

Academic Alignment & Innovation Program

Final Report

June 10, 2015

Executive Summary

The Academic Alignment and Innovation Program (AAIP) was a campus-wide review of all University of Montana academic programs. The process focused on a strong commitment to a curricular portfolio that fits within UM's mission, aligns with UM's strategic plan, strengthens UM's liberal arts identity, and provides opportunities for growth.

AAIP identified programs as most challenged by low enrollment that had a significant drop in enrollment coupled with low overall enrollment. The programs most challenged are the undergraduate programs in Electronics Technology and Energy Technology, and the graduate programs in Modern & Classical Languages & Literatures, Philosophy, Sociology, and Parks, Tourism & Recreation Management. This report describes recommended actions to help strengthen these programs that were developed in conjunction among AAIP, the program chair or director and the dean of the unit.

AAIP identified programs as very ready for growth that had clear indications of growth and a plan to achieve further growth. The programs most ready for growth are the undergraduate programs in Computer Science, Media Arts, Wildlife Biology, Health & Human Performance, Climate Change Studies, Culinary Arts/Food Service Management and Surgical Technology, and the graduate programs in Communicative Sciences & Disorders, Health & Human Performance, and Public & Community Health Sciences. This report describes recommended actions to achieve this growth that were developed in conjunction between AAIP, the program chair or director and the dean of the unit.

In consideration of potential new programs for UM, AAIP supports investigation of a Physicians Assistant Program as there is currently no such program in the MUS system. AAIP encourages efforts that are already underway to expand the Nursing Program and establish a Hospitality Program. In evaluating potential new program suggestions that were formally submitted, AAIP evaluated most favorably a certificate in Computed Tomography, an M.S. in Business Analytics and Digital Marketing, and a Ph.D. in Public Health.

AAIP requested suggestions for expanded interdisciplinary, international, and online undertakings. AAIP selected Communication Studies, Computer Sciences, the Interdisciplinary Graduate Program, and MIS as proposing the most impactful new interdisciplinary activities. AAIP selected Education Leadership, Geosciences, and Public & Community Health Sciences as proposing the most impactful new international activities. AAIP selected Communicative Sciences & Disorders, Electronics Technology, and Media Arts as proposing the most impactful new online activities. These activities are described in the report.

All of the programs reviewed by AAIP contribute to UM's mission of integration of the liberal arts, graduate study, and professional training with international and interdisciplinary emphases. A liberal education is critical in preparing tomorrow's leaders, is key to developing engaged citizens, and contributes greatly to the overall quality of life in Montana and the world.

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1. Introduction

“The purpose of the AAIP is to examine our portfolio of academic programs, identifying both opportunities to strengthen existing programs and opportunities for new programs that are consistent with our mission and strategic plan, *Building a University for the Global Century*.” This quote is from a memo University of Montana President Royce Engstrom sent at the end of the 2013-2014 Academic Year to Professor Liz Putnam, the Chair of Faculty Senate at that time, and Provost Perry Brown. President Engstrom requested that the Faculty Senate in conjunction with Provost Brown design and implement the Academic Alignment and Innovation Program (AAIP). In response to this request, the leadership of Faculty Senate asked that a UM faculty member be appointed as a President’s Leadership Fellow for the 2014-2015 Academic Year in order to lead the AAIP effort. This was done and preliminary discussions on AAIP began in the summer of 2014. In September of 2014, Provost Brown received input from Faculty Senate, Staff Senate, the Associated Students of the University of Montana, and the Graduate Student Association on potential members of an AAIP Task Force and a fourteen member AAIP Task Force was selected.

The AAIP Task Force members:

Barry Brown, Professor, Mansfield Library
Linda Gillison, Professor, Modern and Classical Languages and Literatures
Asa Hohman, ASUM President
Stephen Kalm, Dean, College of Visual and Performing Arts
Nathan Lindsay, Associate Provost for Dynamic Learning
Michele McGuirl, Associate Professor, Biological Sciences
Jenny McNulty, Associate Dean, College of Humanities and Sciences
Samuel Plotkin, Graduate Student, Environmental Studies
Ron Premuroso, Associate Professor, Accounting and Finance
Steve Shen, Associate Professor, Applied Computing and Electronics
Allen Szalda-Petree, Professor, Psychology
Andrew Ware, Professor and Chair, Department of Physics and Astronomy
Shelby Wheeler, ASUM Senator
Jennifer Zellmer-Cuaresma, Academic Services Advisor, Athletics

AAIP began weekly meetings beginning on September 22, 2014. The five parts of AAIP’s charge were described in President Engstrom’s memo and are as follows.

1. **Communication strategy:** Ensure that the liberal arts are central to today’s higher education and decide how we should communicate the importance of the liberal arts to prospective students, parents, teachers, and the general public.
2. **Helping challenged programs:** Design a process for identifying programs across campus that are challenged by low enrollment or perception of irrelevance and determine what we can do to strengthen them and make

- them more attractive to today's students.
3. **Opportunities for growth:** Identify existing undergraduate, graduate, or professional programs that present distinctive opportunities for growth or strengthening because they are already in high student demand and have strong placement opportunities.
 4. **New programs:** Determine which programs are not yet present on campus, but should be, given our mission and the opportunities that those programs present.
 5. **Enhancing academic programming:** Identify new, enhanced, or expanded opportunities for interdisciplinary, international, and on-line offerings.

Much of the work for AAIP involved the assessment of all academic programs at UM. This included efforts to determine which academic programs were appropriate for review, as some programs that offer only a minor or a certificate are embedded within an academic department while others are not. AAIP determined metrics to identify a program as challenged or very ready for growth. AAIP worked with UM's Office of University Planning, Budget and Analysis to determine what data were available and to obtain a comprehensive data set to use in the assessment of programs. This data set is compiled from UM's AUD reports and is available on the AAIP web site (www.umt.edu/aaip).

AAIP sought qualitative input from each academic program as well as the quantitative input described above. A survey addressing the tasks above was sent to chairs and directors of academic programs. This survey sought self-assessment on enrollment challenge, readiness for growth, and initiatives for new interdisciplinary, international, or online activities (see the appendix for a copy of the AAIP Questions for Chairs and Directors). There was a 100% response rate to the AAIP survey. A separate request to deans, chairs and directors asked for information on potential new programs. This request resulted in suggestions for fifteen new programs. The results of the survey of current UM programs and consideration of potential new programs is described in Chapter 2 of this report. Chapter 2 includes sections on programs most challenged by low enrollment (Section 2.1), on those programs most ready for growth (Section 2.2), on potential new programs (Section 2.3) and on the most impactful new interdisciplinary, international or online activities (Section 2.4).

There is an on-going national discussion on the role of a liberal education and the importance of the liberal arts in the 21st Century. AAIP discussed a number of recent articles on this topic along with the results of recent employer and college student surveys. The results of the AAIP discussions are described in Chapter 3 of this report.

Finally, Chapter 4 of this report describes additional considerations that arose in AAIP discussions and Chapter 5 summarizes the report and describes possible next steps in this process.

2. Survey of Academic Programs

AAIP was tasked with assessing all academic programs at the University of Montana. This process involved determining which programs needed to be assessed, what categories of data to examine, over what time frame to assess the data, and developing a set of questions for chairs and directors. AAIP worked in cooperation with the Office of University Planning, Budget and Analysis and examined data from the last five years (2010 – 2014) on all academic programs (see the AAIP web site for further details on the data). AAIP received survey responses from department chairs or program directors and reviewed the most recent program review reports for each program. AAIP used a checklist to analyze each program with AAIP members being asked to rate programs on categories such as contribution of the program to UM's Strategic Plan, level of enrollment challenge, and readiness for growth (see the Appendix for the AAIP Internal Checklist).

AAIP assessed 105 academic programs, including 63 at the undergraduate level and 42 at the graduate level. In terms of enrollment challenge, AAIP rated 47 as not challenged, 51 as showing some signs of challenge, and 7 as very challenged. The seven programs most challenged by low enrollment are listed below along with the actions necessary to strengthen them. In terms of readiness for growth, AAIP rated 27 programs as not ready, 68 programs as somewhat ready, and 10 programs as very ready. The ten programs most ready for growth are listed below along with the actions necessary to achieve this growth.

The following sections describe: 1) UM programs most challenged by low enrollment; 2) UM programs most ready for growth; 3) potential new programs; and 4) the most impactful new interdisciplinary, international or online activities.

2.1. Challenged Programs

As part of this assessment AAIP identified the programs most challenged by low enrollment or a perception of lack of relevance. These programs had a significant drop in enrollment coupled with low overall enrollment.

AAIP identified these programs as the most challenged by low enrollment or a perception of lack of relevance:

Undergraduate: Electronics Technology; Energy Technology

Graduate: MCLL; Philosophy; Sociology; Parks, Tourism & Recreation Management

AAIP was tasked with determining the steps that can be taken to help these programs. The following describes the recommended actions developed in consultation among AAIP, the program chair or director and the dean of the unit.

Electronics Technology

The number of students majoring in Electronics Technology decreased by 37% between 2010 and 2014 and there was a significant decrease in the number of

associate degrees in Electronics Technology awarded per year. The Electronics Technology faculty have already begun the steps necessary to help strengthen their program. These include:

1. Carry out an update and optimization of the curriculum.
2. Create new program concentrations such as Biomedical Electronics and Robotics Technology.
3. Create dual-credit courses (included in the Robotics Technology program) to be offered at local high schools to attract new students and strengthen the partnership with Missoula County Public Schools in order to promote enrollment in the program.
4. Strengthen the partnership with the Program Advisory Committee and local and national employers to provide student scholarships and to promote career placement opportunities of the graduates.
5. Strengthen the partnership with the departments and colleges of the University of Montana and Montana University System to promote continuous education opportunities for the graduates of the program.
6. Create interdisciplinary programs, such as Engineering Technology and Mechatronics, to provide new opportunities of study for the students and to promote the enrollment.

A grant to obtain new equipment to coincide with the move into the new Missoula College building would be very beneficial to the Electronics Technology program. When the curriculum optimization has been completed and new program options have been added, Missoula College should take steps to help promote it and to help attract new students to this program.

Energy Technology

The number of students majoring in Energy Technology decreased by 49% between 2010 and 2014 and there was a significant decrease in the number of associate degrees in Energy Technology awarded per year. The following steps could be taken to help strengthen this program:

1. Develop a stronger partnership with the Pre-Engineering program. This is already underway.
2. Improve the outreach from this program into MCPS and rural Montana. This includes initiating a dual-enrollment course, ENGR 195 Energy Practicum, and an ad campaign with MCPS teachers.
3. Start a campaign to enroll non-traditional career-bound women online.
4. More clearly articulate the jobs available to students who complete this degree. Currently Energy Technology has reached out to successful alumni to provide more examples with assistance from the Alumni Office.

These steps are currently being explored in order to help strengthen the Energy Technology Program.

Modern & Classical Languages & Literatures, graduate program

The number of graduate students seeking a degree in the Modern and Classical Languages and Literatures decreased by 75% between 2010 and 2014 and there was a decrease in the number of graduate degrees awarded (0 in 2014). The steps necessary to help strengthen this program include:

1. Increase the number of TA positions in MCLL. The number of graduate students in MCLL correlates closely with the number of TA positions. The number of TA positions has been cut over the years from six to the current two.
2. Enhance the recruitment efforts for the graduate program in MCLL. This will likely only be effective if the number of TA positions is increased.
3. Introduce a graduate certificate in Film Studies. There is currently no graduate program at UM in film, and many MCLL faculty do work in film studies. This would align well with the interdisciplinary mission of UM, since it would be available for graduate students in other programs such as English or Media Arts.

The MCLL graduate program is the only MA language program in the MUS and is the only program for language teachers across the state. MCLL will continue to focus on providing a quality graduate program.

Philosophy, graduate program

The graduate program in Philosophy experienced a 20% decrease in the number of graduate students seeking a degree between 2010 and 2014 as well as a decrease in the number of graduate degrees awarded (2 in 2014). The Department of Philosophy has indicated that the drop in enrollment resulted from a deliberate choice made to narrow the scope of the program to match strengths and prioritize quality over quantity of students. The Philosophy faculty have begun the steps to help strengthen their graduate program. These include:

1. Philosophy has introduced a focus on environmental philosophy.
2. Additional TA positions in Philosophy would enable the graduate program to grow as the number of graduate students is closely tied to the number of available TA positions.

Philosophy will continue to focus on providing a high quality graduate program.

Sociology, graduate program

The number of graduate students seeking a degree in Sociology decreased by 48% between 2010 and 2014. This led AAIP to identify the graduate program in Sociology as enrollment challenged. The Department of Sociology disagrees with AAIP's assessment and considers that the current enrollment level marks a return to typical graduate student class sizes following anomalous peak enrollment years in 2010 and 2011. Despite this objection, the Sociology faculty have begun the steps to help strengthen their graduate program. These include:

1. Explore the development of a low residency MA degree program that will serve students throughout the state.
2. Sociology recently constituted two research groups made up of faculty and graduate students with common interests: The Criminology Research Group and The Social Psychology Research Group. These research groups help enable students to work closely with faculty on research projects.
3. Build RA support into future large grant proposals. The promise of research assistantships with built-in tuition funding could greatly increase the Sociology graduate program.
4. Created a Director of Graduate Studies position last year. This position has one course release per year so that he or she can devote more time to recruitment and retention efforts.
5. Increase promotion of the Sociology MA program – the only one available in the state. The Sociology Director of Graduate Studies visited 6 regional colleges and presented material and information about their program since the beginning of the current academic year. The Director also made a presentation to UM undergraduates.
6. Increased hosting visits by potential grad program applicants - visitors over the past year have since applied to the grad program in Sociology.

These efforts have already resulted in a rise of applicants for this year.

Parks, Tourism & Recreation Management, graduate program

The number of graduate students seeking a degree in Parks, Tourism and Recreation Management (PTRM) decreased by 71% between 2010 and 2014 and there were few graduate degrees awarded each year. The PTRM graduate program has been relatively small for several years because of two faculty vacancies that have remained open. The steps necessary to help strengthen this program include:

1. Fill one of the vacancies immediately (an offer letter has been sent out).
2. Reassign responsibilities for major administrative services away from PTRM faculty so others in the College of Forestry and Conservation can step up to complete needed administrative tasks.
3. PTRM has initiated the development of online coursework for an international audience on protected area management. The online population of graduate students seeking certificates in protected area management should significantly increase PTRM graduate student numbers.

2.2. Ready for Growth Programs

As part of the assessment of UM academic programs, AAIP identified certain programs as very ready for growth. These programs had clear indications of growth and a plan to achieve further growth.

AAIP identified these programs as very ready for growth:

Undergraduate: Computer Science; Media Arts; Wildlife Biology; Health & Human Performance; Climate Change Studies; Culinary Arts/Food Service Management; Surgical Technology

Graduate: Communicative Sciences & Disorders; Health & Human Performance; Public & Community Health Sciences

The next step in the process is to describe the steps necessary to achieve this growth. The following describes the recommended actions developed in consultation among AAIP, the program chair or director and the dean of the unit.

Computer Science, undergraduate program

There was a 41% increase in the number of students majoring in Computer Science from 2010 to 2014 as well as an increase in the number of undergraduate degrees awarded per year. The steps necessary to achieve growth include:

1. Fill the current vacant faculty line in Computer Science.
2. Add two additional tenure-track lines in Computer Science.
3. Promote the Computer Science summer camps for middle and high school students.
4. Further development of dual enrollment CSCI 135 courses including an online “Train-the-Trainer” course for teachers to learn how to teach the course.
5. Expand curricula offerings in cyber security, robotics and gaming.

Media Arts, undergraduate program

There was a significant increase in the number of students majoring in Media Arts from 2010 to 2014 as well as a 75% increase in the number of BA degrees awarded per year from 2011 to 2014, and the program recently transitioned to a fully-online program. The steps necessary to achieve growth include:

1. Three additional TA positions to match the increased undergraduate teaching load. The TA’s in Media Arts are an invaluable part of the support mechanism for supporting, creating and developing online courses with the potential for larger class sizes.
2. An additional faculty line in Media Arts. In particular there is a great need for a faculty member in the area of sound.
3. Additional staffing in Media Arts. The lack of permanent staff support has become more difficult as resident student numbers have increased dramatically over the years but will become untenable as the fully online student population grows.
4. Expanded space in McGill Hall. Media Arts currently has no space for adjuncts or any additional full time faculty to maintain office hours. It is critical to address the space needs of The School of Media Arts.

Wildlife Biology, undergraduate program

The number of students majoring in Wildlife Biology increased by 41% from 2010 to 2014 and there was an increase in the number of undergraduate degrees awarded in Wildlife Biology. The steps necessary to achieve growth include:

1. A dedicated development officer to maintain contacts and tap into existing fund raising potential for undergraduate scholarships and fellowships that will attract the best undergraduates to the program.
2. Additional faculty lines in Wildlife Biology to relieve over-enrollment in core class, maintain the quality of field-based courses that undergraduates value, and address current inequalities in faculty teaching loads.
3. Additional Graduate Teaching Assistantships to maintain the quality of field-based courses that undergraduates value.

Health & Human Performance, undergraduate program

The number of students majoring in Health & Human Performance increased by 5% from 2010 to 2014 and there was an 18% increase in the number of undergraduate degrees awarded per year over that time. The steps necessary to achieve growth include:

1. Additional faculty lines in HHP to handle the increased student load, including three faculty lines in Exercise Science, one in Community Health and Prevention Sciences, and one in Health Education/Health Enhancement.
2. Additional staffing to handle the increased student load: a fulltime advisor; a recruitment/public relations coordinator; an internship director/coordinator; and additional adjunct faculty support.
3. New or renovated facilities to replace or revitalize McGill Hall.
4. An additional four TA positions to match the increased teaching load.

These additional resources would enable HHP to handle the increased teaching, advising, lab and workload that have steadily increased over the past 20 years with almost no increase in staffing. These additional resources would also support the graduate program in HHP (see below).

Climate Change Studies

The number of minors awarded in Climate Change Studies increased from 2010 to 2014. The steps necessary to achieve growth include:

1. Greater attention given to Climate Change Studies within UM's recruitment and fundraising efforts
2. Expansion in Climate Change Studies course offerings with cross-listing and continued support for faculty who teach courses for the minor.
3. Additional TA positions that correspond with the increased enrollment.
4. Funding for a permanent, full-time Program Director and part-time Program Assistant.

These additional resources will enable the CCS program to grow and handle the increased load. Expansion of course offerings will increase the number of students engaged in cross-disciplinary thinking and problem solving. For both existing and new courses, providing encouragement, support, and credit to faculty who work across departments will help to make their courses attractive and accessible to students from a diversity of disciplines. Additional administrative support in terms of a program director and assistant will support student leadership development by expanding experiential learning opportunities through internships, field courses, and faculty-mentored practicum projects. This support for student success will increase the number of students competitive for national scholarships and job placements.

Culinary Arts/Food Service Management

The number of students majoring in Culinary Arts/Food Service Management increased by 9% from 2010 to 2014 and there was a significant increase in the number of certificates and associate degrees awarded. The steps necessary to achieve growth include:

1. Access to expanded facilities (which will be available in the Missoula College building). This is essential to allow for further growth of the Culinary Arts/Food Service Management Program.
2. An additional 1.0 FTE tenure-track line and a 1.0 FTE adjunct position to handle the increased load.
3. Additional and upgraded culinary equipment to handle larger class sizes.

These additional resources will allow the Culinary Arts/Food Service Management Program to deliver a first-class, modern culinary education to larger cohort of students.

Surgical Technology

Including pre-majors, the number of students majoring in Surgical Technology increased by 75% from 2010 to 2014. The steps necessary to achieve growth include:

1. An increase in the number of distance learning collaborations.
2. A change in the tuition model for fully online students (requires a modification of an MUS policy).
3. Increased financial support for the Surgical Technology program.

These actions will enable the Surgical Technology Program to grow.

Communicative Sciences & Disorders, graduate program

The number of graduate students seeking a degree in Communicative Sciences & Disorders increased by 43% from 2010 to 2014 and there was an increase in the number of graduate degrees awarded over that time. The steps necessary to achieve growth include:

1. Create a doctoral program for speech-language pathology

- a. Hire a full-time clinical educator to oversee new enrollments
 - b. Hire 2.0 FTE additional faculty lines with senior faculty member who can oversee doctoral research and teach doctoral level courses
 - c. Fund 2 Doctoral level TA positions in Year 1, an additional 2 in Year 2, and an additional 2 in year three for a total of 6 TA positions over a three-year period to recruit top candidates
 - d. Hire a half-time administrative associate
2. Implement a two-cohort model for MS education in CSD, split between distance and campus students
 - a. Offer dedicated sections of courses for distance students
 - b. Additional staffing, including a full-time clinical supervisor, a full-time extern placement coordinator, a half-time administrative associate, and a half-time advising coordinator
 - c. Establish satellite relationships with regional institutions such as BYU-Idaho
 - d. Renovate the current CSD clinic
 3. Hire an additional faculty line to support instruction of American Sign Language

These actions would enable Communicative Sciences & Disorders to increase graduate enrollments, expand academic experiences, expand specialty clinics and increase research productivity and national presence.

Health & Human Performance, graduate program

The number of graduate students seeking a degree in Health & Human Performance increased by 60% between 2010 to 2014 and there was an increase in the number of graduate degrees awarded over that time. The steps necessary to achieve growth include:

1. Additional faculty lines, facilities and support staff in HHP to handle the increased graduate student load and implementation of PhD programs in Exercise Science & Public Health (collaborative between Public Health & Community Health & Preventative Sciences).
2. New or renovated facilities to replace or revitalize McGill Hall.
3. Additional TA positions to attract more graduate students, including into the projected PhD programs.

These additional resources would enable HHP to handle an increased number of graduate students and expand the graduate program to include PhD students.

Public and Community Health Sciences, graduate program

The number of graduate students seeking a degree in Public and Community Health Sciences increased by 13% between 2010 and 2014 and there was an increase in the number of graduate degrees awarded over that time. The steps necessary to achieve growth include:

1. Develop a Ph.D. Program in Public Health that will begin admitting doctoral students in the fall of 2016. To implement, this requires funding for two new faculty lines in Public and Community Health Sciences, international recruitment of graduate students, additional graduate student assistantships, travel funds for graduate students & faculty, and support for international scholars to visit UM.
2. Finalize the development of the University of Montana-AKROS Institute of Global Health memorandum of understanding. This activity will allow Public and Community Health Sciences to pursue financial support for the Ph.D. program through USAID proposals, Gates Foundation proposals, and others, of which two funding proposals have already been submitted linking UM and AKROS.
3. Continue the ongoing global health initiative with Ethiopia.
4. Begin actively marketing and admitting international students to fulfill long-term strategic plans for emphasizing global health in partnership sites such as Ethiopia, Zambia, and Malawi.

These actions would enable Public and Community Health Sciences to increase graduate enrollments.

2.3. Potential New Programs

AAIP was charged with evaluating potential new programs. In this process AAIP examined data on existing programs here at UM and from comparable schools in the region, examined UM's list of current proposed programs, took input at open forums and other campus events, and put out a call for input on potential new programs. The analysis of the potential new programs follows below but AAIP also considered other opportunities that UM should consider in the near future. These are discussed in the following paragraph.

A number of potential new programs were suggested to AAIP at open forums and campus retreats, including a Physicians Assistant Program, an expanded Nursing Program, Biomedical Engineering, and a Hospitality Program. AAIP supports investigation of a Physicians Assistant Program, as there is currently no such program in the MUS system. Such a program would fit well with UM's strength in the health professions. It is our understanding that efforts are already underway to expand the Nursing Program and establish a Hospitality Program. AAIP encourages these efforts. Finally, a Biomedical Engineering Program was submitted as part of a potential new School of Interdisciplinary Engineering and this is discussed below.

In evaluating potential new program suggestions that were formally submitted, AAIP weighed the likelihood that the new program would attract new students to UM, the possible resources required to implement the new program, and other factors including the new program's likely contribution to UM's mission. Of the fifteen submitted new programs, three stood out to AAIP as most likely to attract new students to UM: a certificate in Computed Tomography, an M.S. in Business Analytics and Digital Marketing, and a Ph.D. in Public Health. Of these, the Computed

Tomography Program would require minimal resources while the graduate programs would require a more substantial investment of resources. AAIP encourages moving forward with discussions and formal proposals for all three of these programs.

In addition to these programs, AAIP considered the following programs as likely to attract new students: a School of Interdisciplinary Engineering, an online Pre-Professional Program from the School of Journalism, a Global Field Studies Program, and an International & Global Studies Major. In evaluating a potential School of Interdisciplinary Engineering, AAIP had concerns over the substantial resources required and the potential duplication with other MUS programs. This would require further analysis and careful consideration before moving forward with a formal proposal. The other three programs could be implemented with little additional resources and should be considered for formal proposals.

Finally, AAIP received two suggestions for new minors: a European Studies Minor and a Rural Studies Minor. AAIP deemed these programs as unlikely to attract new students to UM, but they could be implemented with little to no additional resources. They should be considered for implementation.

2.4. Interdisciplinary, International and Online Opportunities

AAIP was charged with identifying new, enhanced, or expanded opportunities for interdisciplinary, international, and on-line offerings. As part of its survey of UM academic programs, AAIP asked, “*What opportunities does your program present for expanded online, interdisciplinary, or international undertakings?*” AAIP assessed the responses based on the potential impact on current UM students and the possibilities for these programs to attract new students to UM.

A. Interdisciplinary Opportunities

In reviewing reports of potential new interdisciplinary activities, AAIP selected Management Information Systems, the Interdisciplinary Graduate Program, Communication Studies, and Computer Sciences as proposing the most impactful new interdisciplinary activities. In addition to these, which are described below, Biological Sciences, Philosophy, Wildlife Biology, African American Studies, Communicative Sciences & Disorders, and Music suggested new interdisciplinary activities that AAIP deemed impactful.

Management Information Systems

Interdisciplinary activity could be enhanced by offering a Master’s in Data Science that would be offered by the MIS department in conjunction with other departments. Adding a Master’s program to the Big Data Analytics/Data Science initiative would require additional resources.

Interdisciplinary Graduate Program

Increased interdisciplinary activity would result from creating a permanent Director for IGP, creating a seminar for an IGP cohort and providing the IGP Director with a discretionary budget to incentivize and reward faculty who work with IGP students.

Communication Studies

A faculty position in science communication, potentially affiliated with the emerging Humanities Institute, could help improve connections between the humanities, social sciences, and natural sciences and strengthen grant applications that increasingly require a communication or public outreach component.

Computer Sciences

The Interdisciplinary Track, which was recently introduced by Computer Science for its undergraduate program, could result in increased interdisciplinary activity. This track allows a student to count a minor or second major in some other discipline toward their CS degree (the student can count 12 credit hours from the other program so their CS degree requires four fewer courses).

B. International Opportunities

In reviewing reports of potential new international activities, AAIP selected Education Leadership, Geosciences, and Public & Community Health Sciences as proposing the most impactful new international activities. In addition to these, which are described below, Modern & Classical Languages & Literatures, Music, Resource Conservation, and Wilderness & Civilization suggested new international activities that AAIP deemed impactful.

Education Leadership

The Department of Education Leadership is going through the approval steps to implement a Master's of Education Degree in International Educational Leadership and a Ph.D. in International Educational Leadership. This is a joint effort with International Programs to fulfill an identified need both nationally and internationally. This would be one of only four programs in the country and the only one in the state of Montana.

Geosciences

The Department of Geosciences currently offers two international B.S. degrees: a joint degree with University College Cork and a dual degree with Potsdam University. Since the inception of these degrees, many students have come to UM from Ireland and Germany to participate, but not many from UM have gone to Europe. For many UM students the primary issue about participation in one of these international programs is financial need. Enrollment in these programs by UM students could be substantially

increased if scholarship funds from the University were available. These programs represent a wonderful opportunity for UM students.

Public & Community Health Sciences

The School of Public & Community Health Sciences plans to further develop its program's unique emphasis on the intersection of global and rural health, an emphasis that is now in its ninth year of viability and is poised to expand. There are opportunities for both practica and faculty work in malaria control in Zambia, in tobacco-use control in Croatia and Slovenia in the Balkans, and in maternal and child health in Ethiopia. Public & Community Health Sciences faculty have carried out important groundwork at three of these sites, and have developed many of the necessary preliminary and intermediate level relationships necessary in the practice of global health. Support is needed to get to these sites routinely so that students from there can be recruited and workshop trained to work on web-based MPH training with UM's globally oriented program and faculty.

C. Online Opportunities

In reviewing reports of potential new online activities, AAIP selected Communicative Sciences & Disorders, Electronics Technology, and Media Arts as proposing the most impactful new online activities. In addition to these, which are described below, Anthropology, African American Studies, Curriculum & Instruction, Administrative Management, the MBA Program, Public & Community Health Sciences, and Social Work suggested new online activities that AAIP deemed impactful.

Communicative Sciences & Disorders

The Department of Communicative Sciences & Disorders opened an online post-baccalaureate program for individuals with degrees in other fields but currently only one undergraduate offering is an online course. The size of the CSD undergraduate program could be greatly enhanced with an online degree program for undergraduate students. CSD has already built its courses in an online mode so that the primary resource needed is FTE to staff the online courses for undergraduates.

Electronics Technology

The Electronics Technology Program proposes to implement all the electronics courses online to enhance the program's flexibility to attract students locally and nation-wide and in turn to increase enrollment. Financial support and additional adjunct faculty are required to realize this opportunity.

Media Arts

The School of Media Arts is committed to increasing enrollment for its online degree program and possibly offering a master's degree online to help support the online BA. If Media Arts is able to offer the online degree at a competitive rate, and grow and support the degree with innovative budgeting such as self-support, then it will likely have a regional, national, and international presence in online education representing the University of Montana as well as opening the door for other online degrees to be developed.

3. Communicating the Importance of a Liberal Education

AAIP was charged with ensuring that the liberal arts are central to contemporary higher education and deciding how UM should communicate the importance of the liberal arts to prospective students, parents, teachers, and the general public. There is an ongoing national discussion on the role and value of liberal arts in higher education and in addressing this charge, AAIP read and discussed a number of articles and papers on this topic [1 – 8]. The focus of AAIP’s discussions on this topic broadened from the liberal arts to a liberal education, as defined by the American Association of Colleges and Universities [9].

We assert that the importance of a liberal education has not diminished. More specifically, a liberal education furthers UM’s mission of “integration of the liberal arts, graduate study, and professional training with international and interdisciplinary emphases.” A liberal education is critical in preparing tomorrow’s leaders, is key to developing engaged citizens, and contributes greatly to the overall quality of life in Montana and the world.

Much of the criticism of a liberal education seems to stem from a misunderstanding of what a liberal education entails. Indeed, some pundits state that universities should focus more on preparing tomorrow’s workforce and less on teaching the liberal arts, as if these were two mutual exclusive pursuits. Most people might agree that a 21st century education should provide students strong written and clear verbal communication skills as well as developing students’ critical and analytic thinking. What seems to be missed is that these are some of the outcomes of a liberal education. A liberal education is an “approach to college learning that empowers individuals and prepares them to deal with complexity, diversity, and change” [9]. As stated in a recent survey of employers and college students [10], “Employers overwhelmingly endorse broad learning as the best preparation for long-term career success. They believe that broad learning should be an expected part of college for all students, regardless of their chosen major or field of study.” Providing a world-class liberal education and preparing students for fulfilling careers are integrated at the University of Montana.

In communicating to prospective students, parents and teachers, UM needs to find the balance between promoting how a liberal education prepares students for a future career and how it enables them to be engaged citizens. Both of these messages are important and should be part of how UM promotes itself. Each academic program should consider aspects of liberal education in promoting the value of the degrees it offers and the benefit to potential students.

Finally, the importance of a liberal education is a topic that is broader than AAIP and deserves a campus-wide discussion. This coming October, UM will be sponsoring and hosting a conference on 21st Century Education. In conjunction with this conference, AAIP encourages engaging the whole campus in a dialog on the importance and value of a liberal education.

4. Additional AAIP Suggestions

In the process of surveying all UM academic programs AAIP discussed a number of broader issues that need to be addressed.

4.1. The Need for Better Internal and External Data

There is an overall need for improved and more consistent data both internal data on UM's academic programs and external data on comparator universities. AAIP faced the challenges of determining what constitutes an academic program for review and a lack of consistent data on these programs. The lack of consistent internal data is evident in UM's annual Academic Unit Data report [11]. In some colleges and schools there is detailed information on each department while in others there is only the aggregate information for the college. The lack of consistent data is also evident in what was provided to AAIP and is available on the AAIP web site. A comprehensive portfolio review process such as AAIP should be undertaken every five to ten years but the time to start improving data gathering at UM is now.

4.2. Suggestions for Improving Synergy Among Programs

In a number of areas UM has multiple academic programs in different departments and colleges that are not taking advantage of overlapping curricula to become even stronger. This is in contrast to programs such as Wildlife Biology that have successfully developed bridges between different colleges to create strong and successful programs. A particular example of this is the number of programs that involve some form of Asian Studies. The Liberal Studies Program offers both Asian Studies and South & Southeast Asian Studies, the Maureen & Mike Mansfield Center offers East Asian Studies, and there is the Central & Southwest Asian Studies Center. With the presence of the Mike & Maureen Mansfield Center, the broad field of Asian Studies is a strength of UM. It would benefit the University if these programs could be united and aligned to be more powerful together.

4.3. Enabling Successful Interdisciplinary Programs

The University of Montana seeks to promote interdisciplinary courses and programs, yet often fails to provide the infrastructure to facilitate this. Two new programs that have been successful are the Climate Change Studies minor and the Global Leadership Initiative program. Both of these programs have some support for administrative oversight and these individuals are responsible for the day-to-day operations of these programs. As other such programs are proposed, the University needs to develop a mechanism to provide some overarching support. Programs that include multiple Departments and Colleges do need some administrative support; this support need only be a part-time position. Worthwhile programs such as International Global Studies will not succeed without a small investment in a support position.

4.4. University-wide Academic Programs

In addition to the more than one hundred academic programs reviewed, AAIP discussed the Mansfield Library, the Davidson Honors College, and the Global Leadership Initiative. These academic programs do not have majors but they do span the University. They each provide vital contributions to the mission of UM.

The faculty of the Mansfield Library provide a strong contribution to student success and creating a dynamic learning environment. The scholarly resources provided by the Mansfield Library are essential to the research and creative scholarship conducted on campus. Mansfield Library faculty typically do not teach full classes but do teach a portion of a class in which they provide students research and scholarly skills. AAIP suggests making sure that more faculty across campus are aware of this service provided by Mansfield Library faculty.

The Davidson Honors College (DHC) and the Global Leadership Initiative (GLI) are both academic enhancement programs that students can qualify for in addition to their primary majors. They provide unique and enriching opportunities for students that are able to participate in these programs. AAIP reviewed enrollment data on both DHC students and GLI students and met separately with the Dean of the DHC and the Director of GLI. AAIP has a number of suggestions that may improve the student experience in these programs and make them accessible to more students. Here are the AAIP suggestions for the DHC and GLI:

- The DHC and GLI should explore more cooperation and possible future co-administration.
- Each program should undergo an audit to determine which majors are experiencing obstacles to complete the programs and take actions to remove these obstacles.
- One obstacle for some potential GLI students is that the GLI Freshman Seminars do not count as General Education courses. This might not impact current GLI students but it may be preventing students in more credit-heavy majors from considering the GLI as an option. AAIP encourages more dialogue between the GLI and the General Education Committee.
- AAIP encourages GLI to explore and develop pathways for students to enter the GLI program at the sophomore or junior level.

4.5 Next Steps after AAIP

The follow up to this process of academic portfolio review is essential. The full campus should review this report and the programs highlighted in this report, both the challenged and ready for growth, should follow up with the dean of their unit and the Provost in implementing the steps to help these programs. AAIP recommends that this type of portfolio review be done every five to ten years and is essential when the University adopts a new strategic plan.

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Appendix

AAIP Questions for Chairs and Directors

**Academic Alignment and Innovation Program Task Force
Program Survey Questions for Chairs and Directors
10/30/14**

1. Describe the most innovative ways your program contributes to the strategic issues of [UM's Strategic Plan](#): 1) Partnering for Student Success; 2) Education for the Global Century; 3) Discovery and Creativity to Serve Montana and the World; and 4) Dynamic Learning Environment. Please provide two or three specific examples.
2. Describe how your program contributes to a 21st Century Liberal Education (see the [AAC&U page](#) for more specific information on a liberal education).
3. What is the demand for your program? Please elaborate on both the current demand and possible future demand.
4. What is the perceived quality of your program? Please elaborate.
5. Is your program challenged by low enrollment or by a perception of a lack of relevance? If so, please describe possible actions that can be taken to help strengthen your program.
6. Is your program ready for growth? If so, please describe what actions are necessary for that growth to occur?
7. What opportunities does your program present for expanded online, interdisciplinary, or international undertakings? Please describe these opportunities including the potential impact of these opportunities and the resources required.

AAIP UM Academic Program Metrics

Quantitative Program Analysis

Program name:

DRAFT 12/18/14

Doctorate/
Specialist

Program Components:

Minor	Certificate	Associate's	Bachelor's	Master's	Doctorate/ Specialist
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Measure	Low	Medium	High
Undergraduate...			
	0 - 50	51 - 150	> 150
# of majors in FY 14	<input type="text"/>	<input type="text"/>	<input type="text"/>
	0 - 50	51 - 150	> 150
FY 11 - FY 13 average majors/yr	<input type="text"/>	<input type="text"/>	<input type="text"/>
	< -10%	-10% to +5%	> 5%
% change in # of majors FY 10 - FY 14	<input type="text"/>	<input type="text"/>	<input type="text"/>
	0 - 8	9 - 30	> 30
FY 11 - FY 13 average certificates awarded/yr	<input type="text"/>	<input type="text"/>	<input type="text"/>
	0 - 8	9 - 30	> 30
FY 11 - FY 13 average AA/AS degrees awarded/yr	<input type="text"/>	<input type="text"/>	<input type="text"/>
	0 - 8	9 - 30	> 30
FY 11 - FY 13 average BS/BA degrees awarded/yr	<input type="text"/>	<input type="text"/>	<input type="text"/>
	< 2000	2000 - 4000	> 4000
UG Student-credit-hours total in 2014	<input type="text"/>	<input type="text"/>	<input type="text"/>
	< 80%	80 - 120%	> 120%
Student -credit -hours per Faculty FTE relative to norm*	<input type="text"/>	<input type="text"/>	<input type="text"/>
	< 80%	80 - 120%	> 120%
Dir. Instr. Expenditures per Student FTE relative to norm*	<input type="text"/>	<input type="text"/>	<input type="text"/>
* Averaged over Fall 2011 - Fall 2013 (AY11- AY13)			

Graduate...			
	0 - 15	16 - 30	> 30
# of graduate students in FY 14	<input type="text"/>	<input type="text"/>	<input type="text"/>
	0 - 15	16 - 30	> 30
FY 11 - FY 13 average # of graduate students/yr	<input type="text"/>	<input type="text"/>	<input type="text"/>
	< -10%	-10% to +5%	> 5%
% change in # of graduate students FY 10 - FY 14	<input type="text"/>	<input type="text"/>	<input type="text"/>
	0 - 9	9 - 20	> 20
FY 11 - FY 13 average professional degrees awarded/yr	<input type="text"/>	<input type="text"/>	<input type="text"/>
	0 - 4	5 - 10	> 10
FY 11 - FY 13 average Masters degrees awarded/yr	<input type="text"/>	<input type="text"/>	<input type="text"/>
	0 - 3	4 - 7	> 7
FY 11 - FY 13 average PhD degrees awarded/yr	<input type="text"/>	<input type="text"/>	<input type="text"/>
	< 150	150 - 300	> 300
Graduate Student-credit-hours total in FY 2014	<input type="text"/>	<input type="text"/>	<input type="text"/>
	< 80%	80 - 120%	> 120%
Research expenditure per faculty FTE relative to norm*	<input type="text"/>	<input type="text"/>	<input type="text"/>
	< 80%	80 - 120%	> 120%
Quantitative measure for grad programs not in the sciences?*	<input type="text"/>	<input type="text"/>	<input type="text"/>
* Averaged over Fall 2011 - Fall 2013 (AY11-AY13)			

AAIP Internal Checklist for UM Academic Programs

Academic Alignment and Innovation Program Task Force
Program Survey Internal Checklist for AAIP use

Program Name: _____
 UG Component: _____
 Graduate Component: _____

Rate this program for the degree of alignment, contribution, demand, etc.:

Unable to determine

	Weak alignment	Medium alignment	Strong alignment	Unable to determine
1. How well does this program align with UM's Strategic Plan?				
a. Partnering for Student Success	Minimal indications of a focus on student success in this program.	Some efforts focused on student success.	Strong efforts focused on student success.	
b. Education for the Global Century	Minimal indications that education for the global century is a priority.	Some indications that education for the global century is a priority.	Educations for the global century is a clear and strong priority for this program.	
c. Discovery and Creativity to Serve Montana and the World	Minimal level of creative, scholarly or research activity.	A majority of faculty are engaged in creative, scholarly or research activity.	Very active program with a high level of creative, scholarly or research activity.	
d. Dynamic Learning Environment	Minimal indication of efforts to move towards a dynamic learning environment.	Some indication of efforts to move towards a dynamic learning environment.	Strong efforts underway to promote a dynamic learning environment.	
2. Does this program contribute to a 21st Century Liberal Education?	Small contribution	Medium contribution	Strong contribution	
	Minimal contribution to a 21st Century Liberal Education.	Some contribution to a 21st Century Liberal Education.	Strong contribution to a 21st Century Liberal Education.	
3. Does this program present opportunities for expanded online, interdisciplinary, or international undertakings with significant impact?	No opportunities	Some opportunities	Strong opportunities	
Online:	No indications of possible expanded online activities.	Some indications of possible expanded online activities.	A number of strong opportunities for expanded online activities.	
Interdisciplinary:	No indications of possible expanded interdisciplinary activities.	Some indications of possible expanded interdisciplinary activities.	A number of strong opportunities for expanded interdisciplinary activities.	
International:	No indications of possible expanded international activities.	Some indications of possible expanded international activities.	A number of strong opportunities for expanded international activities.	
4. What is the demand for this program?	Low	Medium	High	
UG:	UG program has low enrollment and a lack of student interest.	UG program has moderate enrollment and some signs of student interest.	UG program has high enrollment and clear signs of strong student interest.	
Graduate:	Graduate program has low enrollment and a lack of student interest.	Graduate program has moderate enrollment and some signs of student interest.	Graduate program has high enrollment and clear signs of strong student interest.	
5. What is the perceived quality of this program?	Low	Medium	High	
UG:	UG program quality is perceived as low through poor reviews & lack of activity.	UG program quality is perceived as medium through fair/good review & some activity.	UG program received excellent reviews & graduates get into top grad schools or obtain jobs.	
Graduate:	Graduate program received poor review, lack of research, scholarly or creative works.	Graduate program received fair/good review & has research/scholarly/creative activity.	Graduate program received strong review & has high level of research/scholarly/creative activity.	
6. Is this program challenged by low enrollment or by a perception of lack of relevance?	Not challenged	Challenged	Highly challenged	
UG:	UG program is not at all challenged.	UG program has had a small drop in enrollment or low overall enrollment.	UG program has had a drop in enrollment and low overall enrollment.	
Graduate:	Graduate program is not at all challenged.	Graduate program has had a small drop in enrollment or low overall enrollment.	Graduate program has had a drop in enrollment and low overall enrollment.	
7. Is this program ready for growth?	Not ready	Somewhat ready	Very ready	
UG:	UG program is not ready for growth.	UG program has some indications of being ready for enrollment growth.	UG program has clear indications of growth and a plan to achieve it.	
Graduate:	Graduate program is not ready for growth.	Graduate program has some indications of being ready for enrollment growth.	Graduate program has clear indications of growth and a plan to achieve it.	

AAIP Internal Checklist for Potential New Academic Programs

Academic Alignment and Innovation Program Task Force
New Program Evaluation Checklist for AAIP use

New Program Name:
 UG Component:
 Graduate Component:

Rate this program for the degree of alignment, contribution, demand, etc.:

Unable to determine

1. Would this new program contribute to UM's Strategic Plan?

- a. Partnering for Student Success
- b. Education for the Global Century
- c. Discovery and Creativity to Serve Montana and the World
- d. Dynamic Learning Environment

	Small Contribution	Medium Contribution	Strong Contribution	Unable to determine
<i>Minimal indications of a focus on student success in this program.</i>	<input type="checkbox"/>	<i>Some efforts focused on student success.</i>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Minimal indications that education for the global century is a priority.</i>	<input type="checkbox"/>	<i>Some indications that education for the global century is a priority.</i>	<i>Educations for the global century is a clear and strong priority for this program.</i>	<input type="checkbox"/>
<i>Minimal level of creative, scholarly or research activity.</i>	<input type="checkbox"/>	<i>A majority of faculty are engaged in creative, scholarly or research activity.</i>	<i>Very active program with a high level of creative, scholarly or research activity.</i>	<input type="checkbox"/>
<i>Minimal indication of efforts to move towards a dynamic learning environment.</i>	<input type="checkbox"/>	<i>Some indication of efforts to move towards a dynamic learning environment.</i>	<i>Strong efforts underway to promote a dynamic learning environment.</i>	<input type="checkbox"/>

2. Is this new program likely to attract new students to UM?

	Not Likely	Somewhat Likely	Very Likely	Unable to determine
<i>Few or no indications that this program would attract new students to UM.</i>	<input type="checkbox"/>	<i>There are some indications that this program would attract new students to UM.</i>	<i>Clear indications that this program would attract new students to UM.</i>	<input type="checkbox"/>

3. Does this new program contain online, interdisciplinary, or international components?

	No opportunities	Some opportunities	Strong opportunities	Unable to determine
<i>Online:</i> <i>No indications of online activities.</i>	<input type="checkbox"/>	<i>Some indications of online activities.</i>	<i>A significant online component.</i>	<input type="checkbox"/>
<i>Interdisciplinary:</i> <i>No indications of interdisciplinary activities.</i>	<input type="checkbox"/>	<i>Some indications of interdisciplinary activities.</i>	<i>A significant interdisciplinary component.</i>	<input type="checkbox"/>
<i>International:</i> <i>No indications of international activities.</i>	<input type="checkbox"/>	<i>Some indications of international activities.</i>	<i>A significant international component.</i>	<input type="checkbox"/>

4. Does this new program require significant resources?

	High	Medium	Low	Unable to determine
<i>This program requires more than two new faculty line and additional resources.</i>	<input type="checkbox"/>	<i>This program requires one or two new faculty lines and other resources.</i>	<i>This program could be offered with minimal additional resources.</i>	<input type="checkbox"/>

5. Is this program duplicated in the MUS system and if so, is there sufficient justification to offer it at UM?

	Duplicated and Not Justified	Duplicated but Justified	Not Duplicated	Unable to determine
<i>Overlap with existing MUS programs and there is not sufficient justification to offer it at UM.</i>	<input type="checkbox"/>	<i>Some overlap with existing MUS programs but there is sufficient justification to offer it at UM.</i>	<i>This program is not currently offered in the MUS system.</i>	<input type="checkbox"/>