likelihood for securing outside funding is immense, as projects that address social determinants of health in tribal and underserved communities through policy reform and informed and innovative policymaking is widely available. The fact that all eight tribal governments in the state of Montana are partnering in AIGPI's work makes the likelihood of securing funding even greater.

**A. Will additional faculty and other resources be required to implement this Center/Institute? If yes, please describe the need and indicate the plan for meeting this need.**

As previously stated, the establishment of AIGPI requires no additional faculty or other resources. However, private donations will be sought to grow AIGPI and to work on particular topic areas. These include donations from a combination of private philanthropic sources, as well as state and federal agencies that award entities such as AIGPI with funding to address a broad array of social determinants of health impacting American Indians.

**B. Are other, additional resources required to ensure the success of the proposed Center/Institute? If yes, please describe the need and indicate the plan for meeting this need.**

No.

**6. Describe other similar Centers/Institutes or research capacities in the state and surrounding region.**

There is not an existing entity in the state or surrounding region like the proposed AIGPI. Outside of the surrounding region and across the U.S. there are only a handful of entities with varying degrees of similarity to AIGPI. These five entities are described below. Among them, AIGPI is most similar to the Native-led Native Nations Institute and then to the Harvard Project on American Indian Economic Development. Considering that there are 573 federally recognized and another 63 state recognized tribes in the U.S., there clearly remains immense unmet need and the ability to meaningfully contribute to these efforts, as well as for possibility for collaboration.

A. **Native Nations Institute for Leadership, Management, and Policy (University of Arizona).** The Native Nations Institute (NNI) is a leading Native-led research, education, and outreach organization supporting the nation-rebuilding efforts of Indigenous peoples worldwide as they seek to strengthen their internal governance capacities and realize their own political, economic, and community development objectives. NNI works with Native nations and organizations to support Indigenous self-determination, strengthen Indigenous governance capacities, and achieve Indigenous community and economic development objectives. It does this through research, in-person and online education, free online databases, and tribal consultation and services. The International Advisory Council, composed of Indigenous leaders from the United States and Canada, has been closely involved in the development of NNI. The council provides advice and oversight on an ongoing basis and meets twice a year to advise NNI and help set the organization's strategic direction.

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B. **The Harvard Project on American Indian Economic Development (Harvard University).** Through applied research and service, the non-Native-led Harvard Project aims to understand and foster the conditions under which sustained, self-determined social and economic development is achieved among American Indian nations. The Harvard Project's core activities include research, education and the administration of a tribal governance awards program. In all of its activities, the Harvard Project collaborates with the Native Nations Institute for Leadership, Management and Policy at the University of Arizona. The Harvard Project is also formally affiliated with the Harvard University Native American Program, an interfaculty initiative at Harvard University. At the heart of the Harvard Project is the systematic, comparative study of social and economic development on American Indian reservations. What works, where and why? The Harvard Project also offers a study of public policy or management questions facing Indian nations or organizations working in Indian affairs. These studies are done by second year master's students under the guidance of a faculty mentor.

C. **AT&T Center for Indigenous Politics and Policy (George Washington University).** The Center for Indigenous Politics and Policy (CIPP) is a Native-led research and advocacy center that provides support to tribal leaders and promotes public awareness on issues of national significance to indigenous communities, including public health, housing, economic security and education. It is a place where politics and policy meet George Washington University's research capability and expand upon its existing commits to diversity and to the Native American community. Their goal is to be a bridge between George Washington University, lawmakers, tribes and tribal leaders to develop stronger policy in support of Native Americans.

D. **Institute for Tribal Government (Portland State University).** The Institute for Tribal Government serves elected tribal governments from across the nation and also provides training to local, state and federal government agencies and others who are interested in learning more about tribal governments, legal foundations, and tribal government authorities and duties. A Tribal Policy Board consisting of elected tribal chairpersons, directors of tribal governmental and policy organizations, and representatives of institutions of higher education provide policy guidance to the Institute.

E. **National Congress of American Indians Policy Research Center.** In 2003, NCAI secured seed funding for a national tribal research and policy center that would focus solely on issues facing tribal communities. Developed under an advisory council of tribal leaders, Native scholars, tribal organization heads, regional Indian policy center directors, private sector researchers, and state policymakers, this tribally-driven consortium of existing research bodies and primary researchers is equipped to gather and assess data on conditions and trends in Indian Country, and support and inform the policy development efforts of tribal leaders, tribal organizations, Congress, the Administration, and state governments with objective data and analysis. Through this work, the NCAI Policy Research Center can provide tools necessary to inform public policy debates with meaningful data and assist in shifting the discourse in Native policy from a problem-focused approach to truly proactive, future-thinking strategy development. The Center develops, coordinates, and disseminates policy-focused research. It applies this body of work to Native policy issues on the horizon of federal, state, and tribal policymaking. The Center operates within the National Congress of American Indians, whose membership's priorities both contribute to the development of the Center's research agenda as well as benefit from the direct dissemination of policy research findings and think tank policy scenarios. It is up to the elected tribal leaders from their respective communities and the national tribal organizations that serve them to apply the

research findings, come to consensus on positions where possible, and move their advocacy agenda forward.

**A. Describe the relationship between the proposed Center/Institute and any similar Centers/Institutes, programs, or research capacities within the Montana University System.**

The only program within the MUS with a degree of similarity to AIGPI is UM's Indian Law Clinic in terms of providing a student-produced, faculty-guided professional service to tribes. While AIGPI will provide tribes with policy research and analysis, the ILC provides them with an array of legal services. The complementary aspects of the ILC and AIGPI make for a natural collaboration wherein AIGPI's research and analysis of existing or proposed tribal policies will play an instrumental role in the drafting of associated legal documents such as codes or ordinances by the ILC. Thus, the relationship between AIGPI and the ILC is one of invaluable partnership.

**B. In cases of substantial duplication, explain the rationale for the proposed Center/Institute.**

(There is no duplication.)

**7. Assessment: How will the success of the Center/Institute be measured?**

The overall success of AIGPI will be measured primarily in quantitative rather than qualitative terms. A primary goal of AIGPI is to provide tribes with information (in the form of policy reports, briefs, statements, recommendations, and templates, etc.) critical to reforming unresponsive public policies and developing new ones that foster economic growth, opportunity and individual and community wellbeing. These analyses can also educate local, state and federal policymakers and the broader public on an array of complex policy matters relating to American Indians that have real quality of life implications on reservations across the country. Therefore, quantitative measures for the first five years include: (1) the number of items produced by AIGPI-affiliated faculty, student consultants, Advisory Council members, and think tank contributors; (2) the number of grant proposals funded relative to submission; (3) the number of online visits to the AIGPI website and the online database of AIGPI-produced materials; and (4) the number of students, faculty, academic departments, and others seeking involvement or contributing. Assessment of these measures will be guided by the Advisory Council and Director.

Qualitative outcomes are more difficult to measure since policy change impacts communities over time. However, through interdisciplinary collaboration and in true partnership with tribal communities, AIGPI will work to reengineer outdated, unresponsive and harmful public policies and develop systems that support improved socioeconomic health and protect tribal sovereignty, self-governing powers and regulatory authority. In these ways, AIGPI embodies the heart of MUS Research Center and Institute goals by contributing in unique ways to expanding knowledge, generating new discoveries and having a positive impact on society through informing policy and systemic change.

**8. State the internal campus review and approval process which has occurred prior to submission to the Commissioner's Office. Indicate, where appropriate, involvement by faculty, students, community members, professional constituencies, etc.**

Before bringing the idea of the American Indian Governance and Policy Institute to the University of Montana, it was thoroughly vetted and heartily encouraged by key stakeholders throughout Indian Country in Montana. Heather Cahoon developed the concept for AIGPI while working with tribes as the

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State-Tribal Policy Analyst at the Montana Budget and Policy Center. This work brought her into tribal council chambers, tribal college presidents' offices, and into meetings with tribal and urban Indian health leaders across the state. During this period, she was often asked by tribal policymakers about particular policies other tribes may have developed that could be used as a template for everything from in-taking outside grant funding for suicide prevention to ideas for economic development specific to state tourism initiatives to policies related to the internal workings of particular tribal government departments. Realizing that many tribal governments lacked access to the type of policy research, analysis and related legal expertise that is supplied in-house to state and federal policymakers, she saw that these services could be provided free of cost through an entity such as AIGPI. Thus, when the opportunity arose for her to join the NAS faculty at UM, she quickly accepted and determined to build AIGPI. In addition to the stakeholders mentioned above, she also received feedback and encouragement from the leading Native-led advocacy organizations in the state, including Western Native Voice, the Native American Development Corporation, and the Rocky Mountain Tribal Leaders Council, whose governing board is comprised of the executive officers of every tribal government in the state of Montana. *(See attached letter of support from RMTLC.)* Many tribal students and community members have also voiced their support.

Several members of professional constituencies are also supportive including leadership and staff within the National Congress of American Indians including Dr. Ian Record, Director of Partnership for Tribal Governance, who eagerly sent relevant NCAI-produced materials for use by AIGPI Student Consultants, and NCAI Executive Board Treasurer W. Ron Allen, who also serves as the long-time chairman of the Jamestown S'Klallam Tribe and is a member of Portland State University's Hattfield School of Government's Institute for Tribal Government. Other members of professional constituencies include Professor Michael Lipsky, who immediately agreed to support AIGPI as the first member of the Advisory Council. Dr. Lipsky is the author of the seminal, award-winning book *Street-Level Bureaucracy*, the former Distinguished Senior Fellow at Demos, the past Senior Program Officer at the Ford Foundation, a retired Professor of Political Science at the Massachusetts Institute of Technology, and a current member of the governing board of the Harvard Project's Honoring Native Nations program. Following Dr. Lipsky, founding board member of Western Native Voice and recent Assistant Professor of NAS at Montana State University, Gail Small, enthusiastically joined, as did Dr. Vernon Grant, who is an Assistant Research Professor at the Center for American Indian and Rural Health Equity at Montana State University. Jason Smith, Director of Indian Affairs for the Montana Governor's Office also readily agreed to serve on the Advisory Council and has committed his office to a permanent seat. Having worked intimately for the past seven years with tribes across the state on policy-related matters and socioeconomic issues, Director Smith understood the valuable contribution AIGPI could make to these communities. The Montana Tribal College Presidents were also supportive and agreed to maintain a permanent seat on the Advisory Council. Information about AIGPI has also been presented to the American Indian Health Leaders as well as to members of the Montana Indian Caucus, who were also supportive.

With the support and encouragement of these key stakeholders, the internal campus review and approval process began after Dr. Cahoon joined the NAS faculty in January 2019. It started with conversations and support from NAS Chair Kathryn Shanley and Associate Chair Wade Davies followed by Indian Law Clinic Co-Directors at that time, Maylinn Smith and Monte Mills, who readily agreed to partner. Next, Dr. Cahoon met with Sara Rinfret and secured a partnership with the Law School's Master of Public Administration program. She also met to discuss her ideas with CHS Dean Jenny McNulty and Vice Provost for Academic Affairs Nathan Lindsey. Law School Dean Paul Kirgis also expressed his support and has actively engaged in efforts that have the potential to provide seed money for AIGPI. Once these foundational partnerships and approvals were secured, Dr. Cahoon completed an Intent to Plan form, which was seen by core AIGPI-

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affiliated faculty and NAS Chair Shanley, as well as Dean Kirgis and approved by Dean McNulty, Provost Jon Harbor and President Seth Bodner.

# Montana University System
## INTENT TO PLAN FORM


Program/Center/Institute Title: **American Indian Governance and Policy Institute**

Campus, School/Department: **UM-Missoula, NAS**

Expected Submission Date: **Summer 2019**

Contact Name/Info: **Heather Cahoon, PhD, Assistant Professor/ Heather.Cahoon@mso.umt.edu - 406-243-5838**

To increase communication, collaboration, and problem-solving opportunities throughout the MUS in the program/center/institute development process, please complete this form not more than 18 months in advance of the anticipated date of submission of the proposed program/center/institute to the Board of Regents for approval. The completed form should not be more than 2-3 pages. For more information regarding the Intent to Plan process, please visit http://mus.edu/che/arsa/academicproposals.asp.

**1) Provide a description of the program/center/institute.**

The first of its kind in the Rocky Mountain West, the proposed American Indian Governance and Policy Institute (AIGPI) will be a Native-led research entity that provides tribal nations in Montana with credible, in-depth research and analysis of tribal policies that includes internal governing structures and functioning, social and health issues, and revenue generation and economic development. Recognizing that many tribal governments lack access to the type of policy research, analysis and related legal expertise that is supplied in-house to state legislators and federal policymakers, AIGPI will fill this void by offering expert as well as student-produced, faculty-guided research and analysis of tribal-level policies, codes and ordinances, as well as overlapping local, state and federal policies, with the goal of furthering tribal leaders' efforts to strengthen reservation economies and build sound governance and individual and community health and prosperity. All materials developed by AIGPI will be stored in a free online database accessible to tribal leaders and the general public.

AIGPI will be housed within the Native American Studies Department in the College of Humanities and Sciences (CHS) at the University of Montana, under the leadership of Heather Cahoon, PhD, and in partnership with the University of Montana's Indian Law Clinic and Master of Public Administration programs. Experts in CHS fields such as political science and economics will also be enlisted when the need arises.

**2) Describe the need for the program/center/institute. Specifically, how the program/center/institute meets current student and workforce demands. (Please cite sources).**

The general need for the proposed AIGPI is immense. Many tribal government officials lack access to the type of policy research, analysis and related legal expertise that is supplied in-house to state legislators by Legislative Services Divisions (LSD) and to federal policymakers by Congressional Research Services (CRS). These entities provide expert assistance at every stage of the legislative process including bill and amendment drafting, performing in-depth policy and legal research on policy topics and presenting the impact of policy proposals. Because individual policymakers naturally do not have expertise in every area in which they are tasked with developing policy, entities such as LSD and CRS provide a crucial service to policymakers as well as the general public, whose lives are very much impacted by the laws crafted by their legislative representatives. The CRS website says it best: "With public policy issues growing more complex, the need for insightful and comprehensive analysis has become vital. Congress relies on CRS to marshal

**Montana University System**
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interdisciplinary resources, encourage critical thinking and create innovative frameworks to help legislators form sound policies and reach decisions on a host of difficult issues. These decisions will guide and shape the nation today and for generations to come." The complexities surrounding tribal public policymaking are even more complicated given the history and impacts of federal Indian policies and the relative newness of modern day tribal governing structures, many of which were formed after the passage of the Indian Reorganization Act of 1934. Likewise, U.S. Supreme Court rulings affecting tribal sovereignty, the range of tribes' self-governing abilities, and the array of overlapping governmental jurisdictions and intertwined local, state, and federal laws further complicates matters. Thus, AIGPI will provide tribal policymakers with a critical professional service that can further their efforts to strengthen reservation economies and build community and individual health and prosperity.

The proposed institute will meet the needs of current students and workforce demand by creating an invaluable active learning environment where students will gain a comprehensive understanding of policymaking processes, how various levels of policy interact, and how outdated, unresponsive and harmful public policies can be reengineered to encourage systems that foster economic growth, opportunity and individual and community wellbeing. The critical thinking and communication skills students cultivate will advantage them in virtually every field of the labor market.

**3) Describe how the program/center/institute fits with the institutional mission, strategic plan, and existing institutional program array.**

The proposed institute immediately meets the mission of the University of Montana by providing a unique educational experience and professional training with an interdisciplinary emphasis, producing more educated, competent and humane professionals, and helping to create informed, ethical, and engaged citizens of local and global communities. Likewise, it will provide opportunities for basic and applied research, cultural outreach and service benefitting the local community region, state and nation. The proposed institute also exemplifies the ideas undergirding the development of UM's Communities of Excellence. These Communities exist at the intersection of current UM strengths and societal need and which are groupings of areas of research, creative scholarship, study and community partnerships that bridge multiple disciplines and allow for elasticity across degree paths and faculty collaboration. AIGPI falls well within the Justice, Policy and Public Service Community of Excellence through its development of students who will serve their communities and participate in democratic governance through advocacy, dialogue, dissent, and ethical decision making.

AIGPI also hits on many tenets undergirding each of the four guiding principles articulated in the UM Strategic Vision—innovation and creativity, openness, impact and partnership. Additionally, it furthers several of the strategic opportunities identified in the Strategic Vision including enhancing faculty-student mentoring and the development of opportunities for students to cultivate leadership abilities. It exemplifies UM's goal of generating and making visible research that benefits our region and shows our commitment to fostering civic engagement. It demonstrates our value of diversity by partnering with and developing knowledge and best practices with tribal communities, colleges, and people by becoming a premier institution for Native American education, scholarship, and engagement. It can assist in the important act of identifying local, statewide, regional and tribal economic development needs and promoting sustainable economic development through research. It fosters critical thinking, diverse and inclusive engagement, ethical and informed decision making, and effective communication. It is innovation that matters and, as the first-ever tribal public policy institute in the Rocky Mountain West, it will help distinguish UM regionally and nationally as an institution that prepares students to solve complex interdisciplinary challenges and that contributes to the economic prosperity and societal quality of life for our region, state, and well beyond.

Finally, AIGPI fits seamlessly into UM's existing institutional program array by building on—but not duplicating—the current course offerings and experiential learning opportunities provided to students by UM's Native American Studies Department, the Indian Law Clinic, and Master of Public Administration programs.

## Montana University System
### INTENT TO PLAN FORM

**4) Describe how the program/center/institute overlaps, complements, or duplicates existing efforts in the MUS. Describe efforts that will be made to collaborate with similar programs at other institutions. If no efforts will be made, please explain why.**

The proposed institute nicely overlaps with and highly complements portions of the current efforts of UM's Indian Law Clinic (ILC) and Master of Public Administration (MPA) programs. While the ILC provides tribes with an array of legal services including representing clients in tribal court and providing training on and assisting with drafting tribal member wills, AIGPI will provide tribes with policy research and analysis. And, as ILC's work informs state and local policymakers and the general public of American Indian-related legal affairs and related issues through research and related outputs, AIGPI's work will help educate local, state, and federal policymakers and the broader public on an array of complex policy matters relating to American Indians that have real quality of life implications on reservations across the country. AIGPI will not duplicate the ILC's work, though the complementary aspects of both entities make for a valuable and natural collaboration wherein AIGPI's research and analysis of existing or proposed tribal public policies will play an instrumental role in their actual drafting by the ILC.

UM's MPA program, which is located within the Max Baucus Institute, aims to provide students with a cutting-edge public service education. Although there is not a tribal emphasis within the MPA program, their Certificate in Public Policy curriculum offers a handful of courses relevant to the work of the proposed AIGPI.

Currently, there are no plans to collaborate with programs at other MUS institutions due to the sufficient course offerings, expertise and partnership potentials already available at UM.

**Signature/Date**

**College/School Dean:** Jenny McNutty 6-6-19

**Chief Academic Officer:**

**Chief Executive Officer:**

**Flagship Provost*:** R Hutch 6.7.19

**Flagship President*:** 11 June 2019

*Not applicable to the Community Colleges.

**Date of Final Review:**

**When submitting the proposal to the BOR, include this signed form with the Level II request.**

OFFICE OF THE GOVERNOR
STATE OF MONTANA

STEVE BULLOCK
GOVERNOR

MIKE COONEY
LT. GOVERNOR

December 19, 2019

Dear Heather Cahoon,

Thank you for the inclusion of the Governor's Office of Indian Affairs in the American Indian Governance and Policy Institute's Advisory Council. This position works to maintain the government-to-government relationship between state government and tribal governments. The Office of Indian Affairs works to create and implement policy impacting Indian Country on a wide array of issues. The experience and knowledge gained through this office will be beneficial to the advisory council in policy development, understanding of jurisdictional differences, and inter-governmental collaboration including the Montana legislative process.

This letter serves to commit the Montana Governor's Office of Indian Affairs to a permanent seat on your American Indian Governance and Policy Institute's Advisory Council at the University of Montana. It also serves as a letter of support for this institute.

As the Director of the Office of Indian Affairs, I have worked closely for the past seven years with tribes across the state on policy-related matters and socioeconomic issues and understand the valuable contribution that the American Indian Governance and Policy Institute can make to these communities.

My office also supports the leadership of this institute and the fact that it is Native led.

I look forward to serving on the Advisory Council.

Sincerely,

Jason Smith
Director
Governor's Office of Indian Affairs

STATE CAPITOL • P.O. BOX 200801 • HELENA, MONTANA 59620-0801
TELEPHONE: 406-444-3111 • FAX: 406-444-5529 • WEBSITE: WWW.MT.GOV

**March 5-6, 2020**

**ITEM 187-1009-R0320**

**Request for authorization to terminate the School of Extended and Lifelong Learning (SELL)**

---

**THAT**

The University of Montana-Missoula requests authorization from the Montana Board of Regents to terminate the School of Extended and Lifelong Learning (SELL).

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**EXPLANATION**

The University of Montana-Missoula proposes the termination of the School of Extended and Lifelong Learning (SELL) in order to reduce administrative costs and to enhance greater efficiencies and collaborations with related units across campus.

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**ATTACHMENTS**

Academic Proposal Request Form

# Montana Board of Regents

## ACADEMIC PROPOSAL REQUEST FORM

ITEM **XXX-1009-R0320** Submission Month or Meeting: **March 5-6, 2020**

Institution: **University of Montana-Missoula** CIP Code: **N/A**

Program/Center/Institute Title: **School of Extended and Lifelong Learning**

Includes (please specify below): Online Offering _____ Options _____

Please mark the appropriate type of request and submit with an Item Template and any additional materials, including those listed in parentheses following the type of request. For more information pertaining to the types of requests listed below, how to complete an item request, or additional forms please visit http://mus.edu/che/arsa/academicproposals.asp.

## ____ A. Level I:

**Campus Approvals**

____ **1a. Placing a postsecondary educational program into moratorium** (Program Termination and Moratorium Form)

____ **1b. Withdrawing a postsecondary educational program from moratorium**

____ **2. Establishing, re-titling, terminating or revising a campus certificate of 29 credits or less**

____ **3. Establishing a B.A.S./A.A./A.S. area of study**

____ **4. Offering an existing postsecondary educational program via distance or online delivery**

**OCHE Approvals**

____ **5. Re-titling an existing postsecondary educational program**

____ **6. Terminating an existing postsecondary educational program** (Program Termination and Moratorium Form)

____ **7. Consolidating existing postsecondary educational programs** (Curriculum Proposal Form)

____ **8. Establishing a new minor where there is a major or an option in a major** (Curriculum Proposal Form)

____ **9. Revising a postsecondary educational program** (Curriculum Proposal Form)

____ **10. Establishing a temporary C.A.S. or A.A.S. degree program** *Approval limited to 2 years*

**Montana Board of Regents**
**ACADEMIC PROPOSAL REQUEST FORM**

**X B. Level II:**

_____ **1. Establishing a new postsecondary educational program** (Curriculum Proposal and Completed Intent to Plan Form)

_____ **2. Permanent authorization for a temporary C.A.S. or A.A.S degree program** (Curriculum Proposal and Completed Intent to Plan Form)

_____ **3. Exceeding the 120 credit maximum for baccalaureate degrees** *Exception to policy 301.11*

**X** **4. Forming, eliminating or consolidating an academic, administrative, or research unit** (Curriculum or Center/Institute Proposal and Completed Intent to Plan Form, except when eliminating or consolidating)

_____ **5. Re-titling an academic, administrative, or research unit**

## Proposal Summary [360 words maximum]

**What**
The University of Montana-Missoula requests authorization from the Montana Board of Regents to terminate the School of Extended and Lifelong Learning (SELL).

**Why**
We are proposing the termination of SELL in order to reduce administrative costs and to enhance greater efficiencies and collaboration. All units within SELL will continue, but are being reassigned to other areas (as follows): The Osher Lifelong Learning Institute at UM (MOLLI) will report to the Davidson Honors College; Conference Planning Services and the Todd Building will be under the umbrella of the University Center, and will work closely with Montana Event Services; and UMOnline and continuing education courses will report to the Office of the Provost. Even though all of the programs formerly offered through SELL will continue, the overhead costs of a separate school will no longer be required.

**Resources**
No resources are required.

**Relationship to similar MUS programs**
N/A

**March 5-6, 2020**

**ITEM 187-1010-R0320**

**Request for authorization to retitle the College of Health Professions and Biomedical Sciences to the College of Health**

---

**THAT**

The University of Montana-Missoula requests authorization from the Montana Board of Regents to retitle the College of Health Professions and Biomedical Sciences to the College of Health.

---

**EXPLANATION**

Expansion of the College in recent years, as well as the strategic growth direction of the College, mandates consideration of a name change that is inclusive of the array of programs and clinics in the College and identified with the UM Health & Medicine initiative and the Health and Human Development Community of Excellence. In addition to providing oversight to new undergraduate and post-graduate programs not in direct alignment with traditional health professions, and in anticipation of new programming opportunities, a College of Health provides a clean, definitive, and inclusive identity.

---

**ATTACHMENTS**

Academic Proposal Request Form

# Montana Board of Regents

## ACADEMIC PROPOSAL REQUEST FORM

ITEM **XXX-1010-R0320** Submission Month or Meeting: **March 5-6, 2020**

Institution: **University of Montana-Missoula** CIP Code: **N/A**

Program/Center/Institute Title: **College of Health Professions and Biomedical Sciences**

Includes (please specify below): Online Offering _____ Options _____

Please mark the appropriate type of request and submit with an Item Template and any additional materials, including those listed in parentheses following the type of request. For more information pertaining to the types of requests listed below, how to complete an item request, or additional forms please visit http://mus.edu/che/arsa/academicproposals.asp.

## ____ A. Level I:

**Campus Approvals**

____ **1a. Placing a postsecondary educational program into moratorium** (Program Termination and Moratorium Form)

____ **1b. Withdrawing a postsecondary educational program from moratorium**

____ **2. Establishing, re-titling, terminating or revising a campus certificate of 29 credits or less**

____ **3. Establishing a B.A.S./A.A./A.S. area of study**

____ **4. Offering an existing postsecondary educational program via distance or online delivery**

**OCHE Approvals**

____ **5. Re-titling an existing postsecondary educational program**

____ **6. Terminating an existing postsecondary educational program** (Program Termination and Moratorium Form)

____ **7. Consolidating existing postsecondary educational programs** (Curriculum Proposal Form)

____ **8. Establishing a new minor where there is a major or an option in a major** (Curriculum Proposal Form)

____ **9. Revising a postsecondary educational program** (Curriculum Proposal Form)

____ **10. Establishing a temporary C.A.S. or A.A.S. degree program** *Approval limited to 2 years*

**Montana Board of Regents**
**ACADEMIC PROPOSAL REQUEST FORM**

**X B. Level II:**

_____ **1. Establishing a new postsecondary educational program** (Curriculum Proposal and Completed Intent to Plan Form)

_____ **2. Permanent authorization for a temporary C.A.S. or A.A.S degree program** (Curriculum Proposal and Completed Intent to Plan Form)

_____ **3. Exceeding the 120 credit maximum for baccalaureate degrees** *Exception to policy 301.11*

_____ **4. Forming, eliminating or consolidating an academic, administrative, or research unit** (Curriculum or Center/Institute Proposal and Completed Intent to Plan Form, except when eliminating or consolidating)

**X** **5. Re-titling an academic, administrative, or research unit**

## Proposal Summary [360 words maximum]

**What**
The University of Montana-Missoula requests authorization from the Montana Board of Regents to retitle the College of Health Professions and Biomedical Sciences to the College of Health.

**Why**
Expansion of the College in recent years, as well as the strategic growth direction of the College, mandates consideration of a name change that is inclusive of the array of programs and clinics in the College and identified with the UM Health & Medicine initiative and the Health and Human Development Community of Excellence. In addition to providing oversight to new undergraduate and post-graduate programs not in direct alignment with traditional health professions, and in anticipation of new programming opportunities, a College of Health provides a clean, definitive, and inclusive identity.

**Resources**
Minor costs associated with name change (signage, stationery, marketing announcements, etc.)

**Relationship to similar MUS programs**
N/A

**March 5-6, 2020**

**ITEM 187-1011-R0320**

**Request for authorization to establish an O.T.D.**

---

**THAT**

The University of Montana-Missoula requests authorization from the Montana Board of Regents to establish a doctor of occupational therapy degree.

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**EXPLANATION**

With the academic realignment of the School of Speech, Language, Hearing and Occupational Sciences (SLHS) to the College of Health Professions & Biomedical Sciences (CHPBS), the previously approved professional graduate degree program in Occupational Therapy within the School of Physical Therapy & Rehabilitation Science (to enroll students in the fall of 2021) requests two revisions in the previous proposal: 1) an academic alignment in SLHS and 2) approval to award the O.T.D. Since the prior approval of the M.S. degree in OT, the national accrediting body for occupational therapy, ACOTE, has revised their position on the terminal professional degree, moving to the OTD with a schedule to convert existing MS degree programs to the OTD. There is no public option for Montana residents in occupational therapy, only more expensive private or non-resident programs. A feasibility study funded by the Office of Public Instruction (OPI) in 2017 affirmed the need for a program in OT for Montana given the shortage of OT professionals in the state and the projected needs in the future. This program is ideally suited within CHPBS alongside SLHS and PT.

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**ATTACHMENTS**

Academic Proposal Request Form
Curriculum Proposal Form
Fiscal Analysis From

# Montana Board of Regents

## ACADEMIC PROPOSAL REQUEST FORM

ITEM **XXX-1011-R0320** Submission Month or Meeting: **March 5-6, 2020**

Institution: **University of Montana-Missoula** CIP Code: **51.2306**

Program/Center/Institute Title: **Department of Speech, Language, Hearing and Occupational Sciences/College Health Professions and Biomedical Sciences**

Includes (please specify below): Online Offering _____ Options _____

Please mark the appropriate type of request and submit with an Item Template and any additional materials, including those listed in parentheses following the type of request. For more information pertaining to the types of requests listed below, how to complete an item request, or additional forms please visit http://mus.edu/che/arsa/academicproposals.asp.

### ____ A. Level I:

**Campus Approvals**

____ **1a. Placing a postsecondary educational program into moratorium** (Program Termination and Moratorium Form)

____ **1b. Withdrawing a postsecondary educational program from moratorium**

____ **2. Establishing, re-titling, terminating or revising a campus certificate of 29 credits or less**

____ **3. Establishing a B.A.S./A.A./A.S. area of study**

____ **4. Offering an existing postsecondary educational program via distance or online delivery**

**OCHE Approvals**

____ **5. Re-titling an existing postsecondary educational program**

____ **6. Terminating an existing postsecondary educational program** (Program Termination and Moratorium Form)

____ **7. Consolidating existing postsecondary educational programs** (Curriculum Proposal Form)

____ **8. Establishing a new minor where there is a major or an option in a major** (Curriculum Proposal Form)

____ **9. Revising a postsecondary educational program** (Curriculum Proposal Form)

____ **10. Establishing a temporary C.A.S. or A.A.S. degree program** *Approval limited to 2 years*

**Montana Board of Regents**
**ACADEMIC PROPOSAL REQUEST FORM**

X **B. Level II:**

X **1. Establishing a new postsecondary educational program** (Curriculum Proposal and Completed Intent to Plan Form)

_____ **2. Permanent authorization for a temporary C.A.S. or A.A.S degree program** (Curriculum Proposal and Completed Intent to Plan Form)

_____ **3. Exceeding the 120 credit maximum for baccalaureate degrees** *Exception to policy 301.11*

X **4. Forming, eliminating or consolidating an academic, administrative, or research unit** (Curriculum or Center/Institute Proposal and Completed Intent to Plan Form, except when eliminating or consolidating)

_____ **5. Re-titling an academic, administrative, or research unit**

## Proposal Summary [360 words maximum]

**What**
The University of Montana-Missoula requests authorization from the Montana Board of Regents to establish a doctor of occupational therapy degree.

**Why**
With the academic realignment of the School of Speech, Language, Hearing and Occupational Sciences (SLHS) to the College of Health Professions & Biomedical Sciences (CHPBS), the previously approved professional graduate degree program in Occupational Therapy within the School of Physical Therapy & Rehabilitation Science (to enroll students in the fall of 2021) requests two revisions in the previous proposal: 1) an academic alignment in SLHS and 2) approval to award the O.T.D. Since the prior approval of the M.S. degree in OT, the national accrediting body for occupational therapy, ACOTE, has revised their position on the terminal professional degree, moving to the OTD with a schedule to convert existing MS degree programs to the OTD. There is no public option for Montana residents in occupational therapy, only more expensive private or non-resident programs. A feasibility study funded by the Office of Public Instruction (OPI) in 2017 affirmed the need for a program in OT for Montana given the shortage of OT professionals in the state and the projected needs in the future. This program is ideally suited within CHPBS alongside SLHS and PT.

**Resources**
The proposed program requires both suitable physical space, faculty and staff to support this new academic initiative, although it is anticipated the program will maximize present resources in SLHS and PT.

**Relationship to similar MUS programs**
There are no similar programs within the MUS**.**

**Montana Board of Regents**

**ACADEMIC PROPOSAL REQUEST FORM**

# Montana Board of Regents

## CURRICULUM PROPOSAL FORM

1. **Overview of the request and resulting changes.** Provide a one-paragraph description of the proposed program. Will this program be related or tied to other programs on campus? Describe any changes to existing program(s) that this program will replace or modify. *[100 words]*

   A doctor of occupational therapy (O.T.D.) and a program in Occupational Therapy within the Department of Speech, Language, Hearing and Occupational Sciences in the College of Health Professions & Biomedical Sciences is proposed. The College of Health Professions and Biomedical Sciences is the academic unit for the Schools of Pharmacy; Physical Therapy and Rehabilitation Science; Public and Community Health Sciences; Speech, Language and Hearing Sciences, Health and Human Performance; and Social Work. The proposed program in Occupational Therapy would be incorporated into the Department of Speech, Language and Hearing Sciences and emphasizes inter-professional training and transdisciplinary collaboration.

2. **Relation to institutional strategic goals.** Describe the nature and purpose of the new program in the context of the institution's mission and core themes. *[200 words]*

   The addition of a graduate occupational therapy program aligns with all five of UM's priorities for action. An O.T.D. would prepare students for well-paying careers in a field that is in particularly high-demand in Montana. Accreditation standards for O.T.D. programs require students to engage in research and write scholarly reports suitable for presentation or publication in a peer-reviewed journal, ensuring UM graduates are active in research. Additionally, Occupational Therapy faculty would publish and present their scholarly work, participate in professional meetings at state and national levels, seek grant funding, and create new health care programs that would benefit the citizens of Montana. Occupational Therapy students would engage in fieldwork experiences within the state, providing needed services. As more occupational therapists graduate and seek employment in Montana, many facilities may use the opportunity to expand their available programs and setting in which they employ occupational therapists. It is anticipated that an Occupational Therapy program would have a significant impact on health care and employment opportunities in Montana as students will remain in the state for school and employment.

3. **Process leading to submission.** Briefly detail the planning, development, and approval process of the program at the institution. *[100 words]*

   A professional graduate degree program in Occupational Therapy has already been approved. With the academic realignment of the School of Speech, Language, Hearing and Occupational Sciences (SLHS) to the College of Health Professions & Biomedical Sciences (CHPBS), we are requesting two revisions to the previous proposal: 1) an academic alignment in SLHS and 2) approval to award the O.T.D. Since the prior approval of the M.S. degree in OT, the national accrediting body for occupational therapy, ACOTE, has revised their position on the terminal professional degree, moving to the OTD with a schedule to convert existing MS degree programs to the OTD. There is no public option for Montana residents in occupational therapy, only more expensive private or non-resident programs. A feasibility study funded by the Office of Public Instruction (OPI) in 2017 affirmed the need for a program in OT for Montana given the shortage of OT professionals in the state and the projected needs in the future. This program is ideally suited within CHPBS alongside SLHS and PT.

4. **Program description.** Please include a complete listing of the proposed new curriculum in Appendix A of this document.

   a. List the program requirements using the following table.

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

| | Credits |
|---|---|
| Credits in required courses offered by the department offering the program | 94 |
| Credits in required courses offered by other departments | 12 (Physical Therapy) |
| Credits in institutional general education curriculum | 0 |
| Credits of free electives | 0 |
| Total credits required to complete the program | 106 |

b. List the program learning outcomes for the proposed program. Use learner-centered statements that indicate what students will know, be able to do, and/or value or appreciate as a result of completing the program.

.

Upon completion of the Occupational Therapy program the student will demonstrate the following outcomes:

1) Advocate for access to occupations that support health and wellness
2) Develop client health and wellness through the transformative power of occupation
3) Effectively demonstrate professionalism to communicate and collaborate with health professionals for client centered practice
4) Demonstrate communication that is responsive to contextual and clinical demands
5) Demonstrate the ability to recognize, assess, and support characteristics of community and context to collaboratively find solutions to occupational challenges and to support occupational engagement and participation
6) Collaborate with individuals, groups, populations and communities to implement creative and innovative solutions to occupational challenges for effective engagement.
7) Integrate all levels of evidence to create, inform, and support occupation-centered practice
8) Embrace a culture of scholarly inquiry that addresses gaps in knowledge and promotes best practice and lifelong learning.
9) Demonstrate excellence in written and verbal communication to disseminate new ideas, knowledge, and skills that inform and guide practice
10) Demonstrate knowledge and understanding of how participation and engagement in occupation creates a sense of meaning and in turn influences health and wellness.

**5. Need for the program.** To what specific student, regional, and statewide needs is the institution responding to with the proposed program? How will the proposed program meet those needs? Consider workforce, student, economic, societal, and transfer needs in your response as appropriate. *[250 words]*

A feasibility study conducted in the spring of 2016 indicates a high demand for an Occupational Therapy program at UM. There is currently no Occupational Therapy program offered for students in the MUS and demand for a program in the is high. There are only six OT program options offered in the region. Those institutions do not graduate enough students to meet current needs, nor is there a public option for Montana residents. An OT program would be attractive to Montana resident students wishing to pursue a

career in OT who also would like to remain in state. It is anticipated that those students who pursue their degree in state will also go on to practice in Montana.

In the United States, there are currently 166 programs accredited as entry-level Master's programs, and 11 accredited as entry-level OTD programs. Enrollment in all occupational therapy programs has shown growth. According to the 2014/2015 Academic Programs Annual Data Report, occupational therapy enrollment grew from 10,239 in 2004 to 18,550 in 2014. In 2014, 6,945 students were admitted into entry level masters programs, and 248 were admitted into OTD programs.

6. **Similar programs.** Use the table below to identify and describe the relationship between any similar programs within the Montana University System.
N/A

| Institution Name | Degree | Program Title |
|---|---|---|
| N/A | N/A | N/A |

a. If the proposed program substantially duplicates another program offered in the Montana University System, provide a rationale as to why any resulting duplication is a net benefit to the state and its citizens. *[200 words]*

N/A

b. Describe any efforts that were made to collaborate with similar programs at other institutions. If no efforts were made, please explain why. *[200 words]*

N/A

7. **Implementation of the program.** When will the program be first offered? If implementation will occur in phases, please describe the phased implementation plans. *[100 words]*

The accreditation process takes approximately two years and is designed to start before the first class of students enters the program and completed before the first class graduates.

Step 1: Application for Candidacy Status
a. Submit a Letter of Intent and eligibility data to ACOTE
b. Hire program director
c. Submit a Candidacy Application according to the approved timeline
- Candidacy Status must be granted before students may be admitted or notified of admission to the program and is required in order for the program to proceed to Step 2.
- It is suggested that the Letter of Intent be submitted and program director be hired well in advance of the deadline to increase the chances of entering the desired review cycle and to allow adequate time to prepare the Candidacy Application.

Step 2: Preaccreditation review
a. Candidacy Status is granted by ACOTE
b. First student cohort is admitted
c. OT program completes a programmatic self-study to ensure the program's compliance with ACOTE standards
- Upon review of the self-study, ACOTE grants, defers action on, or denies Preaccreditation Status.

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

Step 3: Initial onsite evaluation
a. Two-member team from ACOTE conducts onsite evaluation and prepares onsite report, which is used by ACOTE to grant, defer, or deny accreditation

a. Complete the following table indicating the projected enrollments in and graduates from the proposed program.

| Fall Headcount Enrollment | | | | | Graduates | | | | |
|---|---|---|---|---|---|---|---|---|---|
| AY19-20 | AY20-21 | AY21-22 | AY22-23 | AY23-24 | AY19-20 | AY20-21 | AY21-22 | AY22-23 | AY23-24 |
| | | 15 | 44 | 73 | | | | | 15 |

b. Describe the methodology and sources for determining the enrollment and graduation projections above. *[200 words]*

Enrollment and graduation projections based on 1) national norms for program availability and average application rates according centralized application service data for occupational therapy, demand averages from U.S. Bureau of Labor statistics, and a market analysis of regional institutions with graduate OT offerings and associated tuition rates /offerings.

c. What is the initial capacity for the program?

The initial capacity for the program is 15 graduate seats to increase to 29 seats annually. Thus the projected enrollment numbers reflect immediate full capacity enrollment which is highly likely given the critical OT shortage, high job demand, and that this is the only public university program in the state and region.

**8. Program assessment.** How will success of the program be determined? What action would result if this definition of success is not met? *[150 words]*

The Occupational Therapy program will be evaluated according to guidelines set forth by the American Council for Occupational Therapy Education of the American Occupational Therapy Association. Accreditation processes include the completion of a self-study and on-site evaluation by ACOTE. As part of these requirements, standardized assessment of the program including faculty and curricula will be incorporated into new Departmental Standards.

The accreditation process takes approximately two years and is designed to start before the first class of students enters the program and completed before the first class graduates. Accreditation standards have been a consistent consideration when developing this proposal.

a. Describe the assessment process that will be used to evaluate how well students are achieving the intended learning outcomes of the program. When will assessment activities occur and at what frequency? *[150 words]*

Summative and formative assessment processes will be used in academic didactic and clinical practica courses alike to determine achievement of learning outcomes. These include but are not limited to using formative (e.g., weekly check-ins, requests for summarization, questioning techniques, rubric evaluation protocols, case demonstrations) and summative (quizzes, tests, papers) to determine whether students demonstrate their proficiency in each outcome.

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

Students will be provided consistent feedback at mid- and end- of each semester by faculty associated with courses/clinical experiences mapped to each knowledge and ACOTE standard. When required, student remediation plans will be developed and linked to ACOTE standards of knowledge and skills, as needed using a template, completed by student and faculty with a clear timeline for required completion that is agreed upon and signed by the student and faculty on a case-by-case basis.

b. What direct and indirect measures will be used to assess student learning? *[100 words]*

Each academic/clinical course and clinical practicum experience is associated with pre-identified knowledge and/or skills of the ACOTE standards. Following the completion of a course/clinic requirement, these knowledge and skills are mapped being completed by the professor or clinical educator as students progress through the graduate program. Competency is required, in which the student has demonstrated via summative and/or formative assessments that the student understands and can produce or demonstrate application of that knowledge or skill.

c. How will you ensure that the assessment findings will be used to ensure the quality of the program? *[100 words]*

As required by accreditation standards, on an annual or biannual basis, the following student learning and related assessments will be used to inform the quality of the program and change curriculum, policies, procedures accordingly (e.g., course evaluations, evaluations of clinical supervisors, evaluation of clinical sites, student advisory group reviews student surveys, curriculum review committee, employer surveys, supervisor/preceptor evaluations, program annual reports, program staff/faculty meetings and retreats, an formal University reviews).

**9. Physical resources.**

a. Describe the <u>existing</u> facilities, equipment, space, laboratory instruments, computer(s), or other physical equipment available to support the successful implementation of the program. What will be the impact on existing programs of increased use of physical resources by the proposed program? How will the increased use be accommodated? *[200 words]*

For year 1 of the program development the current SLHOS space in the basement of Curry Health Center would provide shared access to 1 classroom (40 occupancy) for class in the Curry Health Center basement with two 200 square feet therapy rooms with HIPAA compliant observation systems. In addition wheel-chair accessibility therapy space is available for OT therapy training in the Physical Therapy Clinic located in the Skaggs building.

b. List <u>needed</u> facilities, equipment, space, laboratory instruments, etc., that must be obtained to support the proposed program. (Enter the costs of those physical resources into the budget sheet.) How will the need for these additional resources be met? *[150 words]*

The program will have the following minimum space needs:

- Four faculty offices and an administrative office (130 SF each for 650 SF total)
- Work room to house copy machine, files, etc. (~200 SF)
- Resource/ fieldwork room to accommodate fieldwork files and related equipment (~200 SF)
- Conference room, 10 occupancy, to accommodate meetings for student research and other faculty meetings (~200 SF)
- Access to a lecture style classroom with occupancy for 100 (~ 2500 SF)

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- 1 classroom/ lab space, 40 occupancy, containing sinks, counters, and multiple plugs to accommodate splinting and modalities; also movable student tables/ chairs (~1000 SF)
- 1 classroom/ lab space, 40 occupancy, containing mat tables, pediatric equipment (some may be suspended from ceiling), and supplies; also movable student tables/ chairs (~1000 SF)
- 1 classroom, 40 occupancy, containing mat tables and other rehabilitation equipment; also movable student tables/ chairs (~1000 SF)
- Access to a working kitchen, bathroom with bathtub, washer and dryer, bedroom (regular bed, potentially also a hospital bed), and living room (small sofa or arm chair). The room should be large enough to accommodate groups of students for observation or practice. This could be a separate space, but ideally would be combined with a large classroom space so that students could move seamlessly between lecture and lab activities (~1500 SF) (see Figure 1 below as an example layout).
- Storage space for wheelchairs, assessments, and other supplies (~300 SF)

This would mean a minimum of 8600 SF usable space (not taking into account wall thickness, restrooms, etc.). Additional space needs may include work space for graduate and research assistants, fieldwork office, student lounge, and additional lab space for faculty research. Several options on the Mountain Campus and Missoula College are currently under consideration. Ultimately the space could be used for both an occupational therapy program and an occupational therapy assistant program, which could be an effective means of sharing not only space but also equipment, supplies, faculty and other resources. Ready, frequent transport between Missoula College and UM main campus would be necessary for occupational therapy students to take full advantage of the clinics and other inter-professional learning opportunities.

**10. Personnel resources.**

a. Describe the <u>existing</u> instructional, support, and administrative resources available to support the successful implementation of the program. What will be the impact on existing programs of increased use of existing personnel resources by the proposed program? How will quality and productivity of existing programs be maintained? *[200 words]*

The Current SLHOS School is home to eh DeWit Ritecare Clinic that includes current clinic population of 100 clients (pediatric and adult) who have communication disorders and approximately 50% of clientele would likely require occupational therapy services. In addition the SLHOS School employs one staff administrator, a clinic biller, and a Clinic Director to run this therapy community clinic. As such the current established clinic would support and allow for the immediate provision of clinical experiences required by the OT doctoral program accrediting body. In addition, a certified occupational therapist capable of providing supervised occupational therapy experiences and introductory course content is part of the Physical Therapy clinic and would be available within the college to provide student clinical education training and instruction. Moreover, approximately 2.0 FTE of faculty teaching support for the full curricular requirements would be available to instruct OT students in existing courses (e.g., Anatomy & Physiology, Cognition, Applied Neuroscience) from the related speech-language pathology and physical therapy programs. Quality and productivity in existing program will continue to be maintained, despite increased student enrollment as interprofessional course offerings are included consistent with accreditation standards that encourage interprofessional training within the health professions.

b. Identify <u>new</u> personnel that must be hired to support the proposed program. (Enter the costs of those personnel resources into the budget sheet.) What are the anticipated sources or plans to secure the needed qualified faculty and staff? *[150 words]*

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**CURRICULUM PROPOSAL FORM**

The proposed graduate degree program in Occupational Therapy represents a new, unique academic program for the University of Montana. Implementing the program will require a program director and a sufficient number of faculty with expertise necessary to ensure appropriate curricular design, content delivery, and program evaluation. To meet this need, four faculty members, in addition to the chair, will be hired. While we would expect to solicit endowments to help support these lines, it is anticipated we would seek funding through a new general fund request. A proposed budget has been developed in consultation with the Office of the Provost.

**11. Other resources.**

a. Are the available library and information resources adequate for the proposed program? If not, how will adequate resources be obtained? *[100 words]*

Available library and information resources are adequate and consistent with existing resources in health professions on campus.

b. Do existing student services have the capacity to accommodate the proposed program? What are the implications of the new program on services for the rest of the student body? *[150 words]*

Current student services resources are adequate for this program and consistent with existing resources in health professions on campus.

**12. Revenues and expenditures.** Describe the implications of the new program on the financial situation of the institution. *[100 words]*

a. Please complete the following table of budget projections using the corresponding information from the fiscal analysis form for the first three years of operation of the new program.

| | Year 1 | Year 2 | Year 3 |
|---|---|---|---|
| Revenues | $200,000 | $428,852 | $1,208,449 |
| Expenses | $792618 | $105,5523 | $1,251,615 |
| Net Income/Deficit (revenues-expenses) | -$592,618 | -$626,671 | $11,409 |

b. Describe any expenses anticipated with the implementation of the new program. How will these expenses be met? *[200 words]*

Expenses associated with the launching of the new program include the need to develop new space, purchase specialized equipment, and hiring faculty associated with pre-accreditation needs of the OT program .

i. If funding is to come from the reallocation of existing state appropriated funds, please indicate the sources of the reallocation. What impact will the reallocation of funds in support of the program have on other programs? *[150 words]* Not applicable.

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**CURRICULUM PROPOSAL FORM**

ii. If an increase in base funding is required to fund the program, indicate the amount of additional base funding and the fiscal year when the institution plans to include the base funding in the department's budget.

Increased base funding is required for the personnel is reflected in the budget form associated with the Level II proposal, along with the year in which funding is necessary. We expect to cover much of non-personnel capitalization through philanthropic funding.

iii. If the funding is to come from one-time sources such as a donation, indicate the sources of other funding. What are the institution's plans for sustaining the program when that funding ends? *[150 words]*

Initial funding sources include philanthropic support for capitalizing space renovation and non-personnel program components. At the time of this proposal, the College is authorized to access the Madrona Hill Foundation Innovation and Investment Fund, which provides approximating $200,000/year for five years. Total funds that can be allocated to the program is $500,000 over the first three years of the project. It is expected that new program faculty and administration will aggressively pursue additional funding from private and public foundations to support the ongoing needs of the program outside of base funding.

iv. Describe the federal grant, other grant(s), special fee arrangements, or contract(s) that will be valid to fund the program. What does the institution propose to do with the program upon termination of those funds? \

State/ federal grants and billed clinic service fees currently funded through the SLHOS program will be used to support the success of the OT program. One grant is a renewable federal flow-through IDEA grant through the State of Office of Public Instruction that provides for staff support for clinical supervision throughout the state. This grant is to support areas of critical shortage of occupational therapy and has been consistently funded for eleven consecutive years with a long-term contract that is up for renewal in 2 years. In addition, the SLHOS School and current faculty generate indirect research funds associated with federal grants that help support infrastructure support for the upcoming 4 years. These monies, will help bridge the development OT to fiscal revenue generation by year 3.

**13. Student fees.** If the proposed program intends to impose new course, class, lab, or program fees, please list the type and amount of the fee.

Student program-specific tuition above base tuition, similar to currently assessed tuition in all of the professional programs, is proposed at an initial amount of $6,800/student/FY for the approved graduate program.

**14.** Complete the fiscal analysis form.

**Montana Board of Regents**

**CURRICULUM PROPOSAL FORM**

Signature/Date

**College or School Dean:**

**1/10/2020**

**Chief Academic Officer:**

**Chief Executive Officer:**

**Flagship Provost*:**

DocuSigned by:
Jon Harbor
34E1E62599324B7...

**Flagship President*:**

DocuSigned by:
Seth Bodnar
94F80417FFA449D...

*Not applicable to the Community Colleges.

# Montana Board of Regents

## CURRICULUM PROPOSAL FORM

### Appendix A – Proposed New Curriculum

# Academic Degree Program Proposal - Fiscal Analysis Form

| | |
|---|---|
| **CAMPUS:** | UM-Missoula |
| **AWARD LEVEL:** | GR |
| **PROGRAM NAME:** | Doctor of Occupational Therapy |
| **PROGRAM CODE:** | OCTH |

| | FY 2021 | FY 2022 | FY 2023 | FY 2024 | FY 2025 |
|---|---|---|---|---|---|
| **ENROLLMENT PROJECTIONS** | | | | | |
| **Headcount** | | | | | |
| annual unduplicated headcount of students with declared major or minor within the program | | 20 | 54 | 88 | 103 |
| **Credit Hours** | | | | | |
| annual avg. credits hours earned per student in program related curriculum | | 24 | 24 | 24 | 24 |
| **Student FTE** | | | | | |
| Undergrad: (Headcount x CH)/30<br>Graduate: (Headcount x CH)/24 | | 20 | 54 | 88 | 103 |
| **Completions** | | | | | |
| Annual number of program completers | | 0 | 0 | 19 | 34 |
| **REVENUE** | | | | | |
| Tuition Revenue (net of waivers) | $0 | $220,910 | $739,290 | $1,376,482 | $1,714,329 |
| Institutional Support | | | | | |
| Other Outside Funds (grants, gifts, etc.) | $200,000 | $200,000 | $50,000 | $75,000 | $100,000 |
| Program Tuition/Fees | $0 | $142,675 | $396,778 | $665,999 | $802,909 |
| **Total Revenue** | **$200,000** | **$563,585** | **$1,186,068** | **$2,117,481** | **$2,617,238** |
| **Total Revenue per Student FTE** | **#DIV/0!** | **$28,179** | **$21,964** | **$24,062** | **$25,410** |
| **EXPENDITURES** | | | | | |
| Tenure Track Faculty — FTE | 2.0 | 3.0 | 4.0 | 4.0 | 4.0 |
| Tenure Track Faculty — Salary + Benefits | $223,072 | $333,960 | $451,860 | $466,313 | $481,602 |
| Non-tenure Track Faculty *Includes Adjunct Instructors — FTE | 1.0 | 2.0 | 3.0 | 3.0 | 3.0 |
| Non-tenure Track Faculty *Includes Adjunct Instructors — Salary + Benefits | $92,036 | $190,000 | $294,417 | $304,368 | $314,927 |
| Graduate Teaching Assistants — FTE | | | | 2.0 | 2.0 |
| Graduate Teaching Assistants — Salary + Benefits | | | | $41,200 | $41,200 |
| Staff — FTE | 1.3 | 2.3 | 2.3 | 2.3 | 2.3 |
| Staff — Salary + Benefits | $72,830 | $133,078 | $138,528 | $144,345 | $150,586 |
| **Total Faculty & Staff** — FTE | **4.3** | **7.3** | **9.3** | **11.3** | **11.3** |
| **Total Faculty & Staff** — Salary + Benefits | **$387,938** | **$657,038** | **$884,805** | **$956,226** | **$988,315** |
| Operations (supplies, travel, rent, etc) | $57,180 | $95,125 | $106,592 | $155,476 | $159,127 |
| Start-up Expenses (OTO) | $347,500 | | | | |
| **Total Expenses** | **$792,618** | **$752,163** | **$991,397** | **$1,111,702** | **$1,147,442** |
| **Student FTE to Faculty (TT + NTT) Ratio** | **0.0** | **4.0** | **7.7** | **12.6** | **14.7** |
| **Net Income/Deficit** (Revenue - Expenses) | **-$592,618** | **-$188,578** | **$194,671** | **$1,005,779** | **$1,469,796** |

The signature of the campus Chief Financial Officer signifies that he/she has reviewed and assessed the fiscal soundness of the proposal and provided his/her recommendations to the Chief Academic Officer as necessary.

1-14-20

**Campus Chief Financial Officer Signature**

Chief Financial Officer Comments

Provost Harbor: The addition of two tenure-track faculty in FY21 will be offset by reductions in tenure-track faculty in other areas within the Academic Affairs budget.

JMH CAP AT 487 TENURE/ TENURE TRACK FACULTY WILL NOT BE EXCEEDED W/O AGREEMENT OF EVP/PROVOST & UPDATE

**March 2020**

**ITEM 187-1501-R0320**

**Request for authorization to establish a Doctor of Philosophy in Earth Science and Engineering**

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**THAT**

The Board of Regents Higher Education authorizes Montana Tech to establish a Doctor of Philosophy in Earth Science and Engineering Degree Program.

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**EXPLANATION**

The Doctor of Philosophy in Earth Science and Engineering (ESE Ph.D.) will be structured to complement and serve as a possible career path for several engineering and science bachelor's degree programs and the flourishing MS programs in Geoscience and Environmental Engineering. It will position its graduates for numerous career pathways, including academia, the non-profit sector, state and federal government, energy development, mineral development, geological and geophysical exploration, environmental consulting, environmental protection, land and resource management, natural hazard reduction, and other industries. Among its options, the degree program will include some unique to Montana Tech: Geochemistry, Geophysics, Hydrogeology, and Geological Engineering, but also support PhD programs at MSU and UM. More options can be added in the future as they become sustainable, complementing the growing research capacity at Montana Tech. The Montana Bureau of Mines and Geology (MBMG) will contribute to the success of the program through their strengths in geology, geological mapping, seismology, and water resources. Classes and research will be performed in person at Montana Tech and through collaborations with UM, MSU and other PhD programs around the world.

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**ATTACHMENTS**

Intent to Plan
Curriculum Proposal Form
Academic Proposal Request Form
Fiscal Analysis Form

# Montana Board of Regents

## ACADEMIC PROPOSAL REQUEST FORM

ITEM **187-1501-R0320** Submission Month or Meeting: **March 2020**

Institution: **Montana Technological Univ.** CIP Code: **14.99**

Program/Center/Institute Title: **Doctor of Philosophy in Earth Science and Engineering**

Includes (please specify below): Online Offering _____ Options _____

Please mark the appropriate type of request and submit with an Item Template and any additional materials, including those listed in parentheses following the type of request. For more information pertaining to the types of requests listed below, how to complete an item request, or additional forms please visit http://mus.edu/che/arsa/academicproposals.asp.

### ____ A. Level I:

**Campus Approvals**

____ **1a. Placing a postsecondary educational program into moratorium** (Program Termination and Moratorium Form)

____ **1b. Withdrawing a postsecondary educational program from moratorium**

____ **2. Establishing, re-titling, terminating or revising a campus certificate of 29 credits or less**

____ **3. Establishing a B.A.S./A.A./A.S. area of study**

____ **4. Offering an existing postsecondary educational program via distance or online delivery**

**OCHE Approvals**

____ **5. Re-titling an existing postsecondary educational program**

____ **6. Terminating an existing postsecondary educational program** (Program Termination and Moratorium Form)

____ **7. Consolidating existing postsecondary educational programs** (Curriculum Proposal Form)

____ **8. Establishing a new minor where there is a major or an option in a major** (Curriculum Proposal Form)

____ **9. Revising a postsecondary educational program** (Curriculum Proposal Form)

____ **10. Establishing a temporary C.A.S. or A.A.S. degree program** *Approval limited to 2 years*

**Montana Board of Regents**
**ACADEMIC PROPOSAL REQUEST FORM**

X **B. Level II:**

X **1. Establishing a new postsecondary educational program** (Curriculum Proposal and Completed Intent to Plan Form)

____ **2. Permanent authorization for a temporary C.A.S. or A.A.S degree program** (Curriculum Proposal and Completed Intent to Plan Form)

____ **3. Exceeding the 120 credit maximum for baccalaureate degrees** *Exception to policy 301.11*

____ **4. Forming, eliminating or consolidating an academic, administrative, or research unit** (Curriculum or Center/Institute Proposal and Completed Intent to Plan Form, except when eliminating or consolidating)

____ **5. Re-titling an academic, administrative, or research unit**

## Proposal Summary [360 words maximum]

**What – Request for authorization to establish a Ph.D. in Earth Science and Engineering**

**Why** - As Montana's only BOR-Designated Special Focus Institution, Montana Technological University proposes this doctoral program as an important strategic addition to our degree inventory. It will also expand the Montana University System's doctoral offerings into additional areas economically important to Montana, including extractive industries and natural hazard reduction. Earth science and engineering support vital sectors of Montana's economy: agriculture, mining, transportation, manufacturing, energy, tourism, and recreation. Earth scientists and engineers with doctoral degrees provide leadership in the quest to protect communities from natural hazards and to locate, develop, and manage water, energy, and mineral resources safely, sustainably, and in a manner that protects the environment. This program will allow Ph.D.-level research to occur in a several academic areas that are economically important, but currently not available in the state (Mining and Petroleum for example).

**Resources** - The required resources are in place, including faculty, research facilities and equipment, library materials, and advanced earth science and engineering courses taught in the graduate curriculum. The availability of Ph.D. students will attract additional research grants, as has happened with the Materials Science Ph.D. program at Montana Tech. The Graduate School has committed funding for two first-year graduate assistantships for 4 years to assist with program startup.

**Relationship to similar MUS programs** - MSU-Bozeman offers an Earth Science Ph.D. program with foci in Geography and Geology and UM-Missoula has a Geoscience Ph.D. program with foci on Water and Solid Earth Sciences. The proposed ESE Ph.D. program will complement these programs by making available existing Montana Tech courses, expanding the courses available to Ph.D. students within the state. Montana Tech's ESE will differentiate itself from the existing programs by incorporating engineering (modeling and design) into the curriculum. The proposed program will enrich and expand opportunities for multi-campus collaboration, enhance research competitiveness, and enable sharing of specialized advanced courses (similar to the Materials Science Ph.D.), benefiting the three campuses and the students in the programs. Personnel from the three campuses have discussed the collaboration opportunities.

# Montana Board of Regents

## CURRICULUM PROPOSAL FORM

1. **Overview of the request and resulting changes.** Provide a one-paragraph description of the proposed program. Will this program be related or tied to other programs on campus? Describe any changes to existing program(s) that this program will replace or modify. *[100 words]*

The Graduate School at Montana Technological University (Montana Tech) seeks authorization to offer a Doctor of Philosophy (Ph.D.) in Earth Science and Engineering (ESE), building on existing engineering and science BS and MS programs and the Montana Bureau of Mines and Geology (MBMG). Graduates will be positioned for numerous careers important to Montana, including energy/mineral development, geological/geophysical exploration, environmental consulting/protection, land/resource management, state and federal government, academia, and non-profits. Specialties take advantage of Montana Tech's and MBMG's distinctive strengths in Geological, Environmental, Petroleum, Mining, Mineral and Metallurgical Processing, and Hydrogeological Engineering, along with Geochemistry, Geophysics, Hydrogeology, and Economic Geology.

2. **Relation to institutional strategic goals.** Describe the nature and purpose of the new program in the context of the institution's mission and core themes. *[200 words]*

The ESE PhD program fits Montana Tech's mission by enabling exemplary graduate education and research, blending theory with practice to support responsible development and sustainable use of natural resources. The program builds on and operationalizes Montana Tech's institutional special focus in science, technology, engineering, and mathematics (STEM), as designated in 2017 by the Board of Regents. The ESE PhD aligns with Montana Tech's four core themes (quality education, achieving students, engaged faculty, and service to the community) and contributes to numerous strategic goals and objectives in Montana Tech's strategic plan. It provides the opportunity for students with BS or MS degrees in Geological Engineering, Geoscience, Environmental Engineering, Mineral and Metallurgical Processing Engineering, General Engineering, Mining Engineering, and Petroleum Engineering, or other related engineering and science fields to obtain the terminal degree and qualify for leadership roles and careers in industry, academia, and government. The program will make Montana Tech and Montana more competitive for federal and industrial research funding in earth sciences and engineering, increase enrollment in graduate-level courses in several departments, enhance peer-learning among students bringing different backgrounds to the program, and enhance synergies with other degree programs in the Montana University System.

3. **Process leading to submission.** Briefly detail the planning, development, and approval process of the program at the institution. *[100 words]*

This faculty-driven initiative began with a meeting of interested faculty in 2017. Over the intervening academic terms, a multidisciplinary/multidepartment faculty team developed this proposal and curriculum, informed by Ph.D. programs and curricula in closely related fields in Montana and beyond. The program has been discussed by departments, Department Heads, and Deans, and been vetted formally by the Graduate Council, Curriculum Review Committee, Faculty Senate, Vice Chancellor for Research, Provost, and Chancellor. The Intent to Plan was submitted to the Board of Regents in November 2018. Collaboration discussions with Montana State University and University of Montana have been held.

**Montana Board of Regents**

**CURRICULUM PROPOSAL FORM**

4. **Program description.** Please include a complete listing of the proposed new curriculum in Appendix A of this document.

   a. List the program requirements using the following table.

| | Credits |
|---|---|
| Credits in required courses offered by the departments offering the program (multi-departmental) | 26 |
| Credits in required courses offered by other departments | 0 |
| Credits in institutional general education curriculum | 0 |
| Credits of free electives | 0 |
| Total credits required to complete the program (a student entering with a Master's could transfer up to 24 applicable course credits to apply to the 60 credit total) | 60 (with at least 18 for dissertation research) |

   b. List the program learning outcomes for the proposed program. Use learner-centered statements that indicate what students will know, be able to do, and/or value or appreciate as a result of completing the program.

Students completing the program will:

1. Acquire up-to-date, advanced knowledge, research skills, and understanding in and integrating earth science and engineering, as needed to meet the changing needs of society;
2. Blend theory with practice and science with engineering to integrate, design, model, problem solve, engineer, and research in earth science and engineering;
3. Be able to communicate technical and scientifically complex material orally, in writing, and using various media for a broad range of audiences;
4. Demonstrate leadership skills and ethical principles applicable to earth science and engineering as a discipline and profession, including the ability to enable the responsible and sustainable development and use of natural resources, and to address issues facing humanity today and in the future related to protecting and restoring the environment; and
5. Make a significant and original contribution to the advancement of research and knowledge in earth science and engineering.

5. **Need for the program.** To what specific student, regional, and statewide needs is the institution responding to with the proposed program? How will the proposed program meet those needs? Consider workforce, student, economic, societal, and transfer needs in your response as appropriate. *[250 words]*

Earth science and engineering support vital sectors of Montana's economy: agriculture, mining, transportation, manufacturing, energy, tourism, and recreation. Earth scientists and engineers with doctoral degrees provide leadership in the quest to protect communities from natural hazards and to locate, develop, and manage water, energy, and mineral resources safely, sustainably, and in a manner that protects the environment. Geoscientist employment is projected to grow 14% from 2016—faster than average for all occupations.[1] Geoscientists and engineers are in demand in industry, government

[1] Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, accessed February 28, 2018. These data reflect typical entry level at the BS and some at the MS level.

agencies (e.g. BLM, EPA, USFS, Montana DEQ, and Montana DNRC), and as consultants, professors, and teachers. Montana Tech's ESE PhD program will complement related doctoral programs at UM and MSU and will involve collaboration between the three universities. The ESE PhD program will train geoscientists and engineers to address complex environmental, energy, land, water, mineral, and natural-hazard challenges facing local communities, the state, nation, and world. The curriculum features a distinctive blend of science and engineering to prepare researchers, problem-solvers, and leaders in the field. Students in related MS and BS programs at Montana Tech and elsewhere have been disappointed when they learn they cannot obtain PhDs mentored by Montana Tech's earth science and engineering faculty. Moreover, the PhD students will tackle significant, externally funded earth science and engineering problems requiring concentrated effort and the specialized expertise of their Montana Tech faculty mentors. Such problems are out of reach for master's or bachelor's students, who lack the skills, knowledge, and most critically, the time needed for multi-year research projects.

6. **Similar programs.** Use the table below to identify and describe the relationship between any similar programs within the Montana University System.

| Institution Name | Degree | Program Title |
|---|---|---|
| UM Missoula | PhD | Geoscience (Water and Solid Earth Sciences) |
| MSU | PhD | Earth Science (Geography and Geology) |
| MSU | PhD | Environmental Engineering |

a. If the proposed program substantially duplicates another program offered in the Montana University System, provide a rationale as to why any resulting duplication is a net benefit to the state and its citizens. *[200 words]*

By integrating earth science and engineering, the proposed ESE PhD complements rather than duplicates the other geoscience and environmental PhD programs. UM-Missoula's Geoscience PhD program focuses on Water and Solid Earth Sciences. MSU Bozeman's Earth Science PhD program focuses on Geography and Geology. MSU also offers a PhD in Environmental Engineering as a collaboration between the Civil Engineering and Chemical & Biological Engineering departments. Montana Tech's proposed program differentiates itself from other PhD programs in Montana by integrating modeling, design, and engineering with science and by building on Tech's strengths in Environmental, Geological, Mining, Petroleum, and Metallurgical and Mineral Processing Engineering, and Geophysics and Geochemistry, as well as access to applied research opportunities at the MBMG. This program will expand the Montana University System's doctoral offerings into additional areas economically important to Montana, including extractive industries and natural hazard reduction. Collaboration with MBMG will provide PhD-level research opportunities for students while enhancing MBMG's ability to investigate issues related to water and mineral resources in Montana. The opportunities for and benefits of research collaboration with the other PhD programs identified above and Montana's Materials Science PhD program also will boost Montana's competitiveness for federal research funding.

**Montana Board of Regents**

**CURRICULUM PROPOSAL FORM**

b. Describe any efforts that were made to collaborate with similar programs at other institutions. If no efforts were made, please explain why. *[200 words]*

Montana Tech faculty and administrators reached out to counterparts at the University of Montana and Montana State University to identify concerns, and to initiate strategies to develop and implement collaboration and synergies. University of Montana has been strongly supportive. Faculty and administrators at Montana State expressed mixed views, with some interested in collaboration. Others were concerned about course-sharing logistics, extent of external need and uniqueness, or objected to Montana Tech offering another PhD program. Win-win collaboration opportunities include multi-campus grant proposals, shared access to specialized instrumentation and facilities available on only one campus, coordinated field-research campaigns, and sharing low-enrollment advanced graduate-level courses. There is significant potential to expand research collaborations and proposal submission by teams of earth and environmental science and engineering faculty from the three campuses, with modest efforts already underway. Coordination of advanced, low-enrollment courses could follow the model of Montana's materials science PhD program, where each course is taught at one campus and taken by students on any campus, using distance technology. Montana Tech is committed to collaboration and cooperation, with the goal of enhancing all the programs, providing a vibrant peer community of students in all the programs, and providing top-notch learning experiences for the students.

7. **Implementation of the program.** When will the program be first offered? If implementation will occur in phases, please describe the phased implementation plans. *[100 words]*

The program will be first offered in Fall 2020. No new courses are needed, as the curriculum uses existing courses in the participating departments. Three stages of program evolution are envisioned: Stage I – Inception and Program Development. Stage II – Growth, and Stage III – Program Maturity. The time line for transitioning from one stage to the next will be driven by the success of faculty to secure research grants and to recruit, attract, educate, and graduate increasing numbers of doctoral students. To reach Stage III is estimated to take 10 years.

a. Complete the following table indicating the projected enrollments in and graduates from the proposed program.

| Fall Headcount Enrollment | | | | | Graduates | | | | |
|---|---|---|---|---|---|---|---|---|---|
| AY_20_21 | AY_21_22 | AY_22_23 | AY_23_24 | AY_24_25 | AY_24_25 | AY_25_26 | AY_26_27 | AY_27_28 | AY_28_29 |
| 3 | 6 | 9 | 12 | 14 | 1 | 3 | 3 | 3 | 3 |

b. Describe the methodology and sources for determining the enrollment and graduation projections above. *[200 words]*

The Fall headcount enrollment is based on admitting three students per year, with students beginning to graduate after four years. This conservative projection is based on Montana Tech's experience with the Materials Science Ph.D. program (which has admitted four to five students per year, who are graduating in 4 to 5 years); an estimate of the student demand based on the requests faculty have been receiving from students seeking PhD programs; and a projection of the rate external research grants to faculty in earth science and engineering will grow to support the students' research projects, graduate research assistantship (GRA) stipends, and tuition. We anticipate that when the program is mature, it would have an enrollment in the range of 15 students, with each participating research-active earth science and engineering faculty member

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providing grant support for and mentoring approximately one ESE PhD student at a time, with a few overlaps and gaps.

c. What is the initial capacity for the program?

The initial capacity for the program is three new students in Fall 2020.

8. **Program assessment.** How will success of the program be determined? What action would result if this definition of success is not met? *[150 words]*

The program will be assessed per Montana Tech's Graduate School Assessment Plan. Key metrics include applications, enrollment, graduates, placements, and impact. Impact includes grant revenues, peer-reviewed publications, student and faculty awards, and fiscal soundness. The Graduate School follows a 2-year assessment cycle. In year 1 of the cycle, the Graduate School and the program will consider the assessment metrics and use them to guide actions and decisions. In year 2, a formal program review document will be prepared by the program coordinator and reviewed by faculty, administration, and External Advisory Board. When performance falls short, action plans will be developed and implemented. A major assessment of the program will be conducted at the end of the third 2-year cycle to determine whether enrollment, completions, and impact are on track.

a. Describe the assessment process that will be used to evaluate how well students are achieving the intended learning outcomes of the program. When will assessment activities occur and at what frequency? *[150 words]*

The assessment data will be collected annually by the program director in late spring and reviewed by the program faculty, who will determine any modifications or corrective actions needed to enable students to achieve the learning outcomes, if they are falling short. The assessment will be shared with the department heads, deans, and external advisory board. Every two years a formal assessment report will be prepared, that also summarizes impacts of changes. This report will be reviewed by faculty, external advisory board, deans, provost, and Montana Tech's Assessment Committee. The overall goal is to ensure that the program (a) is meeting learning outcomes, (b) is on a sustainable growth trajectory, and (c) is attracting high quality students and producing high quality graduates to meet the workforce demand. Appendix A provides additional information about learning outcomes assessment.

b. What direct and indirect measures will be used to assess student learning? *[100 words]*

Appendix A provides a table (A-2) mapping assessment measures onto the student learning outcomes and programmatic goals. Direct measures of student learning include performance on the program's exams, the dissertation and its defense, peer-reviewed publications, placement rates, and conference presentations. Indirect measures include the judgment of graduate committees and External Advisory Board, instrumentation proficiency, participation in special experiences (such as software training, professional development sessions, professional society membership, field experiences, and conference attendance). Programmatic goals will be assessed directly via enrollment, completions, time-to-degree, placement rates; and indirectly via alumni surveys, External Advisory Board feedback, applicant demand, and international recognition/reputation.

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c. How will you ensure that the assessment findings will be used to ensure the quality of the program? *[100 words]*

The assessment findings will be reviewed by deans, Administration, and External Advisory Board annually, as well as by the faculty. The deans and External Advisory Board will hold faculty and the program coordinator accountable for using the findings to ensure the quality of the program. A formal written report will be produced every two years, as part of Montana Tech's program review process. This report will be reviewed and evaluated by Montana Tech's Assessment Committee, which will determine whether it and actions taken or proposed are acceptably ensuring the quality of the program.

d. Where appropriate, describe applicable specialized accreditation and explain why you do or do not plan to seek accreditation. *[100 words]*

Specialized accreditation is not applicable to Ph.D. programs in this field. Students on the engineering track would be expected to have completed an accredited engineering bachelor's program prior to admission. Students who plan to seek professional engineering licensure after graduation would address gaps and deficiencies in their engineering preparation during their enrollment, and their Graduate Committees would guide their course choices.

**9. Physical resources.**

a. Describe the existing facilities, equipment, space, laboratory instruments, computer(s), or other physical equipment available to support the successful implementation of the program. What will be the impact on existing programs of increased use of physical resources by the proposed program? How will the increased use be accommodated? *[200 words]*

Each participating department has faculty offices, research and instructional laboratories, computers with appropriate software, and laboratory and field instruments required for its particular earth science and engineering specialty. In addition, numerous other earth science and engineering facilities are available to support and successfully implement the program (see Appendix B). Among these facilities are MBMG's staffed and certified Analytical Lab, MBMG's Rock Processing Lab, the Chemistry & Geochemistry Department's Analytical Lab, the Geophysics Department's field exploration equipment and specialized software, geological and hydrogeological sampling and analysis equipment, sample preparation equipment, a 1-dimensional 1-ton-capacity Shake Table, three scanning electron microscopes (including two with mineral liberation analysis capability and one with cathodoluminescence capability, a laser confocal microscope, x-ray characterization equipment, characterization equipment and support staff of the Center for Advanced Mineral, Metallurgical, and Materials Processing (CAMP), extensive equipment for mineral and metallurgical processing, and numerous earth science and engineering faculty research laboratories. These facilities have the quality of instrumentation and the capacity to support research use by the anticipated number of PhD students without having a negative effect on instrument access, function, or other programs. The PhD students and their research will integrate easily into current facilities, equipment, instrumentation, and space.

b. List needed facilities, equipment, space, laboratory instruments, etc., that must be obtained to support the proposed program. (Enter the costs of those physical resources into the budget sheet.) How will the need for these additional resources be met? *[150 words]*

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Suitable shared office space will be needed for the Ph.D. students (3 in year 1, growing to total of 14 in year 5). The locations of this space will be identified as the students arrive and their advisors and research groups are identified. With the recent completion of two new buildings (the Student Success Center in 2019 and the Natural Resources Research Building in 2017) on campus, and the modest number of new students, such office space is available and would be shared with other Ph.D. or master's degree students in earth science and engineering. No new construction or building modifications would be needed. Adequate instrumentation and laboratories are available to support the program. As grants are received for major research instrumentation, those items will be accommodated in the appropriate departments and laboratories, as is currently the case for new major instruments.

**10. Personnel resources.**

a. Describe the existing instructional, support, and administrative resources available to support the successful implementation of the program. What will be the impact on existing programs of increased use of existing personnel resources by the proposed program? How will quality and productivity of existing programs be maintained? *[200 words]*

Instructional, support, and administrative resources are adequate. More than twenty Montana Tech faculty in nine departments are committed to ESE PhD program (Table A-3). These faculty are already teaching the graduate-level courses required for the PhD curriculum in a schedule rotation, while providing the courses and top-quality mentoring characterizing the Tech experience for undergraduates. Eight research faculty at MBMG hold PhDs and are available to advise candidates and serve on PhD committees. The quality and productivity of bachelor's and master's programs will be enhanced with PhD-student enrollment in 500-level courses and PhD students as additional mentors in the research groups. In addition to faculty, highly qualified technical support personnel in several participating departments on campus, including MBMG, are in place and eager to support PhD-level research. The grant funding essential to support the projected PhD enrollment will also support funded research opportunities for undergraduates and master's students, fund additional supplies and instrumentation, and provide summer salary for faculty—enabling them to increase their research productivity and publications. Instructional efficiency and student learning in advanced courses will increase due to higher enrollment and enhanced peer learning. Graduate School and departmental administrative resources can easily handle the small increase in students.

b. Identify new personnel that must be hired to support the proposed program. (Enter the costs of those personnel resources into the budget sheet.) What are the anticipated sources or plans to secure the needed qualified faculty and staff? *[150 words]*

Instructional, support, and administrative resources are sufficient. Faculty numbers and expertise are adequate. A priority will be placed on filling future faculty vacancies in the participating departments with new faculty who are research-active and who bring expertise that can contribute to the ESE-PhD program. The applicant pools for these vacancies will be strengthened, as most aspiring faculty in these fields desire to work in a department where they have access to the PhD students necessary for their research success. Moreover, mature, focused, knowledgeable, and successful PhD students will be resources and role models to undergraduates and master's students in their research groups. As the program and its externally funded research grows, Montana Tech intends to refill a laboratory technician position that has been vacant for a few years. This technician would manage, maintain and oversee instrumentation and user training in earth science and engineering departments currently lacking such dedicated support.

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**11. Other resources.**

a. Are the available library and information resources adequate for the proposed program? If not, how will adequate resources be obtained? *[100 words]*

The available library and information resources are adequate. These resources already support the bachelor's and master's degree programs in earth-science-and engineering-related fields and the needs of MBMG, as well as the Materials Science Ph.D. program, currently in its sixth year of active student engagement. In addition to its collections, the library employs 3.5 FTE librarians to assist faculty and students in all disciplines with their research, studies, and information needs. Additionally, librarians teach subject-specific information literacy classes and provide individualized assistance to students and faculty at all levels.

b. Do existing student services have the capacity to accommodate the proposed program? What are the implications of the new program on services for the rest of the student body? *[150 words]*

The existing student services have the capacity to accommodate the proposed program. The students will be mature, advanced students, not requiring services from the Academic Center for Excellence or other academic and student support offices. The total number of additional students, when the program is at full steady-state capacity will increase overall enrollment by less than 1%.

**12. Revenues and expenditures.** Describe the implications of the new program on the financial situation of the institution. *[100 words]*

The new program will have positive financial implications on Montana Tech's financial situation, due to the increase in scholarly activity and competitive grants. Please see signed Fiscal Analysis Form (Item 14) below the institutional signatures on page 10 of this proposal.

a. Please complete the following table of budget projections using the corresponding information from the budget template for the first three years of operation of the new program.

| | Year 1 | Year 2 | Year 3 |
|---|---|---|---|
| Revenues | $106,150 | $204,210 | $297,508 |
| Expenditures | $106,150 | 204,210 | 297,508 |
| Net Revenue (revenues-expenditures) | $0 | $0 | $0 |

b. Describe any expenses anticipated with the implementation of the new program. How will these expenses be met? *[200 words]*

New expenses are anticipated to be negligible, as no new courses are required, and the teaching assignments of faculty will not be affected, because the Ph.D. students will be taking the same low-enrollment advanced, graduate-level courses as are currently serving the geoscience M.S. program. The program will require a faculty member to serve as lead coordinator, and this faculty member would receive a stipend of $5,000 per year for this additional service. Faculty involved will become more active in seeking external grants and contracts, and this funding will provide research assistantships and tuition support for students, along with funding for research expenses, faculty release time and faculty summer salary. The Graduate School has committed to support two 1st-year students as Named Graduate School Research Scholars (name of award TBD) each year for at least the first four years of the program. These students will be provided with stipends and tuition, one entering with a degree in science and one in engineering.

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i. If funding is to come from the reallocation of existing state appropriated funds, please indicate the sources of the reallocation. What impact will the reallocation of funds in support of the program have on other programs? *[150 words]*

No reallocation of existing state-appropriated funds is planned. The institutional funds to be used to fund the assistantship stipends promised by the Graduate School for two first-year students would be reinvested from the Facilities and Administrative (F&A) pool. This reallocation is allowable, would help generate preliminary data needed for grant proposals, and will not impact existing programs. Faculty will continue teaching their undergraduate and graduate level courses. The enrollment in graduate courses will increase slightly. Faculty will mentor approximately one PhD student at a time, and the Ph.D. student research will improve the research and intellectual environment for the undergraduate and master's students in the departments, plus assist the faculty mentor with preparing competitive research proposals.

ii. If an increase in base funding is required to fund the program, indicate the amount of additional base funding and the fiscal year when the institution plans to include the base funding in the department's budget.

No increase in base funding is required.

iii. If the funding is to come from one-time sources such as a donation, indicate the sources of other funding. What are the institution's plans for sustaining the program when that funding ends? *[150 words]*

Funding for the promised first-year graduate assistantships during the first four years will come from investing revenues from the Facilities and Administrative pool. As the program grows and faculty acquire research grants to support the Ph.D. research, these grants will be supporting most of the students directly, as is the case now for the Materials Science Ph.D. students at Montana Tech, and the Facilities and Administrative revenue stream will grow. As with most Ph.D. programs, the continuing costs after startup will be sustained by external research grants obtained by faculty. As with most Ph.D. program, the capacity each year will be determined by the availability of external research funds.

iv. Describe the federal grant, other grant(s), special fee arrangements, or contract(s) that will be valid to fund the program. What does the institution propose to do with the program upon termination of those funds? *[150 words]*

No funds or arrangements of these types will be used to fund the program or its start up.

**13. Student fees.** If the proposed program intends to impose new course, class, lab, or program fees, please list the type and amount of the fee.

No new fees are proposed.

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Signature/Date

**College or School Dean:** 1/15/2020

**Chief Academic Officer:** Douglas M. Abbott 1/15/20

**Chief Executive Officer:** 1/15/2020

**Flagship Provost*: N/A**

**Flagship President*: N/A**

*Not applicable to the Community Colleges.

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## Appendix A – Proposed New Curriculum

The ESE-PhD will be a research degree. Students will be required to earn at least 60 credits beyond the bachelor's degree. The curriculum requires a minimum of 26 credits of course work (2 credits of Earth Science and Engineering seminar + eight 3 credit courses). At least five of the courses (15 credits) must be at the 500 level, and no credits can be accepted below the 400 level. Students entering with a master's degree would be allowed to petition to transfer up to 24 applicable course credits (no research credits and no seminar credits) toward the PhD, subject to approval by the faculty. Within the curriculum at least three courses (9 credits) must feature engineering content and skills and at least three courses (9 credits) must feature science content and skills. All PhD students must take a 1-credit Earth Science and Engineering seminar during their first semester, at which participating faculty introduce and present their research. ESE-PhD students will also take Montana Tech's graduate writing seminar. Each student could earn a degree concentration or option, such as geochemistry, geological engineering, hydrogeology, or mining engineering. For the option, each department will have a specified set of at least four courses or a menu from which students seeking that option would select at least four courses. Current 400- and 500-level courses applicable to the ESE-Ph.D. are listed in Table A-1. Students will complete and defend orally a dissertation presenting the results of significant and original research that advances knowledge in earth science and engineering. The minimum enrollment in dissertation is 18 credits. Students may take additional courses or additional research credits beyond the minimum amount required.

The program will have three key examinations to evaluate student progress and successful completion of the PhD program: the Qualifying Exam, the Candidacy Exam and the final Dissertation Defense. The Qualifying and Candidacy Exams can happen in the first two years. The Qualifying Exam tests the student's ability to be an independent thinker and scholar, as well as demonstrate knowledge breadth and depth in earth science and engineering. The student will write an independent research proposal unrelated to their dissertation research topic and present and defend it to their dissertation committee. During the oral defense, the student will be questioned on their proposal as well as breadth of knowledge in earth science and engineering. The Candidacy Exam is a dissertation proposal defense by the qualified student to the dissertation committee. This oral defense is designed to help the student have a plan to execute successful and original research. The final examination is the dissertation defense, comprised of a written dissertation presenting original and significant research with an oral defense.

Admissions Criteria comply with Montana Tech's graduate admissions criteria. Briefly, students must have an earned bachelor's degree from a regionally accredited institution of higher education (or a recognized international equivalent) with a cumulative undergraduate GPA of at least 3.0 on a 4.0 scale. They must take and submit scores for the GRE General Test, provide three letters of recommendation, transcripts from all universities attended, and a statement of purpose for pursuing the degree. GRE scores will be considered holistically in combination with the other materials. Students educated outside the United States, Canada, or the United Kingdom must provide additional materials, such as officially evaluated transcripts and English Proficiency Scores from IELTS (score of at least 7.0) or TOEFL (score of at least 84).

Admitted students are assigned an initial advisor in the admissions offer. Not later than the third semester, they will form a graduate committee, with at least five members. The Graduate Committee collaborates with the student to design, manage, and oversee the student's curriculum and progression through the program. The committee chair would be the research advisor. Two other committee members will be faculty affiliated with the ESE-Ph.D. program. At least one of the three program faculty on the committee will be an engineer, and at least one member will be a scientist. The fourth member of the committee is the "Graduate School Representative," a faculty member NOT involved with the ESE-PhD. The fifth member is an expert in the area

of the student's research interests, who is NOT a faculty member at Montana Tech. Each member of the Graduate Committee must have a Ph.D. and at least four members of the Committee, including the external member, must be on the student's dissertation committee. The dissertation committee will be expected to meet once every six months to help the student maintain progress.

The program will have an external advisory board that will meet to evaluate the program and provide recommendations.

**Table A-1: Engineering and Earth Science Content Courses**

Note: All courses listed are already being taught at Montana Tech

| **Engineering Content** | | **Earth Sciences Content** | |
|---|---|---|---|
| GeoE 403 | Structural Geol. for Engineers | GeoE 406 | Geomorph/Photogeology |
| GeoE 420 | Hydrogeology for Engineers | GeoE 409 | Field Geology/Geophysics |
| GeoE 422 | Groundwater Flow Modeling | GeoE 501 | Montana Geology |
| GeoE 440 | Engineering Geology | GeoE 410 | Mining Geology |
| GeoE 541 | Advanced Engineering Geology | GeoE 411 | Metallic Ore Deposits |
| GeoE 542 | Slope Stability Analysis & Design | GeoE 429 | Field Hydrogeology |
| EENV 460W | Energy & Sustainability | GeoE 520 | Advanced Hydrogeology |
| EENV 445 | Hazardous Waste Treatment | GeoE 528 | Contaminant Transport |
| EENV 430 | Soil & Subsurface Remediation | GeoE 411 | Metallic Ore Deposits |
| EENV 421 | Risk Analysis | GeoE 521 | Acid Rock Drainage |
| EENV 402 | Surface Water Hydrology | GeoE 533 | Hydrogeochemistry |
| EENV 403 | Water & Wastewater Treatment | GeoE 534 | Isotope Geochemistry |
| EENV 504 | Surface Water Quality | GeoE 585 | GIS in Natural Resources |
| EENV 587 | EnvE Laws & Regulations | CHMY 540 | Environmental Chemistry |
| EENV 514 | Land & Stream Restoration | CHMY 542 | Environmental Organic Chemistry |
| EMET 401 | Hydrometallurgy & Aqueous Processes | CHMY 591 | Geochemical Modeling |
| EMET 402 | Hydrometallurgy & Thermal Processing | CHMY 501 | Advanced Inorganic Chemistry |
| EMET 405 | Extractive Metallurgy Lab | CHMY 590 | Biogeochemistry |
| EMET 525 | Computer Application for Process Engineers | GEOP 508 | Problems in Seismic Prospecting |
| EMAT 471 | Materials Characterization & Analysis | GEOP 450 | Inversion – Exp. Design & Interpret. |
| EMAT 523 | Advanced Thermodynamics | GEOP 509 | Problems in Gravity & Magnetic Prospecting |
| EMAT 530 | Energy Issues Analysis | GEOP 510 | Problems in Electrical Prospecting |
| EMAT 571 | SEM/EDX | GEOP 401 | Intro. to Seismic Processing |
| EMET 534 | Flotation | GEOP 510 | Problems in Electrical Prospecting |
| EMET 541 | Flowsheet Development & Design | GEOP 446 | Applied Linear Systems |
| EMET 501 | Advanced Extractive Metallurgy I | GEOP 525 | Remote Sensing for Earth Sciences |
| EMET 502 | Advanced Extractive Metallurgy II | GEOP 527 | Petrophysics |
| EMET 504 | Fire Assay | NRSM 535 | Restoration I: Theory & Practice |
| EMET 511 | Materials Handling Design | NRSM 536 | Restoration II: Applications |
| EMET 531 | Hazardous and Toxic Species Remediation | NRSM 595 | Restoration Field Practicum |
| EMET 555 | Advanced Flotation | NRSM 599 | Restoration Capstone |
| EMET 582 | Processing of Energy Resources | | |
| EMET 583 | Processing of Precious Metals | | |

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| **Engineering Content** | | **Engineering Content** | |
|---|---|---|---|
| MIN 544 | Environmental Management and Design of Mines | PET 404 | Reservoir Engineering |
| MIN 467 | Geomechanics (with lab) | PET 452 | Natural Gas Engineering |
| MIN 5200 | Numerical Modeling in Finite Element Method in Geomechanics | PET 501 | Advanced Drilling Fluids |
| MIN 418 | Ore Reserve Estimation (with lab) | PET 502 | Production Operations Design - Simulation |
| MIN 560 | Mine Management 11 | PET 503 | Surface Production Facilities |
| MIN 572 | Mine Design – Coal | PET 504 | Advanced Reservoir Engineering |
| MIN 5090 | Geomechanics II | PET 505 | Pressure Transient Analysis |
| MIN 5100 | Advanced Engineering Economic Analysis | PET 508 | Thermal Recovery Methods |
| MIN 5120 | Simulation of Engineering Systems | PET 511 | Advanced Reservoir Simulation |
| MIN 5180 | Advanced Geostatistics | PET 512 | Offshore Drilling and Completion Operations |
| MIN 5300 | Aggregate Mine Design | PET 526 | Adv. Reservoir Characterization |
| MIN 5500 | GPS Surveying | PET 544 | Advanced Oil Recovery |
| MIN 5610 | Design & Construction of Dump Sites | PET 595 | Reservoir Geomechanics |
| MIN 5750 | Tunneling & Underground Construction | | |

The learning outcomes for the program are that students completing the program will:

1. Acquire up-to-date, advanced knowledge, research skills, and understanding in and integrating earth science and engineering, as needed to meet the changing needs of society;
2. Blend theory with practice and science with engineering to integrate, design, model, problem solve, engineer, and research in earth science and engineering;
3. Be able to communicate technical and scientifically complex material orally, in writing, and using various media for a broad range of audiences;
4. Demonstrate leadership skills and ethical principles applicable to earth science and engineering as a discipline and profession, including the ability to enable the responsible and sustainable development and use of natural resources, and to address issues facing humanity today and in the future related to protecting and restoring the environment; and
5. Make a significant and original contribution to the advancement of research and knowledge in earth science and engineering.

In addition, the program has a programmatic goal to have high impact and retention, with enrollment and completions achieving the projections and meaningful and growing engagement and commitment by the faculty and departments involved. Table A-2 maps the measures and metrics for program review and evaluation onto the learning outcomes and programmatic goal.

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**Table A-2: Program Review and Assessment Goals, Measures and Metrics**

| Goals: Learning Outcomes and Programmatic Objectives | Measures and metrics |
|---|---|
| Acquire up-to-date, advanced knowledge, skills, and understanding in and integrating earth science and engineering, as needed to meet the changing needs of society; | • Qualifying exam<br>• Candidacy exam<br>• Dissertation and defense<br>• Special training: software, etc. |
| Blend theory with practice and science with engineering to integrate, design, model, problem solve, and apply advanced knowledge, skills and understanding in earth science and engineering; | • Dissertation and defense<br>• Publications<br>• Conference presentations |
| Develop skills in communicating technical and complex material orally, in writing, and using various media for a broad range of audiences; | • Dissertation and defense<br>• Publications and presentations<br>• Qualifying exam<br>• Candidacy exam<br>• Outreach participation |
| Demonstrate leadership skills and ethical principles applicable to earth science and engineering as a discipline and profession, including the ability to enable the responsible and sustainable development and use of natural resources, and to address issues related to natural resources and to protecting and restoring the environment facing humanity today and in the future. | • Dissertation topic<br>• Professional society membership<br>• Service<br>• Internships<br>• Mentoring undergraduates<br>• Placement rate and position<br>• Grants/scholarships received |
| Make a significant and original contribution to advance knowledge in earth science and engineering. | • Dissertation & judgment of committee<br>• Peer-reviewed publications<br>• Invited talks at conferences |
| Programmatic: Impact, enrollment, retention, completions, faculty & department engagement | • Evaluation of External Adv. Board<br>• Applications & quality of students<br>• Enrollment & Degrees granted<br>• Time to degree<br>• Active faculty & departments<br>• Applicant demand<br>• Program reputation<br>• Employment in Montana<br>• Alumni & employer surveys |

As of Fall 2019, at least 20 tenured or tenure-track faculty in eight departments—all with thesis-based master's degree programs—have committed to participate in the program. They and their research interests are presented in Table A-3.

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## Table A-3: Committed Montana Tech Earth Science and Engineering Faculty

| Faculty | Department | Research Focus Areas |
|---|---|---|
| Alysia Cox | Chem/Geochem | Geochemistry, Biogeochemistry, Environmental Proteomics |
| Brian St. Clair | Chem/Geochem | Geochemistry, Biogeochemistry, Microbial Energetics |
| John Kirtley | Chem/Geochem | Optical In Situ Environmental Measurements, Biochar |
| Chris Gammons | GeoE | Geochemistry, Mineral Deposits, Stable Isotopes |
| Larry Smith | GeoE | Sedimentology, Petroleum Geology, Glacial Geology |
| Glenn Shaw | GeoE | Hydrogeology, Geochemistry, Hydrologic Tracers |
| Mohammed Sadeghiamirshahidi | GeoE | Soil and Rock Mechanics; Smart, Sustainable and Resilient Geomaterials; Slope Stability and Debris Flow Hazards |
| Xiaobing Zhou | GeopE | Gravity and Magnetic Geophysics, Remote Sensing, and Drone Research |
| Marvin Speece | GeopE | Seismic Processing Geophysics |
| Raja Nagisetty | EnvE | Surface Water Quality Modeling, Soil Remediation |
| Katherine Zodrow | EnvE | Water Treatment, Biofilms in Engineered and Natural Systems, Materials |
| Daqian "D.J." Jiang | EnvE | Environmental Biotechnology, Bio-electrochemical Systems, Industrial Ecology, Consumption of Synthetic Organic Chemicals |
| Courtney Young | MetMatE | Hydrometallurgy, Pyrometallurgy, Tailings Repurposing, Water Remediation, Mining Sustainability |
| Jerry Downey | MetMatE | Chemical and Metallurgical Thermodynamics, Thermal Processing, Materials Synthesis and Processing, and Hazardous Materials Treatment |
| Avimanyu Das | MetMatE | Minerals Processing, Extractive Metallurgy |
| Paul Conrad | MiningE | Environmental Reclamation & Restoration, Mine Optimization, Mine Safety, and Mine Automation |
| Susan Schrader | PetE | Analytical, Numerical and/or Data Driven Solutions to Fluid Flow Problems |
| Todd Hoffman | PetE | Unconventional Reservoirs, Enhanced Oil Recovery, Reservoir Engineering |
| Dario Prieto | MechE | Catalysis and Adsorption with Natural Zeolites |
| Madeline Gotkowitz | MBMG | Hydrogeology, Contaminant Fate and Transport |
| Gary Icopini | MBMG | Geochemistry, Hydrogeology, Groundwater Monitoring and Assessment, Mining |
| John Metesh | MBMG | Hydrogeology, Groundwater Modeling |
| Kaleb Scarberry | MBMG | Magma Systems, Mineral Deposits, Critical Mineral Resources, Geologic Mapping, Economic Geology |

# Academic Degree Program Proposal - Fiscal Analysis Form

| | |
|---|---|
| **CAMPUS:** | Montana Technological University |
| **AWARD LEVEL: GR** | GR |
| **PROGRAM NAME:** | Earth Science & Engineering Ph.D. |
| **PROGRAM CODE:** | |

| | FY 2021 | FY 2022 | FY 2023 | FY 2024 | FY 2025 |
|---|---|---|---|---|---|
| **ENROLLMENT PROJECTIONS** | | | | | |
| **Headcount** | | | | | |
| annual unduplicated headcount of students with declared major or minor within the program | 3 | 6 | 9 | 12 | 14 |
| **Credit Hours** | | | | | |
| annual avg. credits hours earned per student in program related curriculum | 20 | 19 | 16.67 | 16.5 | 16.5 |
| **Student FTE** | | | | | |
| Undergrad: (Headcount x CH)/30<br>Graduate: (Headcount x CH)/24 | 2.5 | 4.75 | 6.25 | 8.25 | 9.63 |
| **Completions** | | | | | |
| Annual number of program completers | 0 | 0 | 0 | 1 | 3 |
| **REVENUE** | | | | | |
| Tuition Revenue (net of waivers) | $15,900 | $30,210 | $39,758 | $52,470 | $61,215 |
| Institutional Support | $64,300 | $64,300 | $64,300 | $64,300 | |
| Other Outside Funds (grants, gifts, etc.) | $21,750 | $101,720 | $182,948 | $263,340 | $381,330 |
| Program Tuition/Fees | $4,200 | $7,980 | $10,502 | $13,860 | $16,170 |
| **Total Revenue** | **$106,150** | **$204,210** | **$297,508** | **$393,970** | **$458,715** |
| **Total Revenue per Student FTE** | **$42,460** | **$42,992** | **$47,592** | **$47,754** | **$47,659** |
| **EXPENDITURES** | | | | | |
| Tenure Track Faculty: new — FTE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Tenure Track Faculty: new — Salary + Benefits | | | | | |
| Non-tenure Track Faculty: NEW *Includes Adjunct Instructors — FTE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Non-tenure Track Faculty: NEW *Includes Adjunct Instructors — Salary + Benefits | | | | | |
| Graduate Research Assistants enrolled in program — FTE | 1.5 | 3.0 | 4.5 | 6.0 | 7.0 |
| Graduate Research Assistants enrolled in program — Salary + Benefits | $96,150 | $190,710 | $280,508 | $373,470 | $435,715 |
| Staff — FTE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Staff — Salary + Benefits | | | | | |
| **Total Faculty & Staff** — FTE | **1.5** | **3.0** | **4.5** | **6.0** | **7.0** |
| **Total Faculty & Staff** — Salary + Benefits | **$96,150** | **$190,710** | **$280,508** | **$373,470** | **$435,715** |
| Operations (supplies, travel, rent, etc) | $10,000 | $13,500 | $17,000 | $20,500 | $23,000 |
| Tuition waivers or expenditures (from grants) | $0 | $0 | $0 | $0 | $0 |
| **Total Expenses** | **$106,150** | **$204,210** | **$297,508** | **$393,970** | **$458,715** |
| **Student FTE to Faculty (TT + NTT) Ratio** | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** |
| **Net Income/Deficit** (Revenue - Expenses) | **$0** | **$0** | **$0** | **$0** | **$0** |

The signature of the campus Chief Financial Officer signifies that he/she has reviewed and assessed the fiscal soundness of the proposal and provided his/her recommendations to the Chief Academic Officer as necessary.

Jaleen Cassidy 1/14/20

**Campus Chief Financial Officer Signature**

Chief Financial Officer Comments

Budget assumptions: REVENUES: (1) First year students enroll in 10 credits/term, 2nd year in 9 credits/term, post-candidacy students working on dissertation enroll in 6 credits/term. (2) Tuition and fee estimates based on FY 2020 levels: rounded to $265/credit for tuition; $70 per credit for mandatory fees. (3) The Grad School has committed to provide GRAs and tuition for two first-year students for the first 4 years of the program. The amount is listed as "institutional support," it covers an appointment of 20-hours/week during the academic year and 40-hours/week during the summer for a 12-month stipend of $25,000, with benefits added @7%. These GRAs are not essential to DELIVER the program, but their research will provide preliminary data to help obtain competitive grants. (4) Other outside funds line includes the grant revenue necessary to support the assistantships for the other students. Note that the total grant revenues are likely to be at least 3 times larger, and to support faculty salary, undergraduate researchers, master's students, supplies, expenses, equipment, and indirect costs. The entry on this line is limited to the amount needed to balance the budget. EXPENDITURES: (1) No new courses are required. No new faculty or staff will be hired. Each year, fewer than 20% of the faculty committed with the program will have a new PhD student to mentor. (2) The personnel entry provides the estimated costs for each of the PhD students to have a full tuition waiver and an assistantship. Two of these for first year students have been committed by the Graduate School for the first 4 years (see Institutional Support revenue line, above). The remainder, included for continuing students, is assumed to come from the research grants the students will be working on (see Other Outside Funds revenue line, above). (3) Operations budget includes travel, supplies, recruiting materials, and stipend for program coordinator.

# Montana University System

## INTENT TO PLAN FORM

Program/Center/Institute Title: **Doctor of Philosophy in Earth Science and Engineering (ESE PhD)**

Campus, School/Department: **Montana Tech Graduate School** Expected Submission Date: **Nov 2018**

Contact Name/Info: **Dr. Alysia Cox, acox@mtech.edu**

To increase communication, collaboration, and problem solving opportunities throughout the MUS in the program/center/institute development process, please complete this form not more than 18 months in advance of the anticipated date of submission of the proposed program/center/institute to the Board of Regents for approval. The completed form should not be more than 2-3 pages. For more information regarding the Intent to Plan process, please visit http://mus.edu/che/arsa/preparingacademicproposals.asp.

**1) Provide a description of the program/center/institute.**

The Doctor of Philosophy in Earth Science and Engineering (ESE PhD) will be structured to complement and serve as a possible career path for several engineering and science bachelor's degree programs and the flourishing MS in Geoscience and Environmental Engineering programs. It will position its graduates for numerous career pathways, including academia, the non-profit sector, state and federal government, energy development, mineral development, geological and geophysical exploration, environmental consulting, environmental protection, land and resource management and other industries. Among it's options, the degree program will include some unique to Montana Tech: Geochemistry, Geophysics, Hydrogeology, Geological Engineering, and Environmental Engineering, but also support PhD programs and MSU and UM. More options can be added in the future as they become sustainable, complementing the growing research capacity at Montana Tech. The Montana Bureau of Mines and Geology (MBMG) will contribute to the success of the program through their strengths in geology, seismology, and water resources. Classes and research will be performed in person at Montana Tech and through collaborations with UM, MSU and other PhD programs around the world.

**2) Describe the need for the program/center/institute. Specifically, how the program/center/institute meets current student and workforce demands. (Please cite sources).**

The world will need geoscientists and engineers in the future to protect the environment, and to find, develop, and manage energy, land, and resources wisely. Geoscientist employment is projected to grow 14% from 2016, faster than average for all occupations (Bureau of Labor Statistics, U. S. Department of Labor, Occupational Outlook Handbook, accessed February 28th, 2018). The ESE PhD program will provide Montana, the region, the US, and the world with skilled geoscientists and engineers able to handle environmental, energy, land, and resource challenges facing our state, our country, and the world. These skilled PhD geoscientists and engineers will be able to help make mining operations in Montana and elsewhere sustainable and less damaging to our environment. In addition, many students interested in MS in Earth Science and Environmental Engineering degrees at Montana Tech ask about pursuing their PhD at Montana Tech, and opt to enroll where that advancement pathway is available – mostly outside of Montana. The ESE PhD will help fill that gap. Industry sectors supported and enabled by the proposed degree program include energy, mining, water, natural resources, and environmental consulting, and state geological surveys, such as the MBMG.

**3) Describe how the program/center/institute fits with the institutional mission, strategic plan, and existing institutional program array.**

The proposed Earth Science and Engineering PhD program fits Montana Tech's mission by providing exemplary graduate education and research, blending theory with practice and building on Montana Tech's strong heritage and special focus

**Montana University System**
**INTENT TO PLAN FORM**

on engineering, science, and technology and supporting the responsible and sustainable use of natural resources. It supports all four themes (quality education, achieving students, engaged faculty, and service to the community) and numerous strategic goals and objectives in the institutional strategic plan. It provides a next step for students completing MS degrees in Geoscience, Environmental Engineering, Metallurgical and Mineral Processing Engineering, General Engineering, Mining Engineering, Project Engineering Management, and Petroleum Engineering. It could be the next step for students in bachelor's degree programs in Chemistry & Geochemistry, Geological Engineering, Environmental Engineering, Petroleum Engineering, Mining Engineering, and Metallurgical and Materials Engineering. It also complements the Materials Science PhD program and build Montana Tech's research base with motivated students. An integrated Earth Science and Engineering Graduate Seminar (1 credit each semester) would need to be added that could be shared between multiple faculty each semester. Seminar courses exist in Materials Science, Environmental Engineering, and Chemistry & Geochemistry at the graduate level, and students in the various MS programs take seminars in different departments, but a central seminar course specialized for the ESE PhD students will contribute greatly to the students training in effectively communicating their science. The ESE PhD curriculum will utilize primarily existing core and elective courses in the MS in Geoscience, Environmental Engineering, and Project Engineering Management, among others. The planning effort will determine additional courses needs, and identify the core curriculum. Collaborations involving shared classes with UM and/or MSU will be considered. The ESE PhD will increase enrollment, instructional efficiency, and peer-learning in graduate-level courses in the MS in Geoscience and Environmental Engineering programs and constructively foster integration among faculty and students across departments. No changes will be needed in the existing programs, all of which could feed students into the PhD or provide a valued graduate credential for students who decide to leave before completing the PhD program. Motivated, academically prepared PhD students will contribute to increasing Montana Tech's research capacity as Montana's special focus STEM institution, as well as for securing federal grant funding.

4) **Describe how the program/center/institute overlaps, complements, or duplicates existing efforts in the MUS. Describe efforts that will be made to collaborate with similar programs at other institutions. If no efforts will be made, please explain why.**

There are two geo-related PhD programs offered in Montana, but Montana Tech will complement and add to these programs by adding a unique, integrated science and engineering perspective. UM-Missoula has a Geoscience PhD program with two major foci on Water and Solid Earth Sciences. MSU Bozeman offers an Earth Science PhD program with foci in Geography and Geology. MSU also offers a PhD in Environmental Engineering as a collaboration between the Civil Engineering and Chemical & Biological Engineering departments. In part because of its association with the MBMG and strengths in Environmental Engineering and Geotechnical Engineering, Montana Tech is distinctively positioned to offer a complementary Earth Science and Engineering PhD program to the Montana University System. Distinctive strengths are the combination of expertise in geochemistry, geology, economic geology, geological engineering, hydrogeological engineering, geophysical engineering, and environmental engineering plus applications in mining and energy development. Thus, by combining earth science and engineering the proposed ESE PhD would complement existing programs. Close collaboration with the MBMG will also be a unique aspect of the ESE PhD, and link it especially closely with Montana's earth science and engineering challenges and opportunities. Montana Tech has qualified faculty and MBMG with doctoral credentials as affiliated faculty to offer this doctoral program. With the program in place and the potential to mentor PhD students, the pool of highly qualified candidates for faculty positions opening in the participating departments would expand. Options to share relevant low-enrollment classes with UM and MSU are being considered. Moreover, the opportunities for and potential benefits of research collaboration with the other two PhD programs in the geosciences and the three campus Materials Science PhD are significant and highly likely to boost the state's competitiveness for federal research funding.

# Montana University System

## INTENT TO PLAN FORM

**Signature/Date**

**College/School Dean:** [signature] 18 Sept. 2018

**Chief Academic Officer:** Douglas M. Abbott 9/19/18

**Chief Executive Officer:** [signature] 9/19/18

**Flagship Provost*:** n/a

**Flagship President*:** n/a

*Not applicable to the Community Colleges.

**Date of Final Review:**

**When submitting the proposal to the BOR, include this signed form with the Level II request.**

**March 2020**

**ITEM 187-1502-R0320**

**Request for authorization to establish a Master of Science in Ecological Restoration**

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**THAT**

The Board of Regents Higher Education authorizes Montana Tech to establish a Master of Science in Ecological Restoration Degree Program.

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**EXPLANATION**

The proposed Master of Science in Ecological Restoration is designed to provide advanced training and practical skills to on-campus and distant students seeking to learn and apply advanced ecological and engineering principles to restore environments damaged due to natural resource extraction, industrial activities, and natural disasters. The program is intended to serve students to students with a broad range of undergraduate degrees, including biology, ecology, botany, zoology, various engineering disciplines, and others. Both a thesis option and a non-thesis option would be available.

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**ATTACHMENTS**

Intent to Plan
Curriculum Proposal Form
Academic Proposal Form
Fiscal Analysis Form

# Montana Board of Regents

## ACADEMIC PROPOSAL REQUEST FORM

ITEM **187-1502-R0320** Submission Month or Meeting: **March 2020**

Institution: **Montana Technological Univ.** CIP Code: **26.13**

Program/Center/Institute Title: **Master of Science in Ecological Restoration**

Includes (please specify below): Online Offering _____ Options Thesis option; Non-thesis option. On line and on campus.

Please mark the appropriate type of request and submit with an Item Template and any additional materials, including those listed in parentheses following the type of request. For more information pertaining to the types of requests listed below, how to complete an item request, or additional forms please visit http://mus.edu/che/arsa/academicproposals.asp.

## ____ A. Level I:

**Campus Approvals**

____ **1a. Placing a postsecondary educational program into moratorium** (Program Termination and Moratorium Form)

____ **1b. Withdrawing a postsecondary educational program from moratorium**

____ **2. Establishing, re-titling, terminating or revising a campus certificate of 29 credits or less**

____ **3. Establishing a B.A.S./A.A./A.S. area of study**

____ **4. Offering an existing postsecondary educational program via distance or online delivery**

**OCHE Approvals**

____ **5. Re-titling an existing postsecondary educational program**

____ **6. Terminating an existing postsecondary educational program** (Program Termination and Moratorium Form)

____ **7. Consolidating existing postsecondary educational programs** (Curriculum Proposal Form)

____ **8. Establishing a new minor where there is a major or an option in a major** (Curriculum Proposal Form)

____ **9. Revising a postsecondary educational program** (Curriculum Proposal Form)

____ **10. Establishing a temporary C.A.S. or A.A.S. degree program** *Approval limited to 2 years*

**Montana Board of Regents**
**ACADEMIC PROPOSAL REQUEST FORM**

X **B. Level II:**

X **1. Establishing a new postsecondary educational program** (Curriculum Proposal and Completed Intent to Plan Form)

____ **2. Permanent authorization for a temporary C.A.S. or A.A.S degree program** (Curriculum Proposal and Completed Intent to Plan Form)

____ **3. Exceeding the 120 credit maximum for baccalaureate degrees** *Exception to policy 301.11*

____ **4. Forming, eliminating or consolidating an academic, administrative, or research unit** (Curriculum or Center/Institute Proposal and Completed Intent to Plan Form, except when eliminating or consolidating)

____ **5. Re-titling an academic, administrative, or research unit**

## Proposal Summary [360 words maximum]

**What – Request for authorization to establish a Master of Science Degree (M.S.) in Ecological Restoration**

**Why** - Montana Tech is at the heart of the largest Superfund complex in the USA. Locally, hundreds of jobs relate to ecological restoration, with many requiring education beyond the bachelor's to design, plan, monitor, and adjust innovative interventions aimed to restore healthy ecosystems. Across Montana and nationally, ecological restoration is a growing industry, because restoring, revitalizing, and bringing economically productive new uses to previously damaged lands is a crucial first step. Restoration improves ecosystem and human health, improves environmental justice, and master's-prepared professionals can develop and test innovative strategies to improve outcomes, and to minimize the need for future remediation and restoration. The proposed M.S. in ecological restoration aligns extremely well with Montana Tech's special-focus designation in STEM and health and its mission committed to meeting the changing needs of society and supporting the responsible development and use of natural resources.

**Resources** – The required resources are in place, including faculty, research facilities and equipment, library materials, and advanced courses taught in the graduate curriculum. One new course in Restoration Field Methods has been approved as an elective for several different M.S. programs, such as Environmental Engineering, Mining Engineering, Geosciences, and the Interdisciplinary M.S., and it would be a required course for this degree program.

**Relationship to similar MUS programs** - The MS Restoration program will fill an educational gap in Montana, which currently has no master's-level degree programs in Ecological Restoration. It incorporates Montana Tech's graduate Certificate in Restoration and would be accessible to graduates from several relevant bachelor's programs throughout the MUS. Students interested in education beyond the master's could proceed into UM-Missoula's Ph.D. program in Systems Ecology or MSU-Bozeman's Ph.D. program in Ecology & Environmental Sciences.

# Montana Board of Regents

## CURRICULUM PROPOSAL FORM

1. **Overview of the request and resulting changes.** Provide a one-paragraph description of the proposed program. Will this program be related or tied to other programs on campus? Describe any changes to existing program(s) that this program will replace or modify. *[100 words]*

   The proposed MS in Ecological Restoration degree will provide advanced training and practical skills to on-campus and distant students seeking to learn and apply advanced ecological and engineering principles to restore environments damaged due to natural resource extraction, industrial activities, and natural disasters. The program builds on Montana Tech's strong heritage and special focus in engineering, science, and technology. It complements but does not replace or modify several bachelor's degree programs and master's degree programs and the Restoration Certificate.

2. **Relation to institutional strategic goals.** Describe the nature and purpose of the new program in the context of the institution's mission and core themes. *[200 words]*

   The proposed MS program builds on Montana Tech's strong heritage and special focus on natural-resources engineering, science, and technology. It will prepare graduates with skills and knowledge needed to plan, design, execute, and manage efforts to restore ecosystems to healthiness, that have been damaged or threatened by mining, other natural-resource extraction, and industrial and construction activities. Its graduates will be able to plan natural-resource extraction, industrial, and construction activities to minimize the environmental and ecological damage and the need for later restoration. The program is closely aligned with Montana Tech's mission and will contribute to the responsible and sustainable development and use of natural resources, supporting Montana Tech's core themes - quality education, achieving students, engaged faculty, and service to the community.

   The MS program in ecological restoration is designed to advance the following strategic goals:

   - Be a national leader in providing education and in transforming undergraduate and graduate education.
   - Support and grow research, scholarship, and technology transfer.
   - Be responsive to the needs of the industry, our community, and State.
   - Improve the visibility, recognition, and reputation of Montana Tech in the State, nation, and world.
   - Secure resources that support excellence.
   - Create a culture and workplace environment that embraces excellence.

3. **Process leading to submission.** Briefly detail the planning, development, and approval process of the program at the institution. *[100 words]*

   Since the creation in 2015 of the popular graduate certificate in restoration, several students have used that curriculum as the core of an interdisciplinary MS. The Restoration MS program would serve both students and employers better because the name of the degree reflects its content. Given this demand, a discussion started at the Graduate Council in 2016. The Intent to Plan was developed in 2018 and approved in 2019. A multidisciplinary faculty committee that spans seven departments across the College of Letters, Sciences, and Professional Studies and the School of Mines and Engineering prepared the curriculum in 2019.

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

4. **Program description.** Please include a complete listing of the proposed new curriculum in Appendix A of this document.

The Master of Science in Ecological Restoration (MS/MSE) degree program will include thesis (30 credit-hour), and non-thesis (36 credit-hour) tracks to enable students to customize their studies to fit their career goals and objectives.

a. List the program requirements using the following table.

| | Credits |
|---|---|
| Credits in required courses offered by the department offering the program | 10-16 |
| Credits in required courses offered by other departments | 7 |
| Credits in institutional general education curriculum | 0 |
| Credits of applicable electives | 5-13 |
| Total credits required to complete the program | 30 (incl. 8 credits of Thesis) or 36 (Non-thesis) |

b. List the program learning outcomes for the proposed program. Use learner-centered statements that indicate what students will know, be able to do, and/or value or appreciate as a result of completing the program.

Graduates of the MS degree in Ecological Restoration at Montana Tech will:

- Acquire up-to-date, advanced knowledge, skills, and understanding in Ecological Restoration, as needed to meet the changing need of society;
- Blend theory with practice to integrate, problem-solving, and apply advanced knowledge, skills and understanding in Ecological Restoration;
- Develop skills in communicating technical and complex material orally, in writing, and using various media for a broad range of audiences;
- Demonstrate leadership skills and ethical principles applicable in Ecological Restoration. It includes the ability to enable the responsible and sustainable development and use of natural resources, including the protection and restoration of the environment.

5. **Need for the program.** To what specific student, regional, and statewide needs is the institution responding to with the proposed program? How will the proposed program meet those needs? Consider workforce, student, economic, societal, and transfer needs in your response as appropriate. *[250 words]*

Montana Tech is at the heart of the largest Superfund complex in the USA. Locally, hundreds of jobs relate to ecological restoration, with many requiring education beyond the bachelor's to design, plan, monitor, and adjust innovative interventions aimed to restore healthy ecosystems. Across Montana and nationally, ecological restoration is a growing "industry" because restoring, revitalizing, and bringing economically productive new uses to previously contaminated lands is a crucial step. Restoration improves ecosystem and human health, improves environmental justice, and master's-prepared professionals can develop and test innovative strategies to improve outcomes, and to minimize the need for future remediation and restoration. Graduates will contribute to social, economic and environmental activities that benefit people,

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

communities, and the environment. As human economic activities damage the environment across the globe, some scientists predict that restoration ecology could be the future of conservation biology. The MS Restoration program will fill an educational gap in Montana, which currently has no master's-level degree programs in Ecological Restoration, bridging between several relevant bachelor's programs throughout the MUS and related Ph.D. programs at UM-Missoula and MSU-Bozeman. Given that natural-resource development and agriculture are economically vital to Montana, the economic activity needs to be planned and conducted in a way that minimizes the cost, complexity, and duration of concurrent and post-closure remediation and restoration. Montana's Tribal communities and landscapes have also suffered environmental abuse. The program plans to partner with Tribal Colleges to provide advanced education in Ecological Restoration to address these needs.

6. **Similar programs.** Use the table below to identify and describe the relationship between any similar programs within the Montana University System.

| Institution Name | Degree | Program Title |
|---|---|---|
| University of Montana | BS | **Ecosystem Science and Restoration** |
| University of Montana | Minor | **Ecological Restoration** |
| Montana State University-Bozeman | MS | **Land Rehabilitation** |
| Montana State University-Bozeman | Ph.D. | **Ecology & Environmental Sciences** |
| University of Montana | Ph.D. | **Systems Ecology** |

a. If the proposed program substantially duplicates another program offered in the Montana University System, provide a rationale as to why any resulting duplication is a net benefit to the state and its citizens. *[200 words]*

The proposed program complements and does not duplicate existing programs. It could be a stepping stone between numerous bachelor's degree programs across the Montana University System and Tribal Colleges and the related Ph.D. Programs at the University of Montana and Montana State University.

b. Describe any efforts that were made to collaborate with similar programs at other institutions. If no efforts were made, please explain why. *[200 words]*

We reached out to similar programs at the different campuses in Montana (UM, MSU) and they express considerable enthusiasm about collaboration with the proposed program. The proposed MS program is eager to collaborate with the existing programs in terms of course sharing and research projects.

7. **Implementation of the program.** When will the program be first offered? If implementation will occur in phases, please describe the phased implementation plans. *[100 words]*

The first offering of the M.S. degree in Ecological Restoration will be the fall of 2020.

**Montana Board of Regents**
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a. Complete the following table indicating the projected enrollments in and graduates from the proposed program.

| Fall Headcount Enrollment | | | | | Graduates | | | | |
|---|---|---|---|---|---|---|---|---|---|
| AY 2021 | AY 2022 | AY 2023 | AY 2024 | AY 2025 | AY 2022 | AY 2023 | AY 2024 | AY 2025 | AY 2026 |
| 2 | 5 | 8 | 10 | 12 | 2 | 2 | 5 | 6 | 6 |

b. Describe the methodology and sources for determining the enrollment and graduation projections above. *[200 words]*

Currently, Montana Tech has a successful Restoration Certificate Program, from which approximately 5-10 students graduate annually (mostly concurrent with a different bachelor's or master's degree). However, there is a growing demand for a graduate-level Restoration Program by our graduating bachelor's students and our incoming graduate students whose only current option is to undertake a generic interdisciplinary master of science degree (which also has a non-science CIP code, despite its dominant science basis). Students from other campuses within and outside of Montana and employers working in the restoration field have also expressed interest.

Montana Tech has several master's programs (e.g. Environmental Engineering, Geosciences, Mining Engineering) from which increasing numbers of students enroll concurrently in the Restoration Certificate Program. In combination, these indicators, employer communications, and public attendance at our weekly restoration ecology seminars (three to five times as many as are enrolled students) provide strong evidence that a master's level program in restoration would be of high demand. As ecological restoration is highly interdisciplinary, there would be numerous opportunities for collaborations with related degree programs.

c. What is the initial capacity for the program?

The initial capacity of the program is to enroll 2-5 new students per year.

**8. Program assessment.** How will success of the program be determined? What action would result if this definition of success is not met? *[150 words]*

The success of the program will be assessed in four major areas: student learning outcomes, student enrollment, student graduation rate and time-to-degree (for students enrolled full time), and the student placement rate in employment or doctoral programs. For student enrollment, we will target recruitment of high-quality applicants state and nationwide (even internationally). We will initially expect 2-5 students to graduate each year, about two years after entering, and we will measure the average time to degree, to have that be 2.5 years or less for full-time students. Placement will be measured as a percent of graduates being in a position relevant to the degree field or enrolled in a Ph.D. program by the fall after completing the degree.

a. Describe the assessment process that will be used to evaluate how well students are achieving the intended learning outcomes of the program. When will assessment activities occur, and at what frequency? *[150 words]*

Learning outcomes are provided in Section 4. Briefly, they encompass advanced knowledge and skills, integrated problem solving and applications, communication skills, ethics, and leadership.

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

For the thesis students, this evaluation focuses on the written thesis and its oral defense. For the non-thesis students, the holistic assessment comprises evaluation of the written reports and oral defenses of their field practicum and capstone projects. In both cases, students must work with communities, participate in outreach activities, communicate effectively with experts and community members, perform ethically, and apply a broad range of knowledge in restoration and research skills to complete the project.

b. What direct and indirect measures will be used to assess student learning? *[100 words]*

The students as direct measures must fulfill the minimum credit requirements (30 or 36 credits) with a GPA of 3.0, and pass an oral defense of thesis or capstone. Course grades are based on classroom quizzes and examinations, term projects, portfolios, standardized examinations, questionnaires, interviews, and focus groups. As indirect measures, they must meet the expectations and recommendations of the advisor and the graduate committee. The students must have regular meetings with their graduate committee to provide an update on their project/research progress. The committee evaluates the quality of the research, the student's depth and breadth of knowledge, and provides feedback.

c. How will you ensure that the assessment findings will be used to ensure the quality of the program? *[100 words]*

The assessment findings will be reviewed by faculty annually and by deans and administration biannually. The deans and External Advisory Board will hold faculty and the program coordinator accountable for using the findings to ensure the quality of the program. A formal written report will be produced every two years, as part of Montana Tech's program review process. This report will be reviewed and evaluated by Montana Tech's Assessment Committee, which will determine whether it and actions taken or proposed are acceptably ensuring the quality of the program.

d. Where appropriate, describe applicable specialized accreditation and explain why you do or do not plan to seek accreditation. *[100 words]*

The Society of Ecological Restoration has a Certified Ecological Restoration Practitioner Program for which our program prepares highly qualified candidates. The Certified Ecological Restoration Practitioner Program encourages a high professional standard for those who are designing, implementing, overseeing, and monitoring restoration projects throughout the world. However, programs in this field are not subject to specialized accreditation, so the program will not seek accreditation.

**9. Physical resources.**

a. Describe the existing facilities, equipment, space, laboratory instruments, computer(s), or other physical equipment available to support the successful implementation of the program. What will be the impact on existing programs of increased use of physical resources by the proposed program? How will the increased use be accommodated? *[200 words]*

Montana Technological University has the existing research and teaching space, equipment, and facilities to support the proposed MS program. Montana Tech currently enrolls about 2500 students, and it had about 3,000 students a few years ago, so the impact of an additional 10-15 MS students in Ecological Restoration would be negligible. The majority of students will reside in the Biological Sciences Department, but several of them may also belong to other departments where the existing grad student facilities are available (e.g., Hydrogeology, Environmental Engineering, Geochemistry, Mining Engineering, etc.).

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

b. List needed facilities, equipment, space, laboratory instruments, etc. that must be obtained to support the proposed program. (Enter the costs of those physical resources into the budget sheet.) How will the need for these additional resources be met? *[150 words]*

No new facilities or equipment are needed. This situation is because the Restoration Certificate is already being conducted and the same facilities will be used (these facilities include the Montana Tech Greenhouse, laboratories and instrumentation in the Chemistry, Biology, Environmental Engineering and other Science and Engineering departments, the Montana Bureau of Mines and Geeology, and the Center for Advanced Material, Mineral and Metallurgical Processing (CAMP)).

**10. Personnel resources.**

a. Describe the existing instructional, support, and administrative resources available to support the successful implementation of the program. What will be the impact on existing programs of increased use of existing personnel resources by the proposed program? How will quality and productivity of existing programs be maintained? *[200 words]*

The Biological Sciences Department at Montana Tech will be the home department of the Program. The department already houses the Restoration Certificate Program. With four tenured professors and three tenure–track faculty, the department currently provides the following degree programs:

- Biological Sciences B.A.S.
  - Biology, Organismal Track, B.S.
  - Biology, Cellular/Molecular Track, B.S.
- Applied Health & Safety Science B.S. (proposed for renaming to B.S. Exercise and Sports Science)
- Restoration Certificate (master's level and undergraduate level)

Several faculty from other departments will be involved as research advisors and committee members. One newly approved course in Field Methods for Restoration would be required for this degree. With the new Ecological Restoration MS Program, students could specialize in different aspects of restoration, which can range from basic ecology, through engineering, to the social aspects of restoration, seeding multiple interdepartmental and intercampus collaborations. The program builds on Montana Tech's special focus on engineering, science, and technology, and will utilize the instructional support of these existing programs and courses. The impact on existing programs will be minimal, though enrollment in advanced low-enrollment courses could increase, and research activities and associated grant funding would increase to support the thesis, capstone, and field-practicum projects.

b. Identify new personnel that must be hired to support the proposed program. (Enter the costs of those personnel resources into the budget sheet.) What are the anticipated sources or plans to secure the needed qualified faculty and staff? *[150 words]*

No additional personnel is needed to support the proposed MS program. Montana Tech has sufficient faculty with appropriate expertise, along with a Greenhouse manager, to support native plant propagation for restoration projects.

**11. Other resources.**

a. Are the available library and information resources adequate for the proposed program? If not, how will adequate resources be obtained? *[100 words]*

**Montana Board of Regents**
**CURRICULUM PROPOSAL FORM**

The existing library and information resources are adequate for the proposed program.

b. Do existing student services have the capacity to accommodate the proposed program? What are the implications of the new program on services for the rest of the student body? *[150 words]*

The existing student services have the capacity to accommodate the proposed program. The number of students enrolled in the new MS program will be small compared to the existing student body.

**12. Revenues and expenditures.** Describe the implications of the new program on the financial situation of the institution. *[100 words]*

Students will pay graduate tuition and applicable fees.

a. Please complete the following table of budget projections using the corresponding information from the fiscal analysis form for the first three years of operation of the new program

| | Year 1 | Year 2 | Year 3 |
|---|---|---|---|
| Revenues | $12,060 | $25,125 | $40,200 |
| Expenses | $15,000 | $19,500 | $24,000 |
| Net Income/Deficit (revenues-expenses) | -$2,940 | $5,625 | $16,200 |

b. Describe any expenses anticipated with the implementation of the new program. How will these expenses be met? *[200 words]*

New expenses are anticipated to be negligible, as no new courses are required, and the teaching assignments of faculty will not be affected, because the MS students will be taking the same low-enrollment advanced, graduate-level courses as are currently serving the Restoration Certificate and Interdisciplinary Master's program. The program will require a faculty member to serve as lead coordinator, and this faculty member would receive a stipend of $5,000 per year for this additional service. Faculty involved will become more active in seeking external grants and contracts, and this funding will provide research assistantships and tuition support for students, along with funding for research expenses, faculty release time and faculty summer salary.

i. If funding is to come from the reallocation of existing state-appropriated funds, please indicate the sources of the reallocation. What impact will the reallocation of funds in support of the program have on other programs? *[150 words]*

No reallocation of state-appropriated funds is required.

ii. If an increase in base funding is required to fund the program, indicate the amount of additional base funding and the fiscal year when the institution plans to include the base funding in the department's budget.

No increase in base funding is required to start up the program. As enrollment grows, its revenues would provide any increases needed at that time.

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iii. If the funding is to come from one-time sources such as a donation, indicate the sources of other funding. What are the institution's plans for sustaining the program when that funding ends? *[150 words]*

No one-time funding sources are being used.

iv. Describe the federal grant, other grant(s), special fee arrangements, or contract(s) that will be valid to fund the program. What does the institution propose to do with the program upon termination of those funds? *[150 words]*

Not applicable.

**13. Student fees.** If the proposed program intends to impose new course, class, lab, or program fees, please list the type and amount of the fee.

No new fees are planned in the proposed MS program,

**14.** Complete the fiscal analysis form.

Signature/Date

**College or School Dean:** Bill Humphrey 12/5/2019

**Chief Academic Officer:** Douglas M. Abbott 1/15/20

**Chief Executive Officer:** [signature] 1/15/2020

**Flagship Provost*: N\A**

**Flagship President*: N\A**

*Not applicable to the Community Colleges.

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**Appendix A – Ecological Restoration MS Program: Proposed New Curriculum and Admissions Requirements**

A thesis option with 30 credits and a non-thesis option with 36 credits will be offered. Curriculum requirements for the Ecological Restoration MS degree can be highly individualized and established in consultation with the student's graduate committee. The courses listed are often considered when establishing the program of study for a particular student. All students who complete either option will qualify for the Restoration Certificate, with the thesis substituting for the capstone and practicum.

**Curriculum for Thesis Option**

| **Course** | **Name** | **Credits** | **Pre-req.** |
|---|---|---|---|
| **Core Courses** | | | |
| NRSM 535 | Restoration I | 3 | Chemistry 141/142 or equivalent |
| NRSM 536 | Restoration II | 3 | Restoration I |
| NRSM 594 | Restoration Seminar | 1+1 | |
| NRSM 512 | Restoration Field Methods | 2 | Chemistry 141/142 or equivalent |
| I.H. 5076 | Statistical Analysis | 3 | Per catalog |
| GEOE585 | GIS Applications in Natural Resources | 3 | Per catalog |
| | | | |
| **Electives** | | 5 | Per catalog |
| | | | |
| T.C. 5160 | Graduate Writing Seminar | 1 | |
| | | | |
| NRSM599 | Thesis project | 8 | |
| | **TOTAL** | **30** | |

**Example electives include but are not limited to the following:**

ENVE 5020 - Surface Water Hydrology, EENV 404 - Surface Water Quality, EENV 414 - Land & Stream Restoration, EENV 430 - Soil & Subsurface Remediation, GEOP425/525 Remote Sensing for the Earth Sciences, GEOE 585 - GIS in Natural Resources, GEOE 531 - Acid Rock Drainage, MIN 544 Environmental Management & Design of Mines, MPEM 5020 Project & Engineering Management, T.C. 512W Environmental Communication, BIOE 455 - Plant Ecology, CHMY 540 Environmental Chemistry

At least half of the coursework toward the MS requirements must be completed at the 5XX level.

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**Curriculum for Non-Thesis Option**

| Course | Name | Credits | Pre-req. |
|---|---|---|---|
| **Core Courses** | | | |
| NRSM 535 | Restoration I | 3 | Chemistry 141/142 or equivalent |
| NRSM 536 | Restoration II | 3 | Restoration I |
| NRSM 594 | Restoration Seminar | 1+1 | |
| NRSM 599 | Restoration Capstone | 3 | |
| NRSM 595W | Restoration Practicum | 3 | |
| NRSM 512 | Restoration Field Methods | 2 | Chemistry 141/142 or equivalent |
| I .H. 5076 | Statistical Analysis | 3 | Per catalog |
| GEOE585 | GIS Applications in Natural Resources | 3 | Per catalog |
| | | | |
| **Electives** | | 13 | Per catalog |
| | | | |
| T.C. 5160 | Graduate Writing Seminar | 1 | |
| | | | |
| | **TOTAL** | **36** | |

For electives, see list provided for Thesis option.

**Admissions Requirements**

- Bachelor's degree from regionally accredited institution of higher education, or equivalent.
  - Numerous different majors are acceptable, provided the student has passed Chemistry 141/142 or equivalent.
  - Cumulative GPA of at least 3.0.
- GRE General Test
- Other requirements per Montana Tech Graduate School for U.S. and international applicants.

## Academic Degree Program Proposal - Fiscal Analysis Form

| | |
|---|---|
| **CAMPUS:** | Montana Technological University |
| **AWARD LEVEL: GR** | GR |
| **PROGRAM NAME:** | Ecological Restoration MS |
| **PROGRAM CODE:** | |

| ENROLLMENT PROJECTIONS | FY 2021 | FY 2022 | FY 2023 | FY 2024 | FY 2025 |
|---|---|---|---|---|---|
| **Headcount** | | | | | |
| annual unduplicated headcount of students with declared major or minor within the program | 2 | 5 | 8 | 10 | 12 |
| **Credit Hours** | | | | | |
| annual avg. credits hours earned per student in program related curriculum | 18 | 15 | 15 | 15 | 15 |
| **Student FTE** | | | | | |
| Undergrad: (Headcount x CH)/30<br>Graduate: (Headcount x CH)/24 | 1.50 | 3.13 | 5.00 | 6.25 | 7.50 |
| **Completions** | | | | | |
| Annual number of program completers | 0 | 2 | 2 | 3 | 3 |

| REVENUE | | | | | |
|---|---|---|---|---|---|
| Tuition Revenue (net of waivers) | $9,540 | $19,875 | $31,800 | $39,750 | $47,700 |
| Institutional Support | | | | | |
| Other Outside Funds (grants, gifts, etc.) | | | | | |
| Program Tuition/Fees | $2,520 | $5,250 | $8,400 | $10,500 | $12,600 |
| **Total Revenue** | **$12,060** | **$25,125** | **$40,200** | **$50,250** | **$60,300** |
| **Total Revenue per Student FTE** | **$8,040** | **$8,040** | **$8,040** | **$8,040** | **$8,040** |

| EXPENDITURES | | | | | | |
|---|---|---|---|---|---|---|
| Tenure Track Faculty | FTE | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| | Salary + Benefits | $7,000 | $7,000 | $7,000 | $7,000 | $7,000 |
| Non-tenure Track Faculty: NEW<br>*Includes Adjunct Instructors | FTE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Salary + Benefits | | | | | |
| Graduate Teaching Assistants | FTE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Salary + Benefits+tuition | | | | | |
| Staff | FTE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Salary + Benefits | | | | | |
| **Total Faculty & Staff** | FTE | **0.1** | **0.1** | **0.1** | **0.1** | **0.1** |
| | Salary + Benefits | **$7,000** | **$7,000** | **$7,000** | **$7,000** | **$7,000** |
| Operations (supplies, travel, rent, etc) | | $8,000 | $12,500 | $17,000 | $20,000 | $23,000 |
| Tuition waivers or expenditures (from grants) | | $0 | $0 | $0 | $0 | $0 |
| **Total Expenses** | | **$15,000** | **$19,500** | **$24,000** | **$1** | **$30,000** |
| **Student FTE to Faculty (TT + NTT) Ratio** | | **N/A** | **N/A** | **N/A** | **N/A** | **N/A** |
| **Net Income/Deficit** (Revenue - Expenses) | | **-$2,940** | **$5,625** | **$16,200** | **$50,249** | **$30,300** |

The signature of the campus Chief Financial Officer signifies that he/she has reviewed and assessed the fiscal soundness of the proposal and provided his/her recommendations to the Chief Academic Officer as necessary.

Jadee Cassidy 1/16/20

**Campus Chief Financial Officer Signature**

Chief Financial Officer Comments

Budget assumptions: REVENUES: (1) Half of students are in thesis option (30 CR) and half in non-thesis option (36 CR) First-year students enroll in 9 credits/term, 2nd-year thesis students in 6 credits/term, 2nd-year non-thesis students in 9 credits/term. (2) Tuition and fee estimates based on FY 2020 levels: rounded to $265/credit for tuition; $70 per credit for mandatory fees. EXPENDITURES: (1) One newly approved 2-credit course on restoration field methods is required for the program, and it would be an elective for many other programs. It would be taught once per year, amounting to 1/15 (~7% FTE). Estimated full-time compensation (salary plus benefits) rate is $100 K/year. Its cost is allocated fully to this program for this estimate, although other students will also take the course. (3) Operations budget includes travel, supplies, recruiting materials, and stipend for program coordinator. NOTES: The budget analysis shows a small deficit in year 1 and small "surplusses" in future years. The analysis only considers marginal costs for instruction.

# Montana University System

## INTENT TO PLAN FORM

Program/Center/Institute Title: **Master of Science in Ecological Restoration**

Campus, School/Department: **Montana Tech/CLSPS/Biological Sciences** Expected Submission Date: **Fall 2019**

Contact Name/Info: **Dr. Robert Pal, rpal@mtech.edu;**

To increase communication, collaboration, and problem solving opportunities throughout the MUS in the program/center/institute development process, please complete this form not more than 18 months in advance of the anticipated date of submission of the proposed program/center/institute to the Board of Regents for approval. The completed form should not be more than 2-3 pages. For more information regarding the Intent to Plan process, please visit http://mus.edu/che/arsa/preparingacademicproposals.asp.

**1) Provide a description of the program/center/institute.**

The Master of Science in Ecological Restoration (MS/MSE) degree program will include thesis (30 credit-hour) and non-thesis (36 credit-hour) tracks to enable students to customize their studies to fit their career goals and objectives. It will be available to students enrolled on campus and to working professionals seeking professional advancement via distance learning. It will be structured to complement and bridge between several science and engineering degree programs and a restoration certificate, and to position its graduates for numerous career pathways for which there is a growing demand locally, throughout Montana, nationally, and globally.

**2) Describe the need for the program/center/institute. Specifically, how the program/center/institute meets current student and workforce demands. (Please cite sources).**

Just at the local Butte/Upper Clark Fork Superfund site there are hundreds of jobs related to ecological restoration. Restoration is a growing "industry" nationally, too, as restoring, revitalizing and bringing economically productive new uses to contaminated lands such as Superfund sites is a crucial first step. Restoration of such sites helps to develop innovative ways to address social, economic and environmental priorities that benefit people, communities, and the environment (EPA 2013). As humans do more and more environmental damage across the globe, scientists predict that restoration ecology could be the future of conservation biology (Young 2000). Thus, jobs in environmental and ecological restoration will be in increasing demand in the years ahead. The MS Restoration program will fill an educational gap in Montana, which currently has no master's-level degree programs in Ecological Restoration, and this lack contributes to a shortfall in expertise and skilled workforce that could plan, design, and perform successful restoration projects. In addition, development based on natural resources continues to be economically important in Montana, while at the same time the state places increasing priority on minimizing environmental damage and impact from these revenue-generating and job-producing endeavors. The proposed program will provide its students and graduates with the skills and knowledge needed to enable all phases of these projects and businesses to be planned and conducted in a way that minimizes the cost, complexity, and duration of concurrent and post-closure remediation and restoration.

**3) Describe how the program/center/institute fits with the institutional mission, strategic plan, and existing institutional program array.**

Today's environmentally impactful industries (e.g. mining, petroleum, construction, transportation, forestry, etc.) usually cannot start operation without written and state-approved plans for environmental protection during operation and for after-closure reclamation/restoration. Therefore, students pursuing degrees and planning careers in these fields—many of which are offered uniquely in Montana at Montana Tech—would benefit from specific education in restoration, giving them a competitive advantage in the job market. The proposed interdisciplinary M.S. in Ecological Restoration will fit Montana Tech's mission by providing exemplary graduate education and enabling associated research, blending theory with practice and supporting the responsible development and sustainable use of natural resources. The program will build

## Montana University System
### INTENT TO PLAN FORM

on Montana Tech's strong heritage and special focus on engineering, science, and technology—especially in fields involved with natural resource extraction and use. It supports all four Montana Tech themes (quality education, achieving students, engaged faculty, and service to the community) and numerous strategic goals and objectives in the campus' strategic plan. Montana Tech already offers a successful Restoration Certificate that enrolls students focused on restoration careers as well as those in other majors who see it as a valuable adjunct to their curriculum. Moreover, Montana Tech's location in Butte at the heart of the largest Superfund site with environmental issues expected to continue in perpetuity and with an abundance of local opportunities and venues for master's research projects, makes the campus particularly compelling as a home for this degree program.

Academically the proposed degree will complement existing Master of Science degree programs in Environmental Engineering, Civil Engineering, Mining Engineering, Geological Engineering, and Petroleum Engineering. It will be accessible to students from numerous bachelor's degree programs in the biological sciences, chemistry, environmental science, forestry, agricultural sciences, natural resources, and engineering. No new courses would be needed and no schedule or teaching changes would be required, because the curriculum will utilize as core courses and as electives courses that are already offered for one or more of those programs and the Restoration Certificate. The MS in Ecological Restoration will thus increase enrollment and instructional efficiency. No changes will be needed to other programs.

4) **Describe how the program/center/institute overlaps, complements, or duplicates existing efforts in the MUS. Describe efforts that will be made to collaborate with similar programs at other institutions. If no efforts will be made, please explain why.**

There is no other Master of Science in Ecological Restoration in the MUS or at other institutions in Montana. The proposed program will complement and fill a gap between bachelor's degree programs in Biology, Environmental Engineering, Mining Engineering, Geological Engineering, Petroleum Engineering, and Chemistry at Montana Tech. It will also complement the Ecosystem Science and Restoration undergraduate program and the Ecological Restoration Minor at the W.A. Franke College of Forestry & Conservation at the University of Montana in Missoula, and the Land Rehabilitation MS Program at the Montana State University in Bozeman. Any MS Environmental Restoration students interested in continuing for a Ph.D. would be mentored and encouraged to apply and enroll in appropriate doctoral programs at UM-Missoula or MSU-Bozeman, into whichever campus and program best matches their interests and career aspirations. UM's Systems Ecology Program is an already existing collaborative link for Ph.D. level education.

**Signature/Date**

**College/School Dean:** Barb Hartin 5/1/19

**Chief Academic Officer:** Douglas M. Abbott 5/1/19

**Chief Executive Officer:** Donald M. Blackketter 5/1/19

**Flagship Provost*:**

**Flagship President*:**

*Not applicable to the Community Colleges.

**Date of Final Review:**

**When submitting the proposal to the BOR, include this signed form with the Level II request.**