

MEMORANDUM

DATE: January 20 – 21, 2005

TO: Montana Board of Regents

FROM: Roger Barber, Deputy Commissioner for Academic & Student Affairs

SUBJECT: Level I Approvals and Announcements

This memorandum is intended to inform you of the Level I changes in academic programs that have been approved in the Office of the Commissioner of Higher Education since the last meeting of the Board of Regents. It also includes announcements that may be of interest to the Board. If you have any questions, I would be happy to answer them with the help of my colleagues in academic affairs.

The University of Montana-Missoula:

- **ITEM 126-1006+R0105:** The University of Montana-Missoula asked permission to offer a certificate in Forensic Studies as part of its program inventory in the Department of Anthropology. The University of Montana-Missoula already awards a Bachelor of Arts degree in Anthropology, with an option in Forensic Anthropology. The new certificate will make use of those existing courses. The certificate is also designed so that students can take all of the coursework “on-line.” Therefore, the Level I request from The University of Montana-Missoula also asked for authority to deliver a so-called distance program.
- **ITEM 126-1007+R0105:** The University of Montana-Missoula filed a notice of intent to terminate its Bachelor of Arts degree in German, with an option in Linguistics. No students have enrolled in the option in the last 25 years. This notice of intent has been filed to satisfy the public notice requirements associated with the termination of a program of study in the Montana University System. The University of Montana-Missoula will continue to offer the Bachelor of Arts degree and the minor in German as part of its modern language programs.
- **ITEM 126-1008+R0105:** The University of Montana-Missoula submitted a Level I request, with Level II documentation, asking permission to offer a new Option in Central and Southwest Asian Studies in both its Bachelor of Arts degree program in Geography and its Master of Arts degree program in Geography. According to the Level II document, the new option will use existing courses in the Geography program. No new courses will be added to the Geography curriculum.
- **ITEM 126-1002+R0105:** The University of Montana-Missoula College of Technology has asked for authority to offer an Associate of Applied Science degree and Certificate in Carpentry. The Missoula College of Technology says that it worked closely with the Montana Contractors Association and a local advisory board to develop the program. Much of the coursework was patterned after the accreditation expectations of the National Council for Construction Education and Research (NCCER). Under procedures

approved by the Montana Board of Regents, Associate of Applied Science and certificate programs “. . . offered . . . at the request of private or public sector partners and the decision point to offer the program is not consistent with the regular Board of Regents program approval process . . .” may be submitted as Level I proposals. Such programs will only be approved for two years and must be resubmitted to the Board if the institution wishes to continue the degree offering.

- **ITEM 126-1001+R0105:** The University of Montana-Missoula College of Technology asked permission to move its Computer Technology programs from the Business Technology department to the Electronics Technology department. Because of that move, it also asked that the name of the Electronics Technology department be changed to the *Computing and Electronics Department*.
- **ITEM 126-1004+R0105:** The University of Montana-Missoula College of Technology submitted a Level I request, with Level II documentation, asking permission to offer a new Option in Power Generation as part of its Associate of Applied Science degree program in Diesel Technology. The option was developed, at the request of the institution's Diesel Technology Advisory Board, and will require students to complete 12 additional credits to earn the credential.
- **ITEM 122-1008-R0104:** At the July meeting of the Montana Board of Regents, the Board approved a proposal to convert the Associate of Applied Science degree in Licensed Practical Nursing to a Certificate Program; and to establish an Associate of Science degree leading to licensure as a Registered Nurse. The Board's approval was conditional, however; the program changes had to receive final approval from the Montana State Board of Nursing. That approval occurred at the October meeting of the State Board of Nursing. This announcement is included in the Level I memorandum to notify the Montana Board of Regents that the changes in the nursing program at The University of Montana-Missoula College of Technology are now final and official.

Montana State University-Billings:

- **ITEM 126-2701+R0105:** Montana State University-Billings submitted a Level I request, with Level II documentation, asking permission to offer a new Option in Environmental Sciences as part of its Bachelor of Science degree program in Biology. The new option will utilize existing courses in biology, chemistry, mathematics, physics and earth science, and no new courses will be created.
- **ITEM 126-2702+R0105:** Montana State University-Billings submitted a Level I request, with Level II documentation, asking permission to offer a new Option in Clinical Laboratory Studies as part of its Bachelor of Science degree program in Biology. The new option will require the addition of five (5) new classes to the biology curriculum. Only two of those courses will be taught by faculty at MSU-Billings, however. The remaining three (3) classes make up the so-called professional training core, and will be taught by faculty at either the University of North Dakota, Sacred Heart School of Medical Technology in Spokane, or the HealthOne Alliance School of Medical Technology in Denver. That affiliation is described more carefully in the Level II document under **Item 126-2704-R0105.** Final approval of this Level I request is obviously contingent on the Montana Board of Regents' favorable action on that Level II

item. This option in Clinical Laboratory Studies has the support of the clinical laboratory programs at The University of Montana-Missoula and Montana State University-Bozeman, as evidenced by letters that were submitted as part of the Level I request.

- **ITEM 126-2703+R0105:** Montana State University-Billings filed a notice of intent to terminate its Minor in Theatre Therapy, which is currently part of the Communication Arts program at that institution. Enrollments in the minor program have been low, historically, and currently there are no students in the program. This notice of intent has been filed to satisfy the public notice requirements associated with the termination of a program of study in the Montana University System.

Flathead Valley Community College:

- **ITEM 126-301+R0105:** Flathead Valley Community College asked that the name of its Associate of Applied Science degree in Hospitality Management-Professional Chef Management be changed to *Culinary Arts*.

Dawson Community College:

- **ITEM 126-201+R0105:** Dawson Community College asked for permission to take its Farm/Ranch Business Management certificate program to the communities of Hardin, Fort Benton and Chinook. In March 2004, Dawson Community College received authorization to deliver the program to Glasgow, Lewistown, Miles City and Plentywood. Because of the success of those distance programs, the institution has decided to expand its delivery area to three more communities in eastern Montana.

Miles Community College:

- **ITEM 126-401+R0105:** Miles Community College has requested permission to offer a Certificate in Agriculture. According to administrative personnel at Miles Community College, a similar program existed at the College many years ago. It has not been offered in recent years, and the credential does not appear in the Degree and Program Inventory maintained by the Office of the Commissioner of Higher Education. Officials at Miles Community College claim that they have no record or documentation that the certificate was ever eliminated. Following my advice, Miles Community College has prepared a Level I request, with Level II documentation, to reestablish the certificate program in Agriculture. The program was developed with the assistance of an Agriculture Advisory Committee, and has significant support from agriculturally-related entities in the Miles City area. Under procedures approved by the Montana Board of Regents, Certificate programs “. . . offered . . . at the request of private or public sector partners and the decision point to offer the program is not consistent with the regular Board of Regents program approval process . . .” may be submitted as Level I proposals. Such programs will only be approved for two years and must be resubmitted to the Board if the institution wishes to continue the degree offering.

MONTANA BOARD OF REGENTS

LEVEL I REQUEST FORM

Item No.: 126-1006+R0105 Date of Meeting: Jan. 20-21, 2005
Institution: The University of Montana--Missoula
Program Title: Certificate in Forensic Studies

Level I proposals are those that may be approved by the Commissioner of Higher Education or the Commissioner's designee. The approval of such proposals will be conveyed to the Board of Regents at the next regular meeting of the board. The institution must file the request with the Office of the Commissioner of Higher Education by means of a memo to the Deputy Commissioner.

A. Level I action requested (check all that apply): Level I proposals include campus initiatives typically characterized by (a) minimal costs; (b) clear adherence to approved campus mission; and (c) the absence of significant programmatic impact on other institutions within the Montana University System and Community Colleges.

- 1. Re-titling existing majors, minors, options and certificates; (e.g. from B.S. in Mechanized Agriculture to B.S. in Agricultural Operations Technology);
- 2. Eliminating existing majors, minors, options and certificates via a Program Termination Checklist;
- 3. Adding new minors or certificates where there is a major;
- 4. Departmental mergers and name changes;
- 5. Program revisions; and
- 6. Distance delivery of previously authorized degree programs.

B. Level I with Level II documentation: With Level II documentation circulated to all campus chief academic officers in advance, the Commissioner or designee may propose additional items for inclusion in the Level I process. For these items to move forward, the Commissioner or designee must reach consensus with the chief academic officers. When consensus is not achieved, the Commissioner or designee will move the item to the Level II review process.

- 1. Options within an existing major or degree;
- 2. Eliminating organizational units within larger institutions such as departments, divisions and colleges or schools *with the exception of the five Colleges of Technology where changes require Board action;*
- 3. Consolidating existing programs and/or degrees.

C. Temporary Certificate or A.A.S. degree programs: Certificate or Associate of Applied Science Degree Programs may be submitted as Level I proposals, with memo and backup documentation, when they are offered in cooperation with and/or at the request of private or public sector partners and the decision point to offer the program is not consistent with the regular Board of Regents program approval process. Level I approval for programs under this provision will be limited to two years. Continuation of a program beyond the two years will require the normal program approval process as Level II Proposals.

All other Certificate or Associate Degree programs may be placed on submission at any Board of Regents meeting. They will be placed on action agendas at subsequent meetings. All campuses agree to insure that all other campuses receive program information well in advance of submission.

Specify Request:

The University of Montana -- Missoula proposes an undergraduate certificate in Forensic Studies in the Department of Anthropology. Students will acquire a broad and diverse theoretical background in subjects relevant to the study of the forensic sciences including: the nature and theory of the forensic sciences, introductory natural sciences, writing and speaking skills, and ethics. The certificate is designed so that students may complete it taking only online classes. The goal of the certificate is both to equip beginning students and seasoned professionals with these career-oriented skills, and to attract students from many places to the distinguished programs in Anthropology, Chemistry, Biological Sciences, and other disciplines at The University of Montana – Missoula.

MONTANA BOARD OF REGENTS

LEVEL I REQUEST FORM

Item No.: 126-1007+R0105 Date of Meeting: Jan. 20-21-2005
Institution: The University of Montana--Missoula
Program Title: Eliminate Linguistics Option in German

Level I proposals are those that may be approved by the Commissioner of Higher Education or the Commissioner's designee. The approval of such proposals will be conveyed to the Board of Regents at the next regular meeting of the board. The institution must file the request with the Office of the Commissioner of Higher Education by means of a memo to the Deputy Commissioner.

A. Level I action requested (check all that apply): Level I proposals include campus initiatives typically characterized by (a) minimal costs; (b) clear adherence to approved campus mission; and (c) the absence of significant programmatic impact on other institutions within the Montana University System and Community Colleges.

- 1. Re-titling existing majors, minors, options and certificates; (e.g. from B.S. in Mechanized Agriculture to B.S. in Agricultural Operations Technology);
- 2. Eliminating existing majors, minors, options and certificates via a Program Termination Checklist;
- 3. Adding new minors or certificates where there is a major;
- 4. Departmental mergers and name changes;
- 5. Program revisions; and
- 6. Distance delivery of previously authorized degree programs.

B. Level I with Level II documentation: With Level II documentation circulated to all campus chief academic officers in advance, the Commissioner or designee may propose additional items for inclusion in the Level I process. For these items to move forward, the Commissioner or designee must reach consensus with the chief academic officers. When consensus is not achieved, the Commissioner or designee will move the item to the Level II review process.

- 1. Options within an existing major or degree;
- 2. Eliminating organizational units within larger institutions such as departments, divisions and colleges or schools *with the exception of the five Colleges of Technology where changes require Board action;*
- 3. Consolidating existing programs and/or degrees.

C. Temporary Certificate or A.A.S. degree programs: Certificate or Associate of Applied Science Degree Programs may be submitted as Level I proposals, with memo and backup documentation, when they are offered in cooperation with and/or at the request of private or public sector partners and the decision point to offer the program is not consistent with the regular Board of Regents program approval process. Level I approval for programs under this provision will be limited to two years. Continuation of a program beyond the two years will require the normal program approval process as Level II Proposals.

Item No.: 126-1007+R0105

Institution: The University of Montana--Missoula

All other Certificate or Associate Degree programs may be placed on submission at any Board of Regents meeting. They will be placed on action agendas at subsequent meetings. All campuses agree to insure that all other campuses receive program information well in advance of submission.

Specify Request:

The University of Montana--Missoula seeks approval to eliminate an Option in Linguistics in German. No student has enrolled for this Option in the past 25 years.

MONTANA BOARD OF REGENTS

LEVEL I REQUEST FORM

Item No.: 126-1008+R0105 Date of Meeting: Jan. 20-21, 2005
Institution: The University of Montana--Missoula
Program Title: Geography Department: Undergraduate and Graduate Options in Central and Southwest Asian Studies

Level I proposals are those that may be approved by the Commissioner of Higher Education or the Commissioner's designee. The approval of such proposals will be conveyed to the Board of Regents at the next regular meeting of the board. The institution must file the request with the Office of the Commissioner of Higher Education by means of a memo to the Deputy Commissioner.

A. Level I action requested (check all that apply): Level I proposals include campus initiatives typically characterized by (a) minimal costs; (b) clear adherence to approved campus mission; and (c) the absence of significant programmatic impact on other institutions within the Montana University System and Community Colleges.

- 1. Re-titling existing majors, minors, options and certificates; (e.g. from B.S. in Mechanized Agriculture to B.S. in Agricultural Operations Technology);
- 2. Eliminating existing majors, minors, options and certificates via a Program Termination Checklist;
- 3. Adding new minors or certificates where there is a major;
- 4. Departmental mergers and name changes;
- 5. Program revisions; and
- 6. Distance delivery of previously authorized degree programs.

B. Level I with Level II documentation: With Level II documentation circulated to all campus chief academic officers in advance, the Commissioner or designee may propose additional items for inclusion in the Level I process. For these items to move forward, the Commissioner or designee must reach consensus with the chief academic officers. When consensus is not achieved, the Commissioner or designee will move the item to the Level II review process.

- 1. Options within an existing major or degree;
- 2. Eliminating organizational units within larger institutions such as departments, divisions and colleges or schools *with the exception of the five Colleges of Technology where changes require Board action;*
- 3. Consolidating existing programs and/or degrees.

C. Temporary Certificate or A.A.S. degree programs: Certificate or Associate of Applied Science Degree Programs may be submitted as Level I proposals, with memo and backup documentation, when they are offered in cooperation with and/or at the request of private or public sector partners and the decision point to offer the program is not consistent with the regular Board of Regents program approval process. Level I approval for programs under this provision will be limited to two years. Continuation of a program beyond the two years will require the normal program approval process as Level II Proposals.

Item No.: 126-1008+R0105

Institution: The University of Montana--Missoula

All other Certificate or Associate Degree programs may be placed on submission at any Board of Regents meeting. They will be placed on action agendas at subsequent meetings. All campuses agree to insure that all other campuses receive program information well in advance of submission.

Specify Request:

The University of Montana—Missoula requests authorization to establish graduate and undergraduate Options in Central and Southwest Asian Studies in the Department of Geography.

MONTANA BOARD OF REGENTS

NEW ACADEMIC PROGRAM PROPOSAL SUMMARY

Institution: The University of Montana-Missoula
Program Title: Geography Department: Undergraduate and Graduate Options in Central and Southwest Asian Studies

1. How does this program advance the campus' academic mission and fit priorities?

The program aims at producing the next generation of leading academic scholars, researchers and professionals in two of the most vital geopolitical and strategic regions in the world today. The proposed Options directly address The University of Montana's fundamental mission of promoting international and interdisciplinary education.

2. How does this program fit the Board of Regents' goals and objectives?

This program is consistent with the Board of Regents' Goals A, C, and D, to provide a stimulating, responsive, and effective environment for academic achievement and learning, to deliver higher education in an efficient and coordinated manner, and to be responsive to market, employment, and economic development needs.

3. How does this program support or advance Montana's needs and interests?

The Option will directly help to develop an informed and culturally aware citizenry in Montana that is prepared to meet the challenges of a rapidly changing global system. The undergraduate and graduate Options have the potential of attracting a broad spectrum of students (including Native American and ethnic minority students) and international prestige, and improving the employment possibilities within the state.

4. How will this program contribute to economic development in Montana? (Note projected annual economic impact both regionally and statewide.)

Students pursuing these Options will be prepared for research or for employment in fields such as government, non-governmental organizations, international humanitarian assistance, business, military, industry, health, and education. Overall, the Option would increased employment possibilities and the qualifications of students. In addition, the Option would attract additional federal funding (UM's Central Asia and Caspian Basin Program has to date generated over \$1 million in federal grants to support curriculum and instructional materials development on campus).

5. What is the program's planned capacity?

• Break-even point?	N/A	FTE students
• Enrollments / year?	15/10	
• Graduates / year?	15/2	

• MT jobs / year?	5/1
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6. Resource Allocation:

• Total program budget?	\$ 0
• Faculty FTE?	N/A
• Staff FTE?	0

7. Does this program require new resources? Yes No
 If yes, what is the amount? \$ _____

8. How will the campus fund the program?

The faculty involved in teaching the required courses have already been teaching these courses, and hence, no provisions need to be made to relieve them from their present duties.

9. If internal reallocation is necessary, name the sources.

PROGRAM DESCRIPTION

1. Briefly describe the proposed new program. Please indicate if this is an expansion of an existing program; a new program; a cooperative effort with another institution, business or industry; and on-campus or off-campus program.

We propose to create undergraduate and graduate options in Central and Southwest Asian Studies within the existing program in the Department of Geography. Currently no such programs exist in the State of Montana. The proposed Options in Central and Southwest Asian Studies will represent an expansion of The University of Montana's existing Central Asia and Caspian Basin Program by providing a broad interdisciplinary approach to the study of these regions. A Central and Southwest Asian Studies Option at both B.A. and M.A. levels will enable students who want to concentrate on this area to opt for a formal designation which would complement the major programs in geography.

The proposed Options in Central and Southwest Asian Studies in the Department of Geography will offer undergraduates and graduates at The University of Montana an interdisciplinary perspective on Central and Southwest Asian history, geography, natural sciences, cultures, and societies. The Options in Central and Southwest Asian Studies are designed to complement students' disciplinary focus with region-based knowledge and training.

The creation of the Central and Southwest Asian Studies Options reflects the strengths of the existing faculty in the Department of Geography. Drs. Jeffrey Gritzner, Ardeshir Kia, Mehrdad Kia, and Sarah Halvorson in the Department of Geography focus much of their teaching and research in Central and Southwest Asia. (As of Spring 2004, Drs. Ardeshir Kia and Mehrdad Kia joined the Department of Geography faculty). The Options also draw upon the strengths and expertise of faculty outside of the department in the College of Arts and Sciences and the College of Forestry and Conservation.

Central and Southwest Asia have emerged as two of the most pivotal geopolitical and strategic regions in the world today. There is an increasing demand for people trained in the historical and social context as well as contemporary issues of these important regions. Our proposal would create an undergraduate and graduate Options in Central and Southwest Asian Studies that would integrate basic and applied aspects of regional science in geography that is relevant to the study of these two dynamic world regions, and produce students capable of addressing questions facing these critical regions. It is also noteworthy that extensive areas of Central and Southwest Asia are geographically similar to Montana, sharing both our problems and opportunities. As such, The University of Montana has a great deal to offer, and can benefit from the experience of Central and Southwest Asian societies.

At the present time, the Department of Geography already offers UM students an opportunity to study the geography, history, peoples, cultures, and societies of both

Central and Southwest Asia. The current curriculum encompasses the five former Soviet Central Asian Republics (Kazakhstan, Uzbekistan, Kyrgyzstan, Turkmenistan, and Tajikistan), as well as the western part of China, Mongolia, Pakistan, Afghanistan, Iran, the Caspian Basin, and the Middle East.

Goals of the Option:

The **goals** of our proposed Option are four-fold:

- Produce top-quality undergraduates and graduates with knowledge and skills in Central and Southwest Asia;
- Respond to the national and international demand for Central and Southwest Asian expertise to assist in addressing critical issues in these regions;
- Support The University of Montana's stated effort to internationalize the undergraduate and graduate curricula; and
- Support and strengthen the existing formal relationships between The University of Montana and academic institutions in these regions (e.g., Tbilisi Institute of Asian and African Studies and Kutaisi State University in the Republic of Georgia; Naryn State University in Kyrgyzstan; and The Academy of State and Social Construction in Uzbekistan).

This option will build on existing strengths of The University of Montana and promote excellence in undergraduate and graduate teaching and research. Students pursuing this option will be prepared for advanced research or for employment in fields such as government, non-governmental organizations, international humanitarian assistance, business, industry, health, and education.

2. Summarize a needs assessment conducted to justify the proposal. Please include how the assessment plan was developed or executed and the data derived for this effort.

Since 1992, Central and Southwest Asia-related courses have been offered on a regular basis on The University of Montana campus. As faculty, we have observed increasing interest and enrollments in our courses at all levels. For example, *Islamic Civilization* (taught by Mehrdad Kia) consistently has enrollments of 150 and *Artistic*

Traditions of Central Asia (taught by Ardeshir Kia) regularly draws over 60 students. Enrollment for the first time offering of *The Silk Road* course during Fall semester 2002 by Sarah Halvorson was 44. (This course is proposed as the 100-level gateway course required for all students enrolled in the Option; during Fall 2002 it was cross-listed as Geography 295, History 295, and Asian Studies 295).

Over the past decade, there were many formal and informal discussions among UM faculty about State and national needs in Central and Southwest Asian Studies

education. During this time there have been changes among the faculty in the Department of Geography with retirements and new hires of faculty with research and teaching interests in Central and Southwest Asia. We feel confident that we have adequate faculty and staff expertise “in place” to justify this proposal. Additionally, the world events of 2001 captured national and international attention and further underscored the relevance of these regions for American citizens.

In 2001, an *ad hoc* UM faculty committee responded to the growing course enrollments and the need for a Central and Southwest Asia Studies Program with a Title VI grant proposal that was submitted to the U.S. Department of Education. In Spring 2002 the UM faculty committee was awarded a U.S. Department of Education Title VI grant for \$162,000 to support the development of a cohesive program in Central and Southwest Asian Studies. This grant has supported the development of new courses, modifications of course content in existing courses, expanded language offerings in Persian and Arabic, and faculty development. In July 2002, the core UM faculty, four of whom are in the Department of Geography, met during a week-long workshop to take the initial steps in mapping out the curriculum for undergraduate and graduate Options in Central and Southwest Asian Studies.

The attractiveness of The University of Montana as a place to study Central and Southwest Asia is most clearly reflected in the large number of students who are attracted to our courses. We already offer a set of courses that parallel the structure and organization of notable Central Asia/Eurasian Programs on other university campuses (e.g., University of Washington, Harvard University, Indiana University). Our program currently provides students an opportunity to study and research the history, languages, culture, ecology, natural resources, artistic traditions, geography, and institutions of Central and Southwest Asian nation-states. Focused Options in Central and Southwest Asian Studies within Geography will add to our competitive edge.

Our proposed program has the potential ability to: 1) develop a national reputation, 2) to be nationally competitive for large, interdisciplinary grant and undergraduate and graduate research opportunities, 3) attract the best teachers and researchers to future faculty replacements or new lines, 4) attract the best potential

students from Montana, the nation and the world, and 5) grow into a larger academic program at both the undergraduate and graduate levels.

3. Explain how the program relates to the Role and Scope of the institution as established by the Board of Regents.

The proposed Options in Central and Southwest Asian Studies directly address the objectives expressed in the Role and Scope and Mission Statements of the Montana University System. First, the Central and Southwest Asian Studies curricula share with the Montana University System the explicit goal to “develop an informed, educated and

culturally aware citizenry that is prepared to meet the challenges of the 21st century, engage in life-long learning, and lead productive lives in an increasingly diverse global society.”

Second, the Central and Southwest Asian Studies Options embody the fundamental mission of The University of Montana to “encourage members of the University community to explore and develop international and interdisciplinary perspectives in their programs and activities and to understand the power and influence of globalization.”

The traditions of promoting global awareness and responsible global citizenship will be enhanced and expanded for students through a B.A. and M.A. option programs in Central and Southwest Asian Studies. We see these Options in Central and Southwest Asian Studies as providing a *net increase* in the number of undergraduate and graduate students with international training and preparation from The University of Montana.

4. State what affect the proposed program will have on the administrative structure of the institution, if any. Also, indicate the potential involvement of other departments, divisions, schools or colleges.

The B.A. and M.A. Options in Central and Southwest Asian Studies in the Department of Geography should not have any effect on the administrative structure of the institution, in part because it formalizes a program that is already in place. The strengths of UM in Central and Southwest Asia will bring additional students to UM and ultimately increase research funding and productivity. Consequently, the overall work load on staff will increase, but the magnitude of the increase is unknown at this time.

We are also currently engaged in pursuing outside sources of funding mainly through grants to provide further support of this program. In the future new faculty and resources will be welcomed to enhance the program and better serve the students.

5. Describe the extent to which similar programs are offered in Montana, the Pacific Northwest, and states bordering Montana. How similar are these programs to the one herein proposed?

No undergraduate or graduate option, major, or minor programs in Central and Southwest Asian Studies currently exist in Montana. No states immediately adjoining Montana (e.g., North Dakota, South Dakota, Wyoming, or Idaho) offer undergraduate or graduate degrees in Central and Southwest Asian Studies. A broad, interdisciplinary Eurasian program offering major and minor undergraduate and graduate degrees is available at the University of Washington. Our program is similar to the program at the University of Washington in that both are focused on providing students with solid language training and a broad interdisciplinary understanding of Central and Southwest Asia. However, our program is fundamentally different in that we are expanding our interdisciplinary approach beyond the humanities and social sciences to include the environmental sciences. Students in Geography will have the opportunity at UM to

develop their own particular interests within the broad scope of our program and course offerings.

6. Please name any accrediting agency (ies) or learned societies that would be concerned with the particular program herein proposed. How has this program been developed in accordance with the criteria developed by said accrediting body (ies) or learned society (ies)?

No specific accrediting agency reviews and approves Central Asia and/or Southwest Asian Studies programs. Given the broad interdisciplinary nature of Central and Southwest Asian Studies, there are several learned societies that are concerned with this particular program, including:

**Academic Society for the Studies of International Affairs
American Geographical Society
American Schools of Oriental Research
Association of Asian Studies
Association of American Geographers
Asian Geography Specialty Group
Middle East Specialty Group
Russia, Central Eurasian, and Eastern European Specialty Group
Central Asian Studies Association
European Association for Middle Eastern Studies
Middle Eastern Studies Association**

These learned societies and associations provide lists of other Central and Southwest Asian Studies Centers and Programs in the U.S. and abroad, which have helped us compare the present proposal standards and requirements to other similar options and program offerings in Central and Southwest Asian Studies. Areas considered and compared included the core credit requirements, language requirements, substantive content of courses, and the number of faculty with a concentration in Central and Southwest Asian Studies. The faculty involved in this initiative are members or past members of most of these associations/learned societies and stay abreast of current thinking and new developments through these networks.

7. Prepare an outline of the proposed curriculum showing course titles and credits. Please include any plans for expansion of the program during its first 3 years.

UNDERGRADUATE OPTION

The undergraduate Option in Central and Southwest Asian Studies will be offered in conjunction with the undergraduate degree program in geography. Students would declare their intention to pursue the Option in Central and Southwest Asian studies at the B.A. level to the Program Advisor in the Department of Geography who would review their course of study and advise students on planning their course sequence.

The undergraduate option requires the completion of **15 total credits**. Students must complete the following requirements beyond the B.A. geography degree requirements:

Required Courses (15 credits total)

A. Core courses (9 credits)

- GEOG 106 Silk Road, 3 cr., offered every semester
- GEOG 402 Cities & Landscapes of Central & SW Asia, 3. cr., offered Autumn
- GEOG 460 Central Asia Seminar, 3 cr., offered spring

B. Select 2 of the following 8 courses (6 credits):

- GEOG 213 The Middle East, 3 cr., offered autumn
- GEOG 214 Central Asia: Peoples & Environments, 3 cr., offered spring
- GEOG283/HIST 283 Islamic Civilization: The Classical Age, 3 cr., offered autumn
- GEOG284/HIST 284 Islamic Civilization: The Modern Era, 3 cr., offered spring

- GEOG 345 Central Asia & Its Neighbors, 3 cr., offered spring
- GEOG 457 Artistic Traditions of Central Asia, 3 cr., offered autumn

Proposed course of study:

B.A. in Geography with option in Central and Southwest Asian Studies:

Courses	Autumn	Spring
First Year		
GEOG 106 Silk Road	3	-
General Education and electives	12	15
Total	15	15
Second Year		
GEOG 213, GEOG 214, GEOG 283/HIST 283, or GEOG 284/HIST 284	3	-
General Education and electives	12	15
Total	15	15
Third Year		
GEOG 345 or GEOG 457	-	3
GEOG 402	3	-
General Education and electives	12	12
Total	15	15

Fourth Year		
GEOG 460	-	3
Electives including study abroad/internship/senior thesis	15	12
Total	15	15

Proposed catalogue copy:

In addition to completing the requirements for the geography major, students electing the Central and Southwest Asian Studies Option must complete a minimum of 15 additional credits as follows: GEOG 106, GEOG 402, and GEOG 460, plus two courses from the following eight: GEOG 213, GEOG 214, GEOG283/HIST 283, GEOG284/HIST 284, GEOG 345, and GEOG 457. Students pursuing the Central & Southwest Asian Studies Option are strongly encouraged to meet the university-wide general education foreign language competency requirement by completing the second semester of one of the following two languages (100 level or higher): Arabic or Russian. Participation in a study abroad program is strongly recommended.

GRADUATE OPTION

The graduate Option in Central and Southwest Asian Studies will be offered in conjunction with the graduate degree program in geography. Students would declare their intention to pursue the Option in Central and Southwest Asian studies to the Program Advisor in the Department of Geography who would review their course of study and advise students on planning their course sequence.

In addition to completing the core requirements for the M.A. degree in geography, students electing the Central & Southwest Asian Studies Option must complete an additional **12 total credits**.

Required Courses (12 credits total)

A. Core courses (6 credits)

- GEOG 402 Cities & Landscapes of Central & SW Asia, 3. cr., offered autumn
- GEOG 460 Central Asia Seminar, 3 cr. offered spring

B. Select 2 from the following 9 (6 credits):

- FOR 495 Natural Resources of Central Asia, 3 cr., offered autumn
- GEOG 432 Human Role in Environmental Change, 3 cr., offered alternate yrs
- GEOG 457 Artistic Traditions of Central Asia, 3 cr., offered autumn
- GEOG 496 Independent Study on Central Asia, 3 cr., offered every semester
- GEOG 510 Advanced Human Geography, 3 cr., offered alternate years

GEOG 595	Women and Islam, 3 cr., offered alternate years
GEOG 598	Cooperative Education Experience, 3 cr., offered every term
HIST 544	Modern Russia, 3 cr. offered alternate years
HIST 586	Modern Islamic Politics, 3 cr. offered alternate years

Proposed catalogue copy:

This option is designed for students who wish to gain expertise in the world regions of Central and Southwest Asia. Students pursuing this option will be prepared for advanced research or for employment in fields such as government, non-governmental organizations, international humanitarian assistance, business, industry, health, and education. In addition to the core courses required for the master's degree in geography, students may select courses from geography, history, forestry, and other relevant disciplines. Geography graduate students pursuing the option may meet the Department's symbolic systems requirement by taking one year of one of the following foreign languages: Arabic, Persian, or Russian. Participation in a study abroad program is strongly recommended.

8. Assessment Plan

The academic advisor for the proposed options will be Professor Sarah Halvorson. The program will be administered by a committee of three faculty members in the Department of Geography. All faculty teaching courses will be eligible to vote and to serve.

The Central and Southwest Asian Studies Advisory Committee will be responsible for dealing with student advising and curriculum issues (e.g., approving courses, scheduling, reviewing and adjudicating requests for credit exceptions) and for program assessment. Members of the committee will prepare an annual report on activities, needs, and outcomes (number of students participating in the options, course enrollments, scheduling, internship and job placements, etc.). This report will be submitted to the Dean of the College of Arts & Sciences.

FACULTY AND STAFF REQUIREMENTS

1. Please indicate, by name and rank, current faculty who will be involved with the program proposed herein.

Tenured or Tenure-track UM Faculty

Jeffrey A. Gritzner, Professor, Department of Geography
Sarah J. Halvorson, Assistant Professor, Department of Geography
Mehrdad Kia, Professor, Department of Geography, Director of International Programs, and Co-Director of the Central Asia and Caspian Basin Program

Paul B. Wilson, Professor, Department of Geography

Adjunct Faculty

Ardeshir Kia, Department of Geography

Samir Bitar, Instructor of Arabic, Department of Modern and Classical Languages

2. Please project the need for new faculty over the first five-year program. Include special qualifications or training. If present faculty are to conduct the new program, please explain how they will be relieved from present duties.

The University of Montana currently has enough faculty resources to launch an Option in Central and Southwest Asian Studies at the B.A. and M.A. levels in the Department of Geography. The option program can be institutionalized successfully with the present resources. The faculty listed above are already involved in teaching the courses listed, hence no provisions need to be made to relieve them from their present duties.

3. Please explain the need and cost for support personnel or other required personnel expenditures.

No additional personnel are required.

**CAPITAL OUTLAY, OPERATING EXPENDITURES,
AND PHYSICAL FACILITIES**

1. Please summarize operating expenditure needs.

The Central and Southwest Asian Studies courses listed are offered within The University of Montana's existing operating budget.

2. Please evaluate library resources. Are they adequate for operation of the proposed program? If not, how will the library need to be strengthened during the next three years?

The U.S. Department of Education Title VI grant awarded the Central Asia and Caspian Basin Program funds to strengthen the Mansfield Library holdings with the purchase of resource materials, journals, and books for the proposed program. In addition, UM faculty with teaching and research interests in Central and Southwest Asian Studies have long been active in using available resources to promote library acquisitions that strengthen the Central and Southwest Asian collections.

3. Please indicate special clinical, laboratory, and/or computer equipment that will be needed. List those pieces of equipment or computer hardware presently available in the department.

No new equipment is needed to initiate the proposed options. With regard to the language course offerings, the Department of Modern and Classical Languages operates a 28-position multi-media computer laboratory and joint language laboratory with facilities for computerized language programs and satellite TV.

4. Please describe facilities and space required for the proposed program. Are current facilities adequate for the program? If not, how does the institution propose to provide new facilities?

Central and Southwest Asian Studies courses are already taught in classrooms and language laboratories on the UM campus. No additional facilities are required.

MONTANA BOARD OF REGENTS

LEVEL I REQUEST FORM

Item No.: 126-1002+R0105 Date of Meeting: Jan. 20-21, 2005
Institution: The University of Montana--Missoula
Program Title: Certificate and AAS in Carpentry

Level I proposals are those that may be approved by the Commissioner of Higher Education or the Commissioner's designee. The approval of such proposals will be conveyed to the Board of Regents at the next regular meeting of the board. The institution must file the request with the Office of the Commissioner of Higher Education by means of a memo to the Deputy Commissioner.

A. Level I action requested (check all that apply): Level I proposals include campus initiatives typically characterized by (a) minimal costs; (b) clear adherence to approved campus mission; and (c) the absence of significant programmatic impact on other institutions within the Montana University System and Community Colleges.

- 1. Re-titling existing majors, minors, options and certificates; (e.g. from B.S. in Mechanized Agriculture to B.S. in Agricultural Operations Technology);
- 2. Eliminating existing majors, minors, options and certificates via a Program Termination Checklist;
- 3. Adding new minors or certificates where there is a major;
- 4. Departmental mergers and name changes;
- 5. Program revisions; and
- 6. Distance delivery of previously authorized degree programs.

B. Level I with Level II documentation: With Level II documentation circulated to all campus chief academic officers in advance, the Commissioner or designee may propose additional items for inclusion in the Level I process. For these items to move forward, the Commissioner or designee must reach consensus with the chief academic officers. When consensus is not achieved, the Commissioner or designee will move the item to the Level II review process.

- 1. Options within an existing major or degree;
- 2. Eliminating organizational units within larger institutions such as departments, divisions and colleges or schools *with the exception of the five Colleges of Technology where changes require Board action;*
- 3. Consolidating existing programs and/or degrees.

C. Temporary Certificate or A.A.S. degree programs: Certificate or Associate of Applied Science Degree Programs may be submitted as Level I proposals, with memo and backup documentation, when they are offered in cooperation with and/or at the request of private or public sector partners and the decision point to offer the program is not consistent with the regular Board of Regents program approval process. Level I approval for programs under this provision will be limited to two years. Continuation of a program beyond the two years will require the normal program approval process as Level II Proposals.

All other Certificate or Associate Degree programs may be placed on submission at any Board of Regents meeting. They will be placed on action agendas at subsequent meetings. All campuses agree to insure that all other campuses receive program information well in advance of submission.

Specify Request:

The University of Montana--Missoula College of Technology requests permission to develop and implement an AAS degree and Certificate program in Carpentry in response to requests from the community and the Montana Contractors' Association. The University of Montana--Missoula College of Technology requests that this proposal be approved through provision C, above. The Carpentry program will be submitted under the normal program approval process within two years.

MONTANA BOARD OF REGENTS
NEW ACADEMIC PROGRAM PROPOSAL SUMMARY

Institution: The University of Montana--Missoula

Program Title: Certificate and AAS in Carpentry

1. How does this program advance the campus' academic mission and fit priorities?

The College's mission, to provide academically sound, socially responsible, current and accessible certificate and associate degree programs in response to individual, community, and economic development needs, was established to create and further partnerships such as the one being made with this proposal with the construction industry.

The carpentry program is an opportunity for students to engage in both classroom work and in application-based, hands-on learning environments that meet individual, community and economic development needs. Additionally, the carpentry program provides new access to education by students and promises to become a state-wide program with coordination with MSU-BCOT and the Montana Contractors Association.

2. How does this program fit the Board of Regents' goals and objectives?

The proposed AAS and certificate program would support: Goal B1, to identify or seek creative funding alternatives that will expand public and private resources; Goal D1, 3, & 4, to offer programs and services consistent with the spectrum of higher education needs and opportunities in 2-year, 4-year and graduate and professional education; and Goal 4, to make the Montana University System more accessible and responsive to business, government and other constituencies.

The Carpentry program is a unique partnership between the COT, area high schools, the Montana Contractors Association and local businesses. The interest in the professional trades is critical for the economic well-being of Montana.

3. How does this program support or advance Montana's needs and interests?

The Carpentry Program (AAS degree and certificate) supports the needs of the state by providing training for a workforce that is in high demand and where educational opportunities have been limited, fragmented, uncoordinated, and at various quality levels. Without quality construction trades professionals, the states economy will be greatly hindered.

4. How will this program contribute to economic development in Montana? (Note projected annual economic impact both regionally and statewide.)

Well-trained workers can fill jobs and provide quality work, which is the foundation for higher productivity and good pay on which workers pay taxes and support their families and communities. The construction industry accounts for 5.5 percent of Montana's Gross State Product and provided 1.2 billion dollars to the economy in 2000. Using 2001 housing start data, Missoula County built 501 new single family homes, sustained 1540 local jobs with \$42 million

in local wages and salaries paying \$3 million in taxes. During the same time, Missoula County constructed 244 units of multi-family housing, sustaining 221 local jobs with \$8 million in income. Neighboring Ravalli County built 396 new single family homes with 1234 local jobs. In Ravalli County 54 multi-family housing units were built, sustaining 127 jobs.

5. What is the program's planned capacity?

• Break-even point?	8	FTE students
• Enrollments / year?	10	
• Graduates / year?	8	
• MT jobs / year?	8	

6. Resource Allocation:

• Total program budget?	\$ 28,470
• Faculty FTE?	.45
• Staff FTE?	Na

7. Does this program require new resources? Yes No

If yes, what is the amount? \$ _____

No additional resources above the self-support is needed

8. How will the campus fund the program?

A self support funding model will be used.

9. If internal reallocation is necessary, name the sources.

The University of Montana-Missoula College of Technology Certificate and AAS in Carpentry

1. Description of the Program

Goals and Objectives: The goal of the carpentry program is to provide competency-based education and training for construction trade workers that will meet the quality worker demands of the construction industry.

Course of Study: The Carpentry program will be offered in both the one-year certificate and two-year associate degree levels to meet student and business needs. Classroom, hands-on and computer-based materials will be used in coordination with National Council for Construction Education and Research (NCCER) national accreditation coursework.

2. Need for the Program

There is a need in the construction industry for trained, skilled workers, while simultaneously; there is a need in education to provide value-added education for students who need career guidance and direction. The Carpentry profession is one of the top five growth occupations in Montana and is in even higher demand in western Montana, which is experiencing a dramatic increase in new housing development. The Montana Contractors Association has identified a need for a program that uses a standardized national outcome-based curriculum that can be implemented in the high schools and Missoula College of Technology. Montana Contractors are experiencing a shortage of skilled workers and with high demand for new construction, the traditional lengthy apprentice programs cannot keep up with demand.

3. Additional Courses and Course Requirements

The Carpentry program will be offered in both the one-year certificate and two-year associate degree levels to meet student and business needs. The program is scheduled as follows:

<u>Certificate</u>			Credits
CAR 110T	Carpentry	Core	2
CAR 120T	Carpentry	Level 1	4
CAR 130T	Carpentry	Level 2a	2
CAR 131T	Carpentry	Level 2b	3
CAR 150T	Job Simulation		3
BME 129T	Heating and Air Conditioning		4
BME 120T	Electricity I		3
BUS	Supervision		3
Level I, January 2005			1

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242T

CRT 101 Intro to Computers 2

MAT
110T Industrial Math 3WEL
111T Welding 2

1st Yr Total 31

2nd Yr DegreeCAR
210T Carpentry Level 3a 3CAR
211T Carpentry Level 3b 4CAR
220T Carpentry Level 4a 3CAR
221T Carpentry Level 4b 3CAR
250T Job Simulation 3BME
121T Electricity II 3BME
221T Blueprint Reading 2BME
228T Machine & Equip
Installation 2

COM 115 Technical Writing 3

SCN
118T General Physics 3WEL
184T OSHA Rules &
Compliance 1

2nd Yr Total 30

Total 2 Yr Degree Credits 61

New Course Descriptions

CAR 110T Carpentry Core

Introduction to basic safety, construction math, hand tools, power tools, blueprints, and basic rigging. Students are required to demonstrate their ability to safely use a variety of hand and power tools, read blueprints, demonstrate overhead crane hand signals, and rig loads in the laboratory.

CAR 120T Carpentry Level 1

Introduction to the carpentry trade, including history, career opportunities, and requirements. The course covers building materials, fasteners, adhesives, hand tools, and power tools. Students learn about and are required to build a small building with a floor, walls, a ceiling, and a roof. A window and an exterior door are also installed.

CAR 130T Carpentry Level 2a

This course includes advanced blueprint reading, material estimating, site layout, measurement, and differential leveling. Concrete and reinforcing materials are studied, including volume estimates, concrete testing, reinforcing bars, and welded wire fabrics. Concrete forms are constructed, including continuous, pier, grade beam, slabs, and footings.

CAR 131T Carpentry Level 2b

Wall, column, slab-and-beam, and stair forms are studied and constructed. Form application and construction methods are demonstrated. Cutting, bending, splicing, and tying of reinforcing steel is required. Students learn methods for handling, placing, and finishing concrete. Manufactured forms are introduced for walls, columns, deck slabs, roof slabs, beams, and girders.

CAR 210T Carpentry Level 3a

Sheathing and exterior siding are installed on the small building that was constructed in Carpentry 1. Various types of siding and gutters systems are studied. Roofing felt and shingles are installed on the small building. Roof venting requirements are presented. Insulation and vapor barriers are installed in the building. Stairs are constructed, and framing with metal studs is covered.

CAR 211T Carpentry Level 3b

Drywall is installed and finished in the small building. Installation of wood and metal doors including frames, locksets, and closers are studied. Materials, layout and installation of suspended ceilings are demonstrated. Window, door, floor, and ceiling trim is installed on the building interior. Selection and installation of countertops, base cabinets, and wall cabinets is presented.

CAR 220T Carpentry Level 4a

Trigonometric leveling is used to layout foundations and to determine project elevations. Use of lasers, transits, theodolites, and electronic distance measuring devices are demonstrated. Installation of standing seam, lap seam, and built-up roofing systems are studied. The course covers concrete, vinyl, wooden, tile, and carpeted floors as well as in-floor radiant heating. Paneling, wainscoting, movable partitions, curtain walls and fire-rated commercial wall construction are presented.

CAR 221T Carpentry Level 4b

The course covers advanced stair systems and introduces the student to various construction equipment, such as forklifts, generators, compressors, trenchers, compactors, and loaders. Steel cutting and shielded metal arc welding are learned. Metal building construction is presented, including structural components, fastening methods, and assembly techniques. Project planning, scheduling, estimating, and management skills are studied.

CAR 150T Job Simulation

This course is a construction site, working internship where the student applies the skills and knowledge learned in school to an actual building project.

CAR 250T Job Simulation

This course is a construction site, working internship where the student applies the skills and knowledge learned in school to an actual building project.

Adequacy, Accreditation and Assessment Issues

1. Adequacy

The carpentry program will be run in conjunction with the Missoula College of Technology's Building Maintenance Engineering AAS degree which includes several carpentry courses. The Building Maintenance Engineering lab space and equipment is adequate for the carpentry program.

Adjunct faculty with carpentry experience will be hired to offer the evening/weekend lab courses and the Outreach Department will transfer the established curriculum to an online format using a Blackboard shell. The program chair for the Building Maintenance Engineering program will provide oversight to the adjunct faculty.

2. Accreditation

The carpentry program will meet the standards for a nationally accredited curriculum by the National Council for Construction Education and Research (NCCER).

3. Assessment plan:

Upon completion of each course, students must successfully complete a written online examination and competency-based evaluations (job sheets) conducted by the lab instructor. The online tests and evaluations are a nationally standardized testing system.

Impact on Faculty, Facilities, Costs, Students and other Departments and Campuses

1. Additional Faculty requirements

An additional adjunct faculty will be hired to teach the evening weekend labs.

2. Impact of Facilities

The impact on facilities will be minimal; the program will pay additional facility maintenance fees to run the program during non-traditional hours. Equipment maintenance and repair has been budgeted.

3. Costs

The program will cost \$21,980/year in the first two years. As enrollment increases in the third to fifth years, expenses are expected to rise to \$28,470. Tuition will be \$120/credit hour. Program fees include cost of building materials and other expendable supplies. The Montana Contractors Association and its affiliates will donate \$5000 each year of the current budget. (See budget sheet for details of costs.)

4. Impact on enrollment

The carpentry program is expected to have a minimum impact on enrollment in other College of Technology programs. Because of its evening-weekend schedule it is expected to bring in a different population of non-traditional students than is currently enrolled in the traditional day courses.

5. Relationship to other programs on campus

The carpentry program will have a close affiliation with the current College of Technology Building Maintenance Engineering program that currently offers several carpentry courses and has lab space not being utilized in the evening and weekends. Recent building trends have increased the need for more specialized and in-depth carpentry training than the general courses currently offered in the Building Maintenance Engineering program.

6. Relationship to other institutions

The Missoula College of Technology will work with other Montana University programs that offer carpentry at the secondary and two-year levels. Initially, MSU-BCOT will be working with the MCOT to bring the same program into the Billings area. The target population for the Missoula evening-weekend program is place-bound non-traditional students who would not be able to travel out of the Missoula area to enroll in the program in other cities. Work with area construction businesses and unions is also being developed.

Process Leading to Submission of Proposal

This has been over a two year process of working with the Montana Contractors Association, an advisory board, the MCA Board, local schools, faculty, students and the NCCER. The following persons have been working on the Program:

At this time the Carpentry Program Advisory Board includes the following members:

Gina Mathis
Dave Zinke
Cary Hegerberg
Bradley Talcott
Derek Swank

Additionally, personnel from the public schools have been working on the project and have had five faculty certified as part of the initial steps to set up a Construction Career Academy in the public schools.

Experience and input has been gained from North Carolina Community College System and the Chattanooga Public School System. MSU-BCOT also consulted with the PIMA and Maricopa Community College units in Arizona.

BUDGET ANALYSIS

	Year 1	Year 2	Year 3	Year 4				
Estimated Enrollment	10	10	15	15				
FTE Enrollment	10	10	15	15				
Estimated Incremental Revenue								
Use of Current General Operating Funds								
State Funds								
State Funding for Enrollment Growth								
Tuition Revenue	18000	18000	27000	27000				
A. Gross Incremental Tuition Revenue								
B. Reductions to Incremental Tuition								
C. Net Applied Tuition Revenue (A-B) →								
Program Fees	2000	2000	3000	3000				
External Funds	5000	5000	5000	5000				
Other Funds								
TOTAL Estimated Revenue	25000	25000	32000	32000				
Estimated Incremental Expenditures								
	FTE	Cost	FTE	Cost	FTE	Cost	FTE	Cost
Personal Services	.3	15000	.3	15000	.45	18000	.45	18000
Operating Expenses 11% Con Ed		1980		1980		2970		2970
Equipment		5000		5000		7500		7500
Start-up Expenditures								
TOTAL Estimated Expenditures		21980		21980		28470		28470
Estimated Revenues Over/Under (-) Expenditures		3020		3020		3530		3530



Montana Contractors' Association Inc.

A Chapter of the Associated General Contractors of America

Cary Hegreberg, Executive Director

Memorandum of Agreement

Between: The Montana Contractors' Association and
The University of Montana – Missoula College of Technology

Subject: Carpentry Education

Date: January 15, 2004

The Montana Contractors' Association and The University of Montana-Missoula College of Technology agree to work cooperatively to create a seamless training environment starting in high schools and moving into the College of Technology. The College will use and integrate the National Center for Construction Education and Research (NCCER) national carpentry education curriculum model for the program. The College will establish the necessary liaison and program articulation necessary to implement the system within the University System and the School System.

The College will report to MCA on a regular basis to keep the Association apprised of the program's progress.

Based on an invoices presented to MCA, the MCA will provide \$20,000 funding for the program initiation.



 Cary Hegreberg
 Executive Director, MCA

R. Paul Williamson
 Dean, U of M College of Technology

Telephone (406) 442-4162
Fax phone (406) 449-3199
Website: www.mtagc.org



1717 11th Avenue
Post Office Box 4519
Helena, Montana 59604

MONTANA BOARD OF REGENTS
LEVEL I REQUEST FORM

Item No.: 126-1001+R0105 Date of Meeting: Jan. 20-21, 2005
Institution: The University of Montana--Missoula
Program Title: Rename Electronics Technology Department and Move Computer Technology Program

Level I proposals are those that may be approved by the Commissioner of Higher Education or the Commissioner's designee. The approval of such proposals will be conveyed to the Board of Regents at the next regular meeting of the board. The institution must file the request with the Office of the Commissioner of Higher Education by means of a memo to the Deputy Commissioner.

A. Level I action requested (check all that apply): Level I proposals include campus initiatives typically characterized by (a) minimal costs; (b) clear adherence to approved campus mission; and (c) the absence of significant programmatic impact on other institutions within the Montana University System and Community Colleges.

- 1. Re-titling existing majors, minors, options and certificates; (e.g. from B.S. in Mechanized Agriculture to B.S. in Agricultural Operations Technology);
- 2. Eliminating existing majors, minors, options and certificates via a Program Termination Checklist;
- 3. Adding new minors or certificates where there is a major;
- 4. Departmental mergers and name changes;
- 5. Program revisions; and
- 6. Distance delivery of previously authorized degree programs.

B. Level I with Level II documentation: With Level II documentation circulated to all campus chief academic officers in advance, the Commissioner or designee may propose additional items for inclusion in the Level I process. For these items to move forward, the Commissioner or designee must reach consensus with the chief academic officers. When consensus is not achieved, the Commissioner or designee will move the item to the Level II review process.

- 1. Options within an existing major or degree;
- 2. Eliminating organizational units within larger institutions such as departments, divisions and colleges or schools *with the exception of the five Colleges of Technology where changes require Board action;*
- 3. Consolidating existing programs and/or degrees.

C. Temporary Certificate or A.A.S. degree programs: Certificate or Associate of Applied Science Degree Programs may be submitted as Level I proposals, with memo and backup documentation, when they are offered in cooperation with and/or at the request of private or public sector partners and the decision point to offer the program is not consistent with the regular Board of Regents program approval process. Level I approval for programs under this provision

will be limited to two years. Continuation of a program beyond the two years will require the normal program approval process as Level II Proposals.

Item No.: 126-1001+R0105

Institution: The University of Montana--Missoula

All other Certificate or Associate Degree programs may be placed on submission at any Board of Regents meeting. They will be placed on action agendas at subsequent meetings. All campuses agree to insure that all other campuses receive program information well in advance of submission.

Specify Request:

The University of Montana--Missoula College of Technology requests approval to move the revised Computer Technology Program from the Business Technology Department to the Electronics Technology Department, and to rename the Electronics Technology Department to the Computing and Electronics Department.

MONTANA BOARD OF REGENTS

LEVEL I REQUEST FORM

Item No.: 126-1004+R0105 Date of Meeting: January 20-21, 2005
Institution: The University of Montana-Missoula
Program Title: Diesel Equipment Technology-Power Generation Option

Level I proposals are those that may be approved by the Commissioner of Higher Education or the Commissioner's designee. The approval of such proposals will be conveyed to the Board of Regents at the next regular meeting of the board. The institution must file the request with the Office of the Commissioner of Higher Education by means of a memo to the Deputy Commissioner.

A. Level I action requested (check all that apply): Level I proposals include campus initiatives typically characterized by (a) minimal costs; (b) clear adherence to approved campus mission; and (c) the absence of significant programmatic impact on other institutions within the Montana University System and Community Colleges.

- 1. Re-titling existing majors, minors, options and certificates; (e.g. from B.S. in Mechanized Agriculture to B.S. in Agricultural Operations Technology);
- 2. Eliminating existing majors, minors, options and certificates via a Program Termination Checklist;
- 3. Adding new minors or certificates where there is a major;
- 4. Departmental mergers and name changes;
- 5. Program revisions; and
- 6. Distance delivery of previously authorized degree programs.

B. Level I with Level II documentation: With Level II documentation circulated to all campus chief academic officers in advance, the Commissioner or designee may propose additional items for inclusion in the Level I process. For these items to move forward, the Commissioner or designee must reach consensus with the chief academic officers. When consensus is not achieved, the Commissioner or designee will move the item to the Level II review process.

- 1. Options within an existing major or degree;
- 2. Eliminating organizational units within larger institutions such as departments, divisions and colleges or schools *with the exception of the five Colleges of Technology where changes require Board action;*
- 3. Consolidating existing programs and/or degrees.

C. Temporary Certificate or A.A.S. degree programs: Certificate or Associate of Applied Science Degree Programs may be submitted as Level I proposals, with memo and backup documentation, when they are offered in cooperation with and/or at the request of private or public sector partners and the decision point to offer the program is not consistent with the regular Board of Regents program approval process. Level I approval for programs under this provision will be limited to two years. Continuation of a program beyond the two years will require the normal program approval process as Level II Proposals.

Item No.: 126-1004+R0105

Institution: The University of Montana--Missoula

All other Certificate or Associate Degree programs may be placed on submission at any Board of Regents meeting. They will be placed on action agendas at subsequent meetings. All campuses agree to insure that all other campuses receive program information well in advance of submission.

Specify Request:

The University of Montana--Missoula requests the addition of a Power Generation Option to the current Diesel Equipment Technology program in the Department of Industrial Technology at the College of Technology.

MONTANA BOARD OF REGENTS

NEW ACADEMIC PROGRAM PROPOSAL SUMMARY

Institution: The University of Montana--Missoula College of Technology
Program Title: Diesel Equipment Technology-Power Generation Option

1. How does this program advance the campus' academic mission and fit priorities?

The Diesel Equipment Technology Power Generation Option would help fulfill a need that has been brought to our attention by the Diesel Equipment Technology Advisory Board. Power Generation has become a large industry in the local and regional areas. Dealers currently must deal with finding qualified personnel to service and repair equipment from outside the state and no one in the area/state is providing the specific training necessary. This option would also provide students with more employment opportunities within the area, region, and on a national level.

2. How does this program fit the Board of Regents' goals and objectives?

The Power Generation Option would help fill a current need in the business community by providing additional training of diesel technicians with the specific skills needed to service and repair generators. The option builds on the current curriculum of the Diesel Equipment Technology program that allows students multiple entry and exit opportunities.

3. How does this program support or advance Montana's needs and interests?

By training the power generation technician in Montana, dealers/businesses will not be required to find qualified personnel from outside the state. A person wishing to acquire the skills necessary to become a power generation technician will have the opportunity to study and stay within the state.

4. How will this program contribute to economic development in Montana? (Note projected annual economic impact both regionally and statewide.)

According to the U.S. Bureau of Job Statistics, the mean hourly wage for a diesel technician in 2002 was \$16.63 per hour (wage/statistics are not separated out for power generation technicians). If the program graduates 10 students per year, approximately \$334,000 payroll dollars would be generated annually. For example, Western States Caterpillar is currently looking for two service technicians in the power generation field in Missoula. Each position starts at approximately \$16.00 per hour, with the possibility of \$20.00 per hour or more with experience. On a national level, the generator companies contacted are seeking technicians with the type of experience offered in the present proposed option.

5. What is the program's planned capacity?

• Break-even point?	9	FTE students
• Enrollments / year?	10-15	
• Graduates / year?	10-15	

• MT jobs / year?	10-15
-------------------	-------

6. Resource Allocation:

• Total program budget?	\$ 19,541 (cost in year 4)
• Faculty FTE?	3
• Staff FTE?	na

7. Does this program require new resources? Yes No
 If yes, what is the amount? \$ _____

8. How will the campus fund the program?
 self-support

9. If internal reallocation is necessary, name the sources.
 na

**Diesel Equipment Technology
Power Generation Option**

1. Description of the Program

Goals and Objectives: The goal of the Diesel Equipment Technology Power Generation Option is to better serve the interests and needs of both employers and students who are involved or wish to become trained in the service and repair of power generation equipment. The University of Montana-Missoula College of Technology seeks approval from the Montana Board of Regents of Higher Education to expand the current Diesel Equipment Technology program to include a Power Generation Option. The objective of this option is to fulfill a need brought forward by industry, giving successful graduates of the proposed Option the needed skills to enter the power generation field.

Course of Study: The proposed Option would allow students to gain the expertise to service and repair power generators and related components as found in the diesel industry. The Power Generation Option consists of three additional courses that a student can register for after completion of a two-year accredited diesel program. A prospective student that can document appropriate work experience and receives the instructor's approval may also enter the Power Generation Option.

Recommended Courses

DET 270 Diesel and Gaseous Fueled Engines:

3 credits

Prerequisite-Completion of a two-year accredited diesel program or consent of instructor

DET 271 Generators:

5 credits

Prerequisites: Enrollment in or completion of DET 270

DET 272 Power Generation Controls:

4 credits

Prerequisites: Enrollment in or completion of DET 271

Prospective Instructional Methods: Each class will use traditional lecture as a means to deliver the required information, because each class will have a lecture demonstration element. Students will also observe instructors' disassembling components as needed for demonstration purposes. Students will also receive traditional lab instruction: Students will be expected to disassemble and assemble various generator and generator control type components.

2. Need for the Program

Ongoing contact with local and regional dealerships has revealed a pattern of requests for power generation training. At annual advisory committee meetings, requests for this type of training and program have been made as well. Attached documentation shows support from local and national employers that express both the need for this program and the resources needed to make it viable. The United States Department of Labor, which includes this occupation in the overall listing of “diesel mechanics,” indicates that this occupation is expected to grow approximately 10% by 2012. The (AED) American Equipment Dealers Association) reports a shortage of 80,000 technicians at this time. After consultation with Jim Lizotte, Department Chair of the Industrial Technology Department, and Paul Williamson, Dean of the College of Technology-Missoula Campus, it was decided to pursue a Power Generation Option as a way to satisfy advisory board requests, local and regional equipment dealer requests, and students’ expressed interests.

3. Additional Courses and Course Requirements

Applicants will be admitted summer semester only. Each applicant must have completed an accredited two-year diesel technology program, or must show sufficient work experience and receive instructor’s consent to enter the program. Other than the three DET courses described in item one (1) no other additional courses are anticipated at this time.

Adequacy, Accreditation and Assessment Issues

1. Adequacy

The AAS Diesel Equipment Technology program is overseen by a department chair and program director. The existing structure will remain intact without additional cost.

Current facilities are adequate to maintain a successful Power Generation option. With the help of local dealers, equipment needs should be met through the use of loaned and/or donated equipment. The impact to classroom and lab space is not at issue, because the Option is slated to be offered in summer. Similarly because of the summer offering, there will be no impact on teaching assignments of current DET faculty during fall and spring semester.

2. Accreditation

No industry accreditation currently exists, however the Electrical Generating Systems Association (EGSA) of Florida is currently working on a program that will accredit power generation programs around the country. It would be the plan of the Diesel Equipment Technology Power Generation option to work toward this accreditation standard once it is implemented.

3. Assessment Plan

The Diesel Equipment Technology Program uses many different tools to measure program success. Recruitment, completion of the program and job placement of graduates will be the critical points in measuring the success of this proposed option. Annual meetings of the Diesel Equipment Technology program's advisory board will also review comments from local employers who hire graduates and have rated the students' ability to perform their jobs successfully. The program is designed so that students have the opportunity for hands-on learning, using the applicable power generation equipment. These opportunities are part of the learning process in classroom, laboratory and field experiences and are part of the students' evaluation.

Impact on Faculty, Facilities, Costs, Students, and Other Departments and Campuses

1. Additional Faculty Requirements

The Power Generation Option would require an additional adjunct faculty member to teach the DET 272 Power Generation Controls class. This may be accomplished in house by hiring an electronics instructor, if qualified. Current departmental and general education course offerings will accommodate new students in this Option without affecting current program faculty because of its summer-only schedule.

2. Impact on Facilities

Current library holdings will be augmented by the addition of appropriate power generation materials as needed. Students will purchase a textbook, which will also be available to them in the library. Journals and manufactory service manuals will be either donated by industry or purchased through the current DET library/service operations budget, which has adequate funding for these purchases. Various pieces of equipment (such as a generator) will be donated by local business and industry, with the possibility of regional and national help. Other components such as engines and engine controls already exist in the Diesel Equipment Technology Program, however as the students become employees of both local and national firms, additional equipment may be obtained either through donations or purchased to meet the needs of the program. Current administrative support in the Diesel Equipment Technology Program is adequate at this time to support the addition of the Power Generation Option.

3. Costs Analysis

Costs for the program include salaries for instructors and the administrative fee that is paid to Continuing Education for a self support program. With tuition at \$135 per credit

hour and student fees of \$100 per student (for expendable supplies), the program will have a positive cash flow.

4. Impact on Enrollment

The impact on the Diesel Equipment Technology Program will be positive with respect to enrollment, as students and companies that have indicated that they need specialized training. No other institution in the University System of Montana offers power generation as an option. The current facilities can handle the program, as it uses the equipment and expertise available in the existing Diesel Equipment Technology Program. The Power Generation Option will contribute to the over. The overall graduation rate of the Diesel Equipment Technology Program would increase.

5. Relationship to Other Programs on Campus

With the possibilities of an alternative energy program at the Missoula campus, the Power Generation Option would be a perfect fit with the new technologies being introduced to power generators. Existing and new programs will complement one another and give students a unique opportunity to advance in the field of energy production.

6. Relationship to Other Institutions

Because no one in the State of Montana offers a degree/option in power generation no programs or schools would be affected by this new Option to the Diesel Equipment Technology Program.

Process Leading to Submission of Proposal

Input from the Diesel Equipment Technology Advisory Board the past several years has indicated a need for the Power Generation Option. Prospective employers frequently ask for this type of background for new hires. Given the possibility of spot energy shortages as well as common construction site needs, business and industry may require this type of training. Research into the various programs offered around the country was conducted to study the length and content of those programs. Staff at the Electrical Generating Systems Association were contacted to discuss the DET Power Generation Option. Local advisory board members were contacted along with all local dealers currently offering Power Generation Service.

The following people have been involved with the development of the Power Generation Option request on a continuous basis giving input to the present curriculum proposal:

- 1) George Rowley: Director of Education-Electrical Generation Systems Association (EGSA)-Florida

- 2) Scott Schumacher: Service Manger-Western States Equipment
- 3) Jeff Dean: Western States Equipment Industrial Sales Engineer
- 4) Jim Harris: Western States Equipment, Engine Branch Service Lead-Man
- 5) Bob Goodsell: Interstate Detroit Diesel, Missoula Branch Manger
- 6) John Jodsas: Cummins Northwest, Missoula Branch Manager
- 7) Steve Stroshine: Wagoner Equipment, Power Generation Engineer

The Diesel Equipment Advisory Board which meets annually has been requesting this type of program for several years. They report that they are unable to find employees with this type of training. The advisory board members and individuals listed above have collaborated to develop the current proposal.

Schools from around the region and country were also studied to find out what type of program content and program layout were being used in their power generation curricula. The following Colleges/Universities were studied in this effort.

- 1) Pennsylvania College of Technology Electric Power Generation
- 2) Massasoit Community College Diesel Option
- 3) Idaho State Diesel Power Generation Option

Note: No College/University in Montana has a Power Generation Program.

BUDGET ANALYSIS

Proposed Program: Diesel Equipment Technology-Power Generation Option											
Campus: The University of Montana-Missoula College of Technology											
		Year 1	Year 2	Year 3	Year 4	Year 5					
Estimated Enrollment		10	10	10	15	15					
FTE Enrollment		10	10	10	15	15					
Estimated Incremental Revenue											
Use of Current General Operating Funds											
State Funds											
State Funding for Enrollment Growth											
Tuition Revenue											
A. Gross Incremental Tuition Revenue	Self-Support @135 cr hr	20250	20250	20250	30375	30375					
B. Reductions to Incremental Tuition											
C. Net Applied Tuition Revenue (A-B)	→										
Program Fees		1000	1000	1000	1500	1500					
External Funds											
Other Funds ---											
TOTAL Estimated Revenue		21250	21250	21250	31875	31875					
Estimated Incremental Expenditures											
		FTE	Cost	FTE	Cost	FTE	Cost	FTE	Cost	FTE	Cost
Personal Services		1.0	16200	1.0	16200	1.0	16200	1.0	16200	1.0	16200
Operating Expenses – Con Ed Fee @ 11%			2228		2228		2228		3341		3341
Equipment											
Start-up Expenditures											
TOTAL Estimated Expenditures			18428		18428		18428		19541		19651
Estimated Revenues Over/Under (-) Expenditures			2822		2822		2822		12224		12224

DIESEL EQUIPMENT TECHNOLOGY
COURSE REQUIREMENTS

**FIRST YEAR
SPRING**

AUTUMN

CRT 101 INTRO TO COMPUTERS

2

DET 120T ELECTRICAL

8

DET 128T ENGINE SERVICE I

4

DET 135T POWER TRAINS

7

MAT 110T MATH

3

MPR 115T RELATED METALS

3

PSY 110T ORGANIZATIONAL PSYCHOLOGY

3

WEL 111T WELDING (CHANGE FROM AUTUMN TO SPRING)

2

TOTAL 17

15

**SECOND YEAR
SPRING**

AUTUMN

DET 221T BRAKES, SUSPENSION, AND UNDERCARRIAGE

6

DET 225T HYDRAULICS

6

DET 229T ENGINE SERVICE II

7

DET 230T AIR CONDITIONING

3

DET 231T FUEL SYSTEMS

5

DET 235T ADVANCED POWER TRAINS

2

COM 115T TECHNICAL WRITING (CHANGE FROM 1ST YEAR TO 2ND YEAR)

3

WEL 139T WELDING MAINTINANCE AND REPAIR

2

TOTAL 17

17

SUMMER-POWER GENERATION OPTION

SUMMER

DET 270 DIESEL AND GASEOUS FUELED ENGINES

3

DET 271 GENERATORS	5
DET 272 POWER GENERATION CONTROLS	4
TOTAL	12

DIESEL POWER GENERATION CURRICULUM OVERVIEW

DET 270 Diesel and Gaseous Fueled Engines: (3 credits)

An overview of the diesel engine and its operating principles including the fuel systems as found in the power generation field. Both mechanical and electronic type systems will be studied in depth. Gaseous/spark ignited internal combustion will also be studied with an in-depth look at both the ignition system and fuel system. Emission systems, preventive maintenance and general tune-up will also be studied. (Prerequisite: completion of a two year accredited diesel program or instructors consent)

DET 271 Power Generators: (5 credits)

The introduction to generators as found in the power generation field including the review of electrical laws that pertain to A/C and D/C current. The operation of a typical internal combustion powered generator will be looked at in depth including troubleshooting and rebuilding practices found in the power generation field. Generator mounting/alignment practices are reviewed along with generator installations, including air flow requirements for combustion and cooling. (Prerequisite: DET 270)

DET 272 Power Generation Controls: (4 credits)

Operation of the generator and controls including governing devices and other specialized devices such as reverse power relays and volt/amp reactive power factor (VAR) controllers are experienced. Intensive troubleshooting including service and repair of the control systems are covered in depth. (Prerequisite: DET 271)

**THE UNIVERSITY OF MONTANA-MISSOULA
COLLEGE OF TECHNOLOGY
INDUSTRIAL TECHNOLOGY-DIESEL DEPARTMENT**

COURSE SYLLABUS

COURSE NUMBER AND TITLE: DET 270

Diesel and Gaseous Fueled Engines

DATE REVISED: [For administrative purposes only]

9-15-04

SEMESTER CREDITS: 3

CONTACT HOURS PER SEMESTER: [For administrative purposes only]

Lecture hours per week: 2

Lab hours per week: 2

Clinical/internship hours per week: 0

PREREQUISITES: Completion of an accredited diesel program or instructor consent

INSTRUCTOR NAME, E-MAIL ADDRESS, PHONE NUMBER, OFFICE LOCATION, OFFICE HOURS: [For student purposes only]

Jim Headlee

jim.headlee@mso.umt.edu

3639 south ave. west

RELATIONSHIP TO PROGRAM(S):

[Indicates how the course contributes to the objectives or outcomes expected for the entire program.] The first of three classes to be completed in the power generation option offered under the DET prefix.

COURSE DESCRIPTION: [Must be the ASCRC-approved description]

An overview of the diesels engine and its operating principles including eh fuel systems a found in the power generation field. Both mechanical and electronic type systems will be studied in depth. Gaseous/spark ignited internal combustion will also be studied with an in-depth look at both the ignition system and fuel system. Emission systems, preventive maintenance and general tune-up will also be studied.

STUDENT PERFORMANCE ASSESSMENT METHODS AND GRADING PROCEDURES:

Tests and quizzes

ATTENDANCE POLICY (if any): [For students only]

Must attend all classes or letter of F will be given

Excused absences discussed on a as need basis

OTHER POLICIES (if any): [For students only]

Students must have recommended tools as prescribed by the DET polices/tool list

**THE UNIVERSITY OF MONTANA MISSOULA
COLLEGE OF TECHNOLOGY
INDUSTRIAL TECHNOLOGY-DIESEL DEPARTMENT**

COURSE SYLLABUS

COURSE NUMBER AND TITLE: DET 271
Power Generators

DATE REVISED: [For administrative purposes only]
9-16-04

SEMESTER CREDITS: 5

CONTACT HOURS PER SEMESTER: [For administrative purposes only]
Lecture hours per week: 3
Lab hours per week: 4
Clinical/internship hours per week: 0

PREREQUISITES: Completion of accredited diesel program and enrollment in DET 271

**INSTRUCTOR NAME, E-MAIL ADDRESS, PHONE NUMBER, OFFICE LOCATION,
OFFICE HOURS:** [For student purposes only]

Jim Headlee
jim.headlee@mso.umt.edu
406-243-7648
3639 south ave. west

RELATIONSHIP TO PROGRAM(S):

[Indicates how the course contributes to the objectives or outcomes expected for the entire program.]

The second of a three course series for the DET power generation option. This course deals with generator theory, its various components, and how they interact together.

COURSE DESCRIPTION: [Must be the ASCRC-approved description]

The introduction to generators as found in the power generation field including the review of electrical laws that pertain to A/C and D/C current. The operation of a typical internal combustion powered generator will be looked at in depth including troubleshooting and rebuilding practices found in the power generation field. Generator mounting/alignment practices are reviewed along with generator installations, including are flow requirement for combustion and cooling.

STUDENT PERFORMANCE ASSESSMENT METHODS AND GRADING PROCEDURES:

Tests and quizzes

ATTENDANCE POLICY (if any): [For students only]

Must attend all classes or letter of F will be given
Excused absences discussed on a as need basis

OTHER POLICIES (if any): [For students only]

Students must have recommended tools as prescribed by the DET polices/tool list

**THE UNIVERSITY OF MONTANA MISSOULA
COLLEGE OF TECHNOLOGY
INDUSTRIAL TECHNOLOGY-DIESEL DEPARTMENT**

COURSE SYLLABUS

COURSE NUMBER AND TITLE: DET 272

Power Generation Controls

DATE REVISED: [For administrative purposes only]

9-17-04

SEMESTER CREDITS: 4

CONTACT HOURS PER SEMESTER: [For administrative purposes only]

Lecture hours per week: 3

Lab hours per week: 2

Clinical/internship hours per week: 0

PREREQUISITES: Completion of accredited diesel program and enrollment in or completion of DET 271

INSTRUCTOR NAME, E-MAIL ADDRESS, PHONE NUMBER, OFFICE LOCATION, OFFICE HOURS: [For student purposes only]

Jim Headlee

jim.headlee@mso.umt.edu

406-243-7648

3639 south ave. west

RELATIONSHIP TO PROGRAM(S):

[Indicates how the course contributes to the objectives or outcomes expected for the entire program.]

The third and final course of a three course series for the DET power generation option. This course deals with the controls and switching gear commonly found in power generation.

COURSE DESCRIPTION: [Must be the ASCRC-approved description]

Operation of the generator and controls including governing devices and other specialized devices such as reverse power relays and volt/amp reactive power factor (VAR) controllers are experienced. Intensive troubleshooting including service and repair of the control systems are covered in-depth. (Prerequisite: DET 271)

STUDENT PERFORMANCE ASSESSMENT METHODS AND GRADING PROCEDURES:

Tests and quizzes

ATTENDANCE POLICY (if any): [For students only]

Must attend all classes or letter of F will be given

Excused absences discussed on a as need basis

OTHER POLICIES (if any): [For students only]

Students must have recommended tools as prescribed by the DET polices/tool list



**Cummins
Northwest, Inc.**

4950 N. Reserve Street
Missoula, MT 59802-1498
(406) 728-1300, FAX 728-8523

September 30, 2004

The University of
MONTANA
Jim Headlee
Program Director, Diesel Equipment Technology
Industrial Technology Department

College of Technology
909 South Avenue West
Missoula, Mt. 59801-7910
(406) 243-7648

Dear Jim,
Cummins Northwest is very pleased and encouraged to hear of the new Power Generation Program at the University. We believe it could be a positive way to hire locally educated employees. It keeps them from having to go out of state for employment, and us from having to hire out of state.

Sincerely,

John Jodsaas
Missoula Branch Manager

Onan

Anchorage, AK
Missoula, MT
Bend, OR

Eugene, OR
Medford, OR
North Bend, OR

Pendleton, OR
Portland, OR
Chehalis, WA

Longview, WA
Seattle, WA
Spokane, WA

Tacoma, WA
Yakima, WA

INTERSTATE DETROIT DIESEL

5561 Expressway • Missoula, Montana 59808 • 406-728-7600

September 14, 2004

College of Technology
The University of Montana
909 S Avenue West
Missoula, MT 59801

Attn: Jim Headlee,

Interstate Companies would like to encourage you to implement a Power Generation program for future students at the College of Technology.

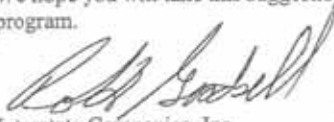
More and more people are going to alternative sources for power and Generators are a key player. With that in mind, these alternative power sources will need some type of maintenance and that is where the Generator Technicians step into the picture.

At the present time there is a great shortage in the fields of Diesel Mechanics and Generator Mechanics all over the country.

Power Generator business has increased dramatically over the past five years and the future looks exciting.

With the College of Technology adding a Power Generation Program to the curriculum it could add more students to your program & be of greater value for employers who are increasing their work force.

We hope you will take this suggestion into advisement and we would support such a program.



Interstate Companies, Inc
728-7600

Respectfully,

Bob Goodsell
Branch Manager/Missoula

LOCATIONS

HOME OFFICE - MINNEAPOLIS, MN • BISMARCK, ND • DES MOINES, IA • FARGO, ND • GRAND FORKS, ND
GILLETTE, WY • OMAHA, NE • BLAINE, MN • VIRGINIA, MN • WILLISTON, ND • BILLINGS, MT
DAVENPORT, IA • SUPERIOR, WI • SIOUX FALLS, SD
AN EQUAL OPPORTUNITY EMPLOYER/CONTRACTOR



ELECTRICAL GENERATING SYSTEMS ASSOCIATION

1650 South Dixie Highway, Suite 500 • Boca Raton, Florida 33432 • (561) 750-5575 • FAX: (561) 395-8557
e-mail address: e-mail@egsa.org • World Wide Web address: http://www.egsa.org

September 21, 2004

Jalane L. Kellough
Executive Director

OFFICERS

President
STEVE STOYANAC
Silex Innovations
6659 Ordan Dr.
Mississauga, ON L5T 1K6

President-Elect
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Wausau, WI 54402

Vice President
DALE SLEMP
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Immediate Past President
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Bill Pafford
Engine & Compressor
Accessories

Roger Pocock
Alcad Standby Batteries

Armand Visioli
ASCO Power Technologies

Jim Headlee
University of Montana College of Technology
3639 South Ave West
Missoula, Montana 59801

Dear Jim,

As I have mentioned in our recent communications, we are very pleased to hear that the University of Montana, College of Technology is considering the development of an Electrical Power Generation Technician educational program. As the 'voice' of the On-Site Power Generation industry, the Electrical Generating Systems Association (EGSA) stands ready to assist you.

As I am sure you are aware, the demand for generator technicians in the industry is very significant and demand is growing. With advances in technology, the need for well-educated technicians is becoming more critically important than ever before. Unfortunately, we do not have any data that quantifies the shortages. However, I frequently hear the moans and groans of many employers who have openings but no candidates to fill them.

In recognition of the shortage, over the past 3 or 4 years, EGSA has taken a number of steps to attract technical personnel to the industry. In addition to attempting to identify and build relationships with educational programs, our scholarship program was developed and implemented specifically to attract workers to the industry. This year, EGSA awarded ten \$2,000 scholarships to students that plan to pursue careers in on-site power.

As evidence of EGSA's commitment to quality and to support of the industry and the development of industry-wide standards, the EGSA Board of Directors at their meeting last week voted to pursue the development of a Generator Service Technician Certification program. It is likely that the development and implementation of the program will be funded by EGSA under a contract to the Corporate and Professional Development services at Ferris State University. We expect the program to be operational within the next 10 to 12 months. (At that same meeting, EGSA members approved a Bylaw change that will create a membership category for educational institutions.)

As I have mentioned, most of the schools have adopted a book we publish titled "On-Site Power Generation: A Reference Book" as a text for their programs. I have arranged for a desk copy to be sent to you. As I have mentioned, we offer a bulk purchase discount of 30% off the member price and free shipping and handling to schools that adopt it as a text.

I hope that you will find the faculty contact information at schools that offer Gen Tech programs that I sent helpful. I also hope that the Electrical Power Technology curriculum that was developed by the Florida Department of Education will be helpful as you begin to develop the curriculum.

I look forward to assisting you in every way possible, Jim. Please feel free to contact me at any time.

Best regards for success,


George W. Bowley
Director of Education

2004 EGSA Spring Convention
Mountain Shadows Marriott
Resort & Golf Club
March 21-23, 2004

2004 EGSA Fall Conference
Myrtle Beach Marriott
at Grand Dunes
September 12-14, 2004

2005 EGSA Spring Convention
Hilton San Diego Resort
March 20-22, 2005
San Diego, California



Western States Equipment Company

General Office
P.O. Box 38
Boise, ID 83707
800-652-2287
Fax: 209-884-2308

Dear Mr. Headlee,

I have enjoyed our visits about the College's pursuit of starting a power generation program, I must say that I support the schools effort in ever way. As you know I see on a daily basis the need for trained/qualified power generation technicians. Caterpillar has become a leading manufacture of power generation type equipment and in fact it's quickly becoming our largest line of product that we build, thus you can understand our need for qualified technicians. I hope your endeavor provides us with the needed personal we will be needing currently and in the future to fulfill our employment needs. I have enclosed several ads showing that we are currently looking for people not only in our Missoula branch but at all our branches-we currently have approximately 40 different openings for qualified technicians in all areas. In conclusion, please don't hesitate to call if I can be of further assistance!

THANKS:

Jim Harris
Engine Branch
Service Lead man



Jim Harris
Engine Branch
Service Leadman

Western States Equipment Co.
3760 N. Reserve St.
Missoula, MT 59808
406.327.2821 direct
406.541.0159 fax
jimharris@wseco.com

Methuen, ID 208-888-2287	Twin Falls, ID 208-734-7330	Pocatello, ID 208-232-2640	Idaho Falls, ID 208-882-2287	Lewiston, ID 208-746-3301	Spokane, WA 509-325-1744	Coffey, WA 509-397-4644	Othello, WA 509-488-8781
Pasco, WA 509-547-9641	Walla Walla, WA 509-827-9097	Pendleton, OR 541-276-5812	LaGrande, OR 541-863-3107	John Day, OR 541-875-1021	Missoula, MT 406-721-4060	Kalispell, MT 406-752-3000	



Western States Equipment Company

General Office
P.O. Box 38
Boise, ID 83707
800-852-2287
Fax: 208-884-2308

3760 N. Reserve St.
Missoula MT, 59806

September 29, 2004

Jim Headlee
The University of Montana
College of Technology
Missoula Montana

Dear Jim Headlee:

I am very excited to hear that The University of Montana, College of Technology is considering the addition of a Power Generation degree to their curriculum.

My position allows me to hire people who have this kind of background. We have seen a significant growth in the power generation industry. Electronic equipment today needs good quality, clean supply of electricity with no interruptions to work effectively. Worldwide, prime and backup power generation is fulfilling that need today and we see growth opportunities for the future. Western States realizes this and is aggressively trying to capture our share of this market.

To do this we need good quality technicians. Our industry currently has a lack of good quality, trained power generation technicians. We, as a company, take every opportunity to hire technicians trained in this field and have no problem keeping them employed. We have grown our Engine Division to be one of the most profitable segments of our business and see the growth opportunity, especially in this field, to be even greater.

This program will create another opportunity for our industry to find good quality people to hire, as well as give Montana an offering that only one other school in the northwest offers. I see the growth of this type of program to be enormous for that reason and due to the constant changes to this type of technology. Therefore, I support the addition of this degree to the curriculum of The University of Montana, College of Technology.

Thank you,

Scott Schumacher
Service Manager
Western States Equipment Co.



Scott Schumacher
Engine Shop Manager/
Technical Communicator

Western States Equipment Co.
3760 N. Reserve St.
Missoula, MT 59808
406.327.2822 direct
406.360.4050 cell
406.541.0159 fax
scottschumacher@wseco.com

Meridian, ID
208-888-2287

Twin Falls, ID
208-734-7330

Pocatello, ID
208-232-2640

Idaho Falls, ID
208-882-2287

Lewiston, ID
208-748-3301

Spokane, WA
509-835-1744

Coeur d'Alene, WA
509-397-4644

Othello, WA
509-488-2781

Pasco, WA
509-547-9541

Walla Walla, WA
509-827-9087

Pendleton, OR
541-876-8812

LaGrande, OR
541-963-3101

John Day, OR
541-875-1321

Missoula, MT
406-721-4060

Kellogg, MT
406-752-3030



Jeff Dean
Engine Sales Engineer

Western States Equipment Co.
3760 N. Reserve St.
Missoula, MT 59808
406.327.2830 direct
406.544.1250 cell
406.541.0159 fax
jeffdean@wsaco.com



General Office
P.O. Box 38
Bolsa, ID 83707
800-852-2287
Fax: 208-884-2308

Date: September 20, 2004

ATTN: Mr. Jim Headlee

Subject: Proposed Power Generation Degree

Jim,

There has been an ever increasing need for power generation technicians in our industry. The need for reliable power has become more important to many different industries such as technology, industrial, and manufacturing. Many of these businesses use engine generators as back up to the utility to increase there reliability for power. In the past ten years we have seen a dramatic increase in the need for technicians in the power generation field. In our company we have seen an increase in the number of our power generation technicians grow 40% in the last 10 years. The industry continues to grow as the need for power increases, and with this increase there will be a need for additional trained technicians for the field.

Western States Equipment
Industrial Sales Engineer
Jeff Dean

Meridian, ID
208-889-2287

Twin Falls, ID
208-734-7930

Pocatello, ID
208-232-2840

Idaho Falls, ID
208-552-2287

Lewiston, ID
208-748-2301

Spokane, WA
509-335-1744

Coffey, WA
509-397-4844

Othello, WA
509-488-2781

Pasco, WA
509-547-3541

Walla Walla, WA
509-927-9007

Pendleton, OR
541-279-5812

LaGrande, OR
541-963-3101

John Day, OR
541-573-1301

Missoula, MT
406-721-4060

Kelsoer, MT
406-752-3030

MONTANA BOARD OF REGENTS

LEVEL I REQUEST FORM

Item No.: 126-2701+R0105 Date of Meeting: January 20-21, 2005

Institution: Montana State University Billings

Program Title: Bachelor of Science in Biology, Environmental Sciences Option

Level I proposals are those that may be approved by the Commissioner of Higher Education or the Commissioner's designee. The approval of such proposals will be conveyed to the Board of Regents at the next regular meeting of the board. The institution must file the request with the Office of the Commissioner of Higher Education by means of a memo to the Deputy Commissioner.

A. Level I action requested (check all that apply): Level I proposals include campus initiatives typically characterized by (a) minimal costs; (b) clear adherence to approved campus mission; and (c) the absence of significant programmatic impact on other institutions within the Montana University System and Community Colleges.

- 1. Re-titling existing majors, minors, options and certificates; (e.g. from B.S. in Mechanized Agriculture to B.S. in Agricultural Operations Technology);
- 2. Eliminating existing majors, minors, options and certificates via a Program Termination Checklist;
- 3. Adding new minors or certificates where there is a major;
- 4. Departmental mergers and name changes;
- 5. Program revisions; and
- 6. Distance delivery of previously authorized degree programs.

B. Level I with Level II documentation: With Level II documentation circulated to all campus chief academic officers in advance, the Commissioner or designee may propose additional items for inclusion in the Level I process. For these items to move forward, the Commissioner or designee must reach consensus with the chief academic officers. When consensus is not achieved, the Commissioner or designee will move the item to the Level II review process.

- 1. Options within an existing major of degree;
- 2. Eliminating organizational units within larger institutions such as departments, divisions and colleges or schools *with the exception of the five Colleges of Technology where changes require Board action;*
- 3. Consolidating existing programs and/or degrees.

C. Temporary Certificate or A.A.S. degree programs: Certificate or Associate of Applied Science Degree Programs may be submitted as Level I proposals, with memo and backup documentation, when they are offered in cooperation with and/or at the request of private or public sector partners and the decision point to offer the program is not consistent with the regular Board of Regents program approval process. Level I approval for programs under this provision will be limited to two years. Continuation of a program beyond the two years will require the normal program approval process as Level II Proposals.

All other Certificate or Associate Degree programs may be placed on submission at any Board of Regents meeting. They will be placed on action agendas at subsequent meetings. All campuses agree to insure that all other campuses receive program information well in advance of submission.

Specify Request:

Montana State University-Billings proposes formation of an option in Environmental Sciences offered through the Department of Biological and Physical Sciences. The proposed Environmental Sciences Option creates an area of emphasis in the environmental sciences within a Bachelor of Science degree program. The proposed Environmental Sciences Option is consistent with the Mission of the MSU-Billings. Specifically, the proposed option supports the university mission "to ensure that all students are well prepared and competitive in regional, national, and global marketplaces." It is also consistent with the mission of the Dept of Biological and Physical Sciences "to offer rigorous, contemporary programs in the sciences" as stated in the mission and vision statement of the department.

MONTANA BOARD OF REGENTS

NEW ACADEMIC PROGRAM PROPOSAL SUMMARY

Institution: Montana State University - Billings
Program Title: Bachelor of Science in Biology, Environmental Sciences Option

1. How does this program advance the campus' academic mission and fit priorities?

The proposed Environmental Sciences Option is consistent with the Mission of the Institution as stated at <http://www.msubillings.edu/admin/mission.htm>. Specifically, the proposed option supports the university mission "to ensure that all students are well prepared and competitive in regional, national, and global marketplaces." It is also consistent with the mission of the Dept of Biological and Physical Sciences "to offer rigorous, contemporary programs

2. How does this program fit the Board of Regents' goals and objectives?

The proposed Option is in response "to market, employment, and economic development needs of the State," a Board of Regents goal (<http://www.montana.edu/wwwbor/AllMissionStatements.html>).

3. How does this program support or advance Montana's needs and interests?

Montana's environmental quality has historically been balanced against economic interests related to resource extraction, agriculture and tourism, all key elements of Montana's economy. Conflict resolution in these and other areas must be based on a rigorous, scientific assessment of any environmental issue. Students with an Option in Environmental Sciences will develop an informed focus on environmental science so they can engage in scientific questions related to contemporary, important regional issues such as coal bed methane, water quality, atmospheric gases, and other environmental issues.

4. How will this program contribute to economic development in Montana? (Note projected annual economic impact both regionally and statewide.)

Highly trained students in Environmental Sciences will contribute professionally to maintaining high environmental standards, and such standards are an important aspect of the attraction of Montana to tourism and other economic interests. Students holding a BS degree with an Option in Environmental Sciences should effectively compete for jobs in Montana requiring and understanding of core principles in biological, physical and environmental science.

5. What is the program's planned capacity?

• Break-even point?	5	FTE students
• Enrollments / year?	10	
• Graduates / year?	5	

• MT jobs / year?	5
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6. Resource Allocation:

• Total program budget?	\$ 0
• Faculty FTE?	0
• Staff FTE?	0

7. Does this program require new resources? Yes No
 If yes, what is the amount? \$ n/a

8. How will the campus fund the program?

The Department of Biological Sciences already offers all courses required in the proposed option on a regular basis. Therefore, new resources will not be necessary.

9. If internal reallocation is necessary, name the sources.

n/a

Policy 303.1 Information - Curriculum Proposals – Montana University System

Program: Bachelor of Science Major in Biology, Environmental Sciences Option

Unit: Montana State University-Billings

1a. Program Objectives:

Creation of an option in Environmental Sciences offered through the Department of Biological and Physical Sciences at Montana State University, Billings will define a clear area of emphasis in the Environmental Sciences within the broad discipline of biology. The proposed option expands the existing menu of offerings at MSU-Billings by creating an area of emphasis specifically in the environmental sciences while also allowing this option to be identified on the diploma. The proposed option will provide graduates with the knowledge and skills necessary to qualify for positions in the environmental sciences field such as environmental consulting firms, conservation organizations and government agencies.

1b. Program Support:

All program support related to faculty, facilities, equipment and library resources for the proposed option in Environmental Sciences is currently in place at MSU-Billings. All Biology, Chemistry, Mathematics, Physics, Earth Science and Elective courses in the proposed option already exist as components of other curricula in the sciences, and they therefore meet the same accreditation standards.

1c. Additional Faculty Requirements:

None

1d. Increased costs for the first year, biennium & five years:

None. We do not anticipate increased costs for faculty, library resources, space requirements and equipment because new student enrollment in the program will be absorbed entirely with existing resources.

1e. Enrollment:

5-10 students per year enrolled in curriculum courses. An estimated 4-8 students would be expected to graduate per year under the Environmental Sciences Option.

1f. New Courses:

None

1g. Inter-departmental implications:

None

1h. Justification for program proposal:

In recent years the Dept of Biological and Physical Sciences has created several plans of study to give students the opportunity for focused study in a defined area of Biology. With no increase in faculty, courses or resources, MSU-Billings can expand this menu of offerings by creating an area of emphasis specifically in the environmental sciences while also allowing this option to be identified on the diploma. The blend of required and elective course work in the biological and physical sciences proposed in this option will provide our graduates with the knowledge and skills necessary to qualify for positions in the environmental sciences field such as environmental consulting firms, conservation organizations, and governmental agencies. As such, this option provides a defined and unique group of biological and physical science courses that form the necessary core of the option.

The proposed Environmental Sciences Option is consistent with the Mission of the Institution as stated at <http://www.msubillings.edu/admin/mission.htm>. Specifically, the proposed option supports the university mission "to ensure that all students are well prepared and competitive in regional, national, and global marketplaces." It is also consistent with the mission of the Department of Biological and Physical Sciences "to offer rigorous, contemporary programs in the sciences" as stated in its mission and vision statement. MSU-Billings and the Department of Biological and Physical Sciences would now like to expand its offerings of in-depth specializations to include an area of biology having regional and global importance. An Environmental Sciences Option would accomplish this goal by giving our students the opportunity to explore a defined, specific area of interest as a central focus of the undergraduate experience.

**ITEM 126-2701+R0105
BUDGET ANALYSIS**

Proposed Program: Bachelor of Science in Biology, Environmental Sciences Option										
Campus: Montana State University-Billings										
	FY 2006		FY 2007		FY 2008		FY 2009		FY 2010	
Estimated Enrollment										
FTE Enrollment	5		10		10		10		10	
Estimated Incremental Revenue										
Use of Current General Operating Funds										
State Funds										
State Funding for Enrollment Growth	0		0		19,140		19,140		19,140	
Tuition Revenue										
A. Gross Incremental Tuition Revenue	\$18,040		\$36,080		\$36,080		\$36,080		\$36,080	
B. Reductions to Incremental Tuition	(9,020)		(18,040)		(18,040)		(18,040)		(18,040)	
C. Net Applied Tuition Revenue (A-B)	\$ 9,020		\$18,040		\$18,040		\$18,040		\$18,040	
Program Fees										
External Funds										
Other Funds										
TOTAL Estimated Revenue	\$9,020		\$18,040		\$37,180		\$37,180		\$37,180	
Estimated Incremental Expenditures										
	FTE	Cost	FTE	Cost	FTE	Cost	FTE	Cost	FTE	Cost
Personal Services	0	0	0	0	0	0	0	0	0	0
Operating Expenses	0		0		0		0		0	
Equipment	0		0		0		0		0	
Start-up Expenditures	0		0		0		0		0	
TOTAL Estimated Expenditures	\$0		\$0		\$0		\$0		\$0	
Estimated Revenues Over/Under (-) Expenditures	\$9,020		\$18,040		\$37,180		\$37,180		\$37,180	

M O N T A N A B O A R D O F R E G E N T S
L E V E L I R E Q U E S T F O R M

Item No.: 126-2702+R0105 Date of Meeting: January 20-21, 2005
Institution: Montana State University Billings
Program Title: Bachelor of Science in Biology, Clinical Laboratory Sciences Option

Level I proposals are those that may be approved by the Commissioner of Higher Education or the Commissioner's designee. The approval of such proposals will be conveyed to the Board of Regents at the next regular meeting of the board. The institution must file the request with the Office of the Commissioner of Higher Education by means of a memo to the Deputy Commissioner.

A. Level I action requested (check all that apply): Level I proposals include campus initiatives typically characterized by (a) minimal costs; (b) clear adherence to approved campus mission; and (c) the absence of significant programmatic impact on other institutions within the Montana University System and Community Colleges.

- 1. Re-titling existing majors, minors, options and certificates; (e.g. from B.S. in Mechanized Agriculture to B.S. in Agricultural Operations Technology);
- 2. Eliminating existing majors, minors, options and certificates via a Program Termination Checklist;
- 3. Adding new minors or certificates where there is a major;
- 4. Departmental mergers and name changes;
- 5. Program revisions; and
- 6. Distance delivery of previously authorized degree programs.

B. Level I with Level II documentation: With Level II documentation circulated to all campus chief academic officers in advance, the Commissioner or designee may propose additional items for inclusion in the Level I process. For these items to move forward, the Commissioner or designee must reach consensus with the chief academic officers. When consensus is not achieved, the Commissioner or designee will move the item to the Level II review process.

- 1. Options within an existing major of degree;
- 2. Eliminating organizational units within larger institutions such as departments, divisions and colleges or schools *with the exception of the five Colleges of Technology where changes require Board action;*
- 3. Consolidating existing programs and/or degrees.

C. Temporary Certificate or A.A.S. degree programs: Certificate or Associate of Applied Science Degree Programs may be submitted as Level I proposals, with memo and backup documentation, when they are offered in cooperation with and/or at the request of private or public sector partners and the decision point to offer the program is not consistent with the regular Board of Regents program approval process. Level I approval for programs under this provision will be limited to two years. Continuation of a program beyond the two years will require the normal program approval process as Level II Proposals.

All other Certificate or Associate Degree programs may be placed on submission at any Board of Regents meeting. They will be placed on action agendas at subsequent meetings. All campuses agree to insure that all other campuses receive program information well in advance of submission.

Specify Request:

Montana State University-Billings proposes to add an Option in Clinical Laboratory Science to the Bachelor of Science Degree Major in Biology .

Montana University System New Academic Program Proposal Summary

Campus: Montana State University-Billings

Program Title: Bachelor of Science in
Biology/Clinical Laboratory Science (CLS)
Option (3+1)

1. How does this proposal advance the campus' academic mission and fit priorities?

The Bachelor of Science Degree with a major in Biology/Clinical Laboratory Science (CLS) Option is designed to prepare students for careers in clinical laboratory science. Students will develop competence in a range of medically-oriented fields including immunology, medical bacteriology, virology, parasitology, hematology, mycology, and chemistry. Foundations in cell biology, genetics and chemistry are also emphasized. The CLS option qualifies students for graduate education and careers in clinical analysis (microbiology, hematology, chemistry, and immunohematology), public health laboratories, medical research and industry (product development, sales, maintenance of equipment, etc).

The Major in Biology/CLS option is consistent with the University mission "to ensure that all students are well prepared and competitive in regional, national and global marketplaces". Specifically, it supports the University mission to meet the needs in the area of Allied Health Professions. It is also consistent with the Department of Biological and Physical Sciences mission "to offer rigorous, contemporary programs in the sciences", as stated in the mission and vision statement of the department.

2. How does this program fit the Board of Regents' goals and objectives?

The proposed Option is in response "to market, employment, and economic development needs of the State," a Board of Regents goal (<http://www.montana.edu/wwwbor/AllMissionStatements.html>).

3. How does this program support or advance Montana's needs and interests?

The National Bureau of Labor Statistics estimates that nationally 12,000 additional laboratory professionals are needed annually until the year 2010, and currently only 4,200 are being trained. In Montana, the average age of a Clinical Lab Scientist is 45 years old and many will retire in the next ten years. Rural areas are expected to experience the greatest shortages. In addition, recruitment of qualified laboratory personnel is becoming a significant problem even in the larger Montana hospitals as well as the Indian Health Service. Currently only four students are trained each year in Montana in one program located in Great Falls. A survey of Montana laboratory professionals from urban and rural communities indicates overwhelming support for additional CLS programs within the state (source: Montana State University, Bozeman). The Major in Biology/CLS option will produce students that are well prepared and competitive for careers in the clinical laboratory sciences.

4. How will this program contribute to economic development in Montana? (Note projected annual economic impact both regionally and statewide.)

See Item #3 above.

5. What is the program's planned capacity?

Break-even point?	5	FTE students
Enrollments/year?	5	
Graduates/year?	5	
MT jobs/year?	5	

6. Resource Allocation

Total program budget?	\$3800.00
Faculty FTE?	Part-time Faculty (6 credits @ \$600.00/credit, total of \$3600.00)
Staff FTE?	None

Does this program require new resources? Yes Amount? \$3,800.00

New part-time faculty will be needed to teach Hematology (lecture and lab) and Parasitology (6 credits total). An additional \$200 operating budget will be added to the department budget for the additional 6 credits taught.

How will the campus fund the program?

Through Part-time faculty budget

If internal reallocation is necessary, name the sources?

NA

Policy 303.1 – Curriculum Proposals – Montana University System

- a. Specify the objectives to be reached by the addition of this program.

The Bachelor of Science Degree with a major in Biology/Clinical Laboratory Science (CLS) Option is designed to prepare students for careers in clinical laboratory science. Students will develop competence in a range of medically-oriented fields including immunology, medical bacteriology, virology, parasitology, hematology, mycology, and chemistry. Foundations in cell biology, genetics and chemistry are also emphasized. The CLS option qualifies students for graduate education and careers in clinical analysis (microbiology, hematology, chemistry, and immunohematology), public health laboratories, medical research and industry (product development, sales, maintenance of equipment, etc). Additional credits are required in this option because students take additional summer session of courses. This additional summer semester is necessary because professional training programs approved by the National Committee for Clinical Laboratory Standards (NCCLS) are 12 months in duration. Total credits for graduation are 128. Upon completion of a senior year of professional training, all students desiring to become a certified Clinical Laboratory Scientist must take a national certification examination.

- b. Specify present faculty and facilities.

Present faculty have expertise in anatomy, physiology, cell biology, genetics, molecular biology, microbiology and biochemistry. Current facilities and equipment are sufficient to teach the necessary courses for the CSL Option.

- c. Additional faculty.

Part-time faculty will be needed to teach the 4 cr. Hematology course and the 2 cr. Parasitology course.

- d. Increased costs: \$3600.00 to cover the 6 credits of part time instruction and an additional \$200 in operating budget.

- e. Effect on enrollment: potential increase in the number of biology and chemistry majors.

- f. List new courses

Biol 425 Hematology 3 cr.
Pre-reqs. Biol 263 and Biol 353

Students will learn the cell biology, genetics and biochemistry of blood under normal and pathological conditions. Learning outcomes will be assessed through exams and term papers.

Biol 426 Hematology Laboratory 1 cr.

Methods for examining white blood cells, red blood cells, and platelets. Also included is the examination of abnormal blood cells, hemostasis, and florescent antibody cell sorting analysis.

Biol 427 Parasitology 2 cr.

Pre-reqs. Biol 263 and Biol 353

Study of the life cycles, biochemistry, molecular parasitology, pathogenesis, identification and treatment of the major parasitic groups, including parasitic protozoa, monogeneans, digeneneans, cestodes, nematodes, acanthocephalans, and parasitic arthropods.

Courses in the professional training core (these courses will be taught by faculty at an affiliated institution, either at the University of North Dakota, Sacred Heart School of Medical Technology in Spokane, WA or the Health One Alliance School of Medical Technology, Denver, CO.)

Biol 435 Summer Clinical Laboratory 12 cr.

Study of clinical immunohematology, clinical chemistry theory, theory and practice of phlebotomy, clinical hemostasis, clinical microscopy and urinalysis, clinical body fluids, theory of modern transfusion techniques and theory of clinical microbiology. This is the first part of the year-long professional training core.

Biol 436 Professional Training I 13 cr.

Training at a clinical laboratory affiliate. Review of clinical immunohematology, clinical chemistry theory, theory and practice of phlebotomy, clinical hemostasis, clinical microscopy and urinalysis, clinical body fluids, theory of modern transfusion techniques and theory of clinical microbiology. Perform actual patient laboratory testing under the guidance of trained professionals. This is the second part of the year-long professional training core.

Biol 436 Professional Training II 12 cr.

Training at a clinical laboratory affiliate. Students will learn financial and quality management information for the clinical laboratory, advanced immunohematology, clinical chemistry clinical microbiology and clinical hematology. This is the third part of the year-long professional training core.

g. Indicate interdepartmental implications.

There are none

h. Explain how the recommendation to submit this proposal to the Board of Regents was made.

The Department of Biological and Physical Sciences has been working with Barbara Hudson, Program Director for MSU-Bozeman Clinical Laboratory Science Program and St. Vincent Hospital to provide MSU-Billings students an opportunity to obtain clinical laboratory science training by joining the established existing agreement between the Montana University System (MUS) and the three clinical laboratory training centers (University of North Dakota (UND), HealthONE School of Medical Technology in Denver,

Colorado and the Sacred Heart Medical Center School of Medical Technology in Spokane, Washington). This agreement, which was approved in 2000, currently includes MSU-Bozeman and the University of Montana, Missoula (UM) and allows each of the institutions to send students to UND, HealthONE School of Medical Technology in Denver, Colorado and the Sacred Heart Medical Center School of Medical Technology in Spokane, Washington for three semesters of training. In this agreement students spend a summer semester at UND and then return to hospitals throughout Montana for two semesters of clinical bench training or the entire year at the other two affiliated institutions.

All affiliated Schools have a three-semester program, but students remain in their respective training programs for the entire year. All programs are excellent, have openings for 5-8 students from the MUS and have a keen interest in training laboratory professionals for the region. Each training center is acutely aware of the current shortages in personnel for clinical laboratories and is more than willing to provide training and transfer credit for students to each university. The training and credits from all three programs will allow students to fulfill the requirements needed to take the national examinations to become certified clinical laboratory scientists or medical technologists. All students enrolled at each training program will remain MUS students at their respective institutions. They will be assessed tuition from each university for 37 credits (three semesters) and in turn, each university will reimburse the programs from \$135 to \$190/credit as agreed upon under their respective affiliation contract.

The credits they earn during this year of professional training contribute to a baccalaureate degree in Microbiology at MSU-Bozeman and Medical Technology degree at UM. Through this proposed option in Clinical Laboratory Science in the Biology Major, MSU-Billings students will be able to earn the credits during the year of professional training and obtain a baccalaureate degree in Biology.

A separate proposal to include MSU-Billings in the MUS affiliation agreement so that all students from both universities and MSU-Billings have an equal opportunity to participate in the training program is being submitted for Board of Regents approval concurrently.



Department of Microbiology

College of Letters and Science
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Tasneem Khaleel, Ph.D.
Professor of Biology & Interim Dean
College of Arts and Sciences
1500 University Drive
Montana State University
Billings, MT 59101-0298

October 21, 2004

Re: 3 + 1 Clinical Laboratory Science Option

Dear Tasneem,

This letter is written in strong support of your newly developed 3+1 Clinical Laboratory Science option in the Biology degree program. I have reviewed your curriculum on many occasions and have found it to be very adequate for students who want to do their training in their senior year.

In 2000 the University of Montana and Montana State University-Bozeman obtained Board of Regents approval for a Montana University System CLS program. This approval was given to both universities so that any of our students could attend our three affiliated programs in their senior year. The programs are the University of North Dakota CLS program, Sacred Heart School of Medical Technology in Spokane, Washington and the HealthOne School of Medical Technology in Denver, Colorado.

As the Director of the MUS program, I have communicated with all three programs, they have reviewed the MSU-Billings 3+1 curriculum and all three agree that your students will have more than an adequate background to succeed in the training programs. They are more than happy to accept MSU-Billings students under our MUS program. I will work with you when you receive Regents approval under this agreement to obtain an affiliation agreement with each of the programs.

I look forward to a continued collaboration during the process of Board of Regents approval. I believe your program only broadens the opportunities for more students in another Montana university to become clinical laboratory professionals and do so in the most efficient way possible. I congratulate you on your work so far and will continue to assist you in any way I can.

Sincerely,

Barbara K. Hudson

Barbara K. Hudson, MS, CLS
MUS Director & Instructor



Division of Biological Sciences
The University of Montana
Missoula, Montana 59812-4824
Phone: (406) 243-5122
FAX: (406) 243-4184

26 October 2004

Dr. Tasneem Khaleel
Professor of Biology and
Interim Dean, College of Arts and Sciences
Montana State University-Billings
1500 University Drive
Billings, MT 59101-0298

Re: 3+1 proposal for Medical Technology

Dear Dr. Khaleel,

This letter is written in strong support of your proposal to the Montana Board of Regents to form a 3+1 program in Clinical Laboratory Sciences (CLS). As you are undoubtedly aware, UM-Missoula and MSU-Bozeman have an ongoing and active collaboration to develop a Montana University System Clinical Laboratory Sciences Training Program. In addition, UM-Missoula's proposed 3+1 option for the Medical Technology degree was recently approved by the Board of Regents; allowing students to complete their fourth year of study in the clinical setting, thereby streamlining their education and reducing expenses.

As you are no doubt aware, there is a critical shortage of clinical laboratory scientists in the United States, and the problem is especially acute in rural areas common to Montana. An increase in CLS training programs in our state should help to alleviate the clinical laboratory scientist shortage in the region, as these individuals are highly sought after and typically recruited by the institution where they did their clinical internship.

I hope that your proposal is approved, and I look forward to more interactions with MSU-Billings as this program develops.

Sincerely,

Michael F. Minnick, PhD
Asst. Dean, Division of Biological Sciences
Medical Technology Advisor
Professor of Biology

Graduate Degree Programs
Biochemistry
Biological Sciences Teaching
Microbiology
Organismal Biology & Ecology
Wildlife Biology



ITEM 126-2702+R0105

BUDGET ANALYSIS

Proposed Program: Bachelor of Science in Biology, Clinical Laboratory Sciences Option											
Campus: Montana State University-Billings											
		FY 2006		FY 2007		FY 2008		FY 2009		FY 2010	
Estimated Enrollment											
FTE Enrollment		4		8		8		8		8	
Estimated Incremental Revenue											
Use of Current General Operating Funds		\$3,600		\$3,600		\$3,600		\$3,600		\$3,600	
State Funds											
State Funding for Enrollment Growth						15,312		15,312		15,312	
Tuition Revenue											
A. Gross Incremental Tuition Revenue		14,432		28,864		28,864		28,864		28,864	
B. Reductions to Incremental Tuition		7,216		14,432		14,432		14,432		14,432	
C. Net Applied Tuition Revenue (A-B)		7,216		14,432		14,432		14,432		14,432	
Program Fees											
External Funds											
Other Funds											
TOTAL Estimated Revenue		10,816		18,032		33,344		33,344		33,344	
Estimated Incremental Expenditures											
		FTE	Cost	FTE	Cost	FTE	Cost	FTE	Cost	FTE	Cost
Personal Services			\$3,600		\$3,600		\$3,600		\$3,600		\$3,600
Operating Expenses			\$200		\$200		\$200		\$200		\$200
Equipment		0		0		0		0		0	
Start-up Expenditures		0		0		0		0		0	
TOTAL Estimated Expenditures		\$3,800		\$3,800		\$3,800		\$3,800		\$3,800	
Estimated Revenues Over/Under (-) Expenditures		\$7,016		\$14,232		\$29,544		\$29,544		\$29,544	

M O N T A N A B O A R D O F R E G E N T S

LEVEL I REQUEST FORM

Item No.: 126-2703+R0105 Date of Meeting: January 20-21, 2005
 Institution: Montana State University-Billings
 Program Title: Minor in Theatre Therapy

Level I proposals are those may be approved by the Commissioner of Higher Education or the Commissioner's designee. The approval of such proposals will be conveyed to the Board of Regents at the next regular meeting of the board. The institution must file the request with the Office of the Commissioner of Higher Education by means of a memo to the Deputy Commissioner.

- A. Level I action requested (check all that apply):** Level I proposals include campus initiatives typically characterized by (a) minimal costs; (b) clear adherence to approved campus mission; and (c) the absence of significant programmatic impact on other institutions within the Montana University System and Community Colleges.
- 1. Re-titling existing majors, minors, options and certificates; (e.g. from B.S. in Mechanized Agriculture to B.S. in Agricultural Operations Technology);
 - 2. Eliminating existing majors, minors, options and certificates via a Program Termination Checklist;
 - 3. Adding new minors or certificates where there is a major;
 - 4. Departmental mergers and name changes;
 - 5. Program revisions; and
 - 6. Distance delivery of previously authorized degree programs.
- B. Level I with Level II documentation:** With Level II documentation circulated to all campus chief academic officers in advance, the Commissioner or designee may propose additional items for inclusion in the Level I process. For these items to move forward, the Commissioner or designee must reach consensus with the chief academic officers. When consensus is not achieved, the Commissioner or designee will move the item to the Level II review process.
- 1. Options within an existing major of degree;
 - 2. Eliminating organizational units within larger institutions such as departments, divisions and colleges or schools *with the exception of the five Colleges of Technology where changes require Board action;*
 - 3. Consolidating existing programs and/or degrees.
- C. Temporary Certificate or A.A.S. degree programs:** Certificate or Associate of Applied Science Degree Programs may be submitted as Level I proposals, with memo and backup documentation, when they are offered in cooperation with and/or at the request of private or public sector partners and the decision point to offer the program is not consistent with the regular

Board of Regents program approval process. Level I approval for programs under this provision will be limited to two years. Continuation of a program beyond the two years will require the normal program approval process as Level II Proposals.

Item No.: 126-2703+0105

Institution: Montana State University-Billings

All other Certificate or Associate Degree programs may be placed on submission at any Board of Regents meeting. They will be placed on action agendas at subsequent meetings. All campuses agree to insure that all other campuses receive program information well in advance of submission.

Specify Request:

Eliminate the Theatre Therapy minor at MSU-Billings. The theatre therapy minor was a chronically low enrolled minor. Currently there are no students in the program.

**Office of the Commissioner of Higher Education
Program Termination Checklist
November 2002**

Pursuant to recommendations of the Montana University System Chief Academic Officers and approved by the Montana Board of Regents for Higher Education, an institution may request that an academic program be terminated under the Level I change process. In such cases, the institution should publish in the Board of Regents Agenda a Notice of Intent 60-days before the desired date of termination. Thereafter, the institution should pursue and document completion of the Program Termination Checklist and submit it to the Office of the Commissioner of Higher Education so that a Level I program change may be effected.

Phase I:

1. Research the programs of study for all students currently enrolled in program and define a reasonable deadline for degree completion for all current students. Plan course offerings accordingly.

Can be enacted immediately.

2. Notify affected program faculty of impending layoff and timing based on reasonable program completion for existing students (both verbally and in writing).

No faculty affected.

3. Meet with students to discuss program completion deadlines, course scheduling and options.

There are no students in the program.

4. Notify all internal curriculum committees and Faculty Senate of impending program closure.

Done.

5. Notify Faculty Union (where applicable).

Not applicable.

6. Notify public advisory committee for program (where applicable).

Not applicable.

7. Submit Notice of Intent for publication in Board of Regents Agenda at least 60 days prior to requested date for termination. The purpose here is to ensure adequate public notice.

Phase II:

8. Notify high school counselors, feeder colleges, and other constituents.
9. Submit new catalog copy indicating planned program closure and ensuring current students they will be able to complete their program within a reasonable deadline.

Completed.

10. File Level I request for Program Termination and documented checklist with Office of Commissioner of Higher Education.

Attached

11. Level I Memo published to the Board of Regents and Montana University System.

MONTANA BOARD OF REGENTS

LEVEL I REQUEST FORM

Item No.:	126-301+R0105	Date of Meeting:	January 20-21. 2005
Institution:	Flathead Valley Community College		
Program Title:	Hospitality Management - Professional Chef Management AAS Degree		

Level I proposals are those that may be approved by the Commissioner of Higher Education or the Commissioner's designee. The approval of such proposals will be conveyed to the Board of Regents at the next regular meeting of the board. The institution must file the request with the Office of the Commissioner of Higher Education by means of a memo to the Deputy Commissioner.

A. Level I action requested (check all that apply): Level I proposals include campus initiatives typically characterized by (a) minimal costs; (b) clear adherence to approved campus mission; and (c) the absence of significant programmatic impact on other institutions within the Montana University System and Community Colleges.

- 1. Re-titling existing majors, minors, options and certificates; (e.g. from B.S. in Mechanized Agriculture to B.S. in Agricultural Operations Technology);
- 2. Eliminating existing majors, minors, options and certificates via a Program Termination Checklist;
- 3. Adding new minors or certificates where there is a major;
- 4. Departmental mergers and name changes;
- 5. Program revisions; and
- 6. Distance delivery of previously authorized degree programs.

B. Level I with Level II documentation: With Level II documentation circulated to all campus chief academic officers in advance, the Commissioner or designee may propose additional items for inclusion in the Level I process. For these items to move forward, the Commissioner or designee must reach consensus with the chief academic officers. When consensus is not achieved, the Commissioner or designee will move the item to the Level II review process.

- 1. Options within an existing major or degree;
- 2. Eliminating organizational units within larger institutions such as departments, divisions and colleges or schools *with the exception of the five Colleges of Technology where changes require Board action;*
- 3. Consolidating existing programs and/or degrees.

C. Temporary Certificate or A.A.S. degree programs: Certificate or Associate of Applied Science Degree Programs may be submitted as Level I proposals, with memo and backup documentation, when they are offered in cooperation with and/or at the request of private or public sector partners and the decision point to offer the program is not consistent with the regular Board of Regents program approval process. Level I approval for programs under this provision will be limited to two years. Continuation of a program beyond the two years will require the normal program approval process as Level II Proposals.

Item No.: 126-301-R0105	Institution: Flathead Valley Community College
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All other Certificate or Associate Degree programs may be placed on submission at any Board of Regents meeting. They will be placed on action agendas at subsequent meetings. All campuses agree to insure that all other campuses receive program information well in advance of submission.

Specify Request:

Flathead Valley Community College requests that the title of the Hospitality Management-Professional Chef Management AAS Degree be changed to Culinary Arts AAS Degree.

MONTANA BOARD OF REGENTS
LEVEL I REQUEST FORM

Item No.: 126-201+R0105 **Date of Meeting:** January 19-21, 2005
Institution: Dawson Community College
Program Title: Farm/Ranch Business Management

Level I proposals are those that may be approved by the Commissioner of Higher Education or the Commissioner's designee. The approval of such proposals will be conveyed to the Board of Regents at the next regular meeting of the board. The institution must file the request with the Office of the Commissioner of Higher Education by means of a memo to the Deputy Commissioner.

A. Level I action requested (check all that apply): Level I proposals include campus initiatives typically characterized by (a) minimal costs; (b) clear adherence to approved campus mission; and (c) the absence of significant programmatic impact on other institutions within the Montana University System and Community Colleges.

- 1. Re-titling existing majors, minors, options and certificates; (e.g. from B.S. in Mechanized Agriculture to B.S. in Agricultural Operations Technology);
- 2. Eliminating existing majors, minors, options and certificates via a Program Termination Checklist;
- 3. Adding new minors or certificates where there is a major;
- 4. Departmental mergers and name changes;
- 5. Program revisions; and
- 6. Distance delivery of previously authorized degree programs.

B. Level I with Level II documentation: With Level II documentation circulated to all campus chief academic officers in advance, the Commissioner or designee may propose additional items for inclusion in the Level I process. For these items to move forward, the Commissioner or designee must reach consensus with the chief academic officers. When consensus is not achieved, the Commissioner or designee will move the item to the Level II review process.

- 1. Options within an existing major of degree;
- 2. Eliminating organizational units within larger institutions such as departments, divisions and colleges or schools *with the exception of the five Colleges of Technology where changes require Board action;*
- 3. Consolidating existing programs and/or degrees.

C. Temporary Certificate or A.A.S. degree programs: Certificate or Associate of Applied Science Degree Programs may be submitted as Level I proposals, with memo and backup documentation, when they are offered in cooperation with and/or at the request of private or public sector partners and the decision point to offer the program is not consistent with the regular Board of Regents program approval process. Level I approval for programs under this provision

will be limited to two years. Continuation of a program beyond the two years will require the normal program approval process as Level II Proposals.

Item No.: 126-201+R0105

Institution: Dawson Community College

All other Certificate or Associate Degree programs may be placed on submission at any Board of Regents meeting. They will be placed on action agendas at subsequent meetings. All campuses agree to insure that all other campuses receive program information well in advance of submission.

Specify Request:

Dawson Community College requests approval from the Montana University System and the Board of Regents to make the Farm/Ranch Business Management Program available to Hardin, Fort Benton and Chinook.

MONTANA BOARD OF REGENTS

LEVEL I REQUEST FORM

Item No.: 126-401+R0105 Date of Meeting: Jan. 20 - 21, 2005
Institution: Miles Community College
Program Title: Agriculture Certificate

Level I proposals are those may be approved by the Commissioner of Higher Education or the Commissioner's designee. The approval of such proposals will be conveyed to the Board of Regents at the next regular meeting of the board. The institution must file the request with the Office of the Commissioner of Higher Education by means of a memo to the Deputy Commissioner.

A. Level I action requested (check all that apply): Level I proposals include campus initiatives typically characterized by (a) minimal costs; (b) clear adherence to approved campus mission; and (c) the absence of significant programmatic impact on other institutions within the Montana University System and Community Colleges.

- 1. Re-titling existing majors, minors, options and certificates; (e.g. from B.S. in Mechanized Agriculture to B.S. in Agricultural Operations Technology);
- 2. Eliminating existing majors, minors, options and certificates via a Program Termination Checklist;
- 3. Adding new minors or certificates where there is a major;
- 4. Departmental mergers and name changes;
- 5. Program revisions; and
- 6. Distance delivery of previously authorized degree programs.

B. Level I with Level II documentation: With Level II documentation circulated to all campus chief academic officers in advance, the Commissioner or designee may propose additional items for inclusion in the Level I process. For these items to move forward, the Commissioner or designee must reach consensus with the chief academic officers. When consensus is not achieved, the Commissioner or designee will move the item to the Level II review process.

- 1. Options within an existing major of degree;
- 2. Eliminating organizational units within larger institutions such as departments, divisions and colleges or schools *with the exception of the five Colleges of Technology where changes require Board action;*
- 3. Consolidating existing programs and/or degrees.

C. Temporary Certificate or A.A.S. degree programs: Certificate or Associate of Applied Science Degree Programs may be submitted as Level I proposals, with memo and backup documentation, when they are offered in cooperation with and/or at the request of private or public sector partners and the decision point to offer the program is not consistent with the regular Board of Regents program approval process. Level I approval for programs under this provision

will be limited to two years. Continuation of a program beyond the two years will require the normal program approval process as Level II Proposals.

Item No.: 126-401+R0105

Institution: Miles Community College

All other Certificate or Associate Degree programs may be placed on submission at any Board of Regents meeting. They will be placed on action agendas at subsequent meetings. All campuses agree to insure that all other campuses receive program information well in advance of submission.

Specify Request:

That the Board of Regents of Higher Education authorizes Miles Community College to re-establish a Certificate in Agriculture

ITEM 126-401+R105

**Authorization to Re-establish a Certificate in
Agriculture: Miles Community College**

THAT:

The Board of Regents of Higher Education authorizes Miles Community College to re-establish a Certificate in Agriculture.

EXPLANATION:

For several years, Miles Community College provided an agriculture certificate program in eastern Montana. Recently, after Miles Community College held an agriculture forum to determine the agriculture needs of its service area to renovate the agriculture certificate, we discovered that our agriculture certificate no longer appeared on the inventory list. According to our records, we had not eliminated the program from the inventory. After we visited with Roger Barber in the Commissioner's Office, Roger asked that we submit a Level I proposal with Level II documentation to renovate/revitalize the agriculture certificate at Miles Community College. Thus, Miles Community College seeks approval from the Montana Board of Regents to re-establish an Agriculture Certificate program.

Students enrolling in this program will take subject area classes without the general requirements of an Associate Degree. Miles Community College's Agriculture Certificate program will focus on providing students the skills that will allow them to successfully gain entry-level employment in a farm or ranch community.

According to the 2003 Department of Labor Report, salaries for students entering entry-level agriculture positions range from \$16,000 to \$36,000 per year, with additional benefit packages that include housing, vehicles, utilities, groceries, and retirement options. Students will be encouraged to take advantage of program partnerships and their career-related opportunities.

The proposed agriculture certificate utilizes primarily existing curriculum and staff. Full-time and adjunct faculty will teach the two new classes. Miles Community College Foundation, tuition revenue, and student fees will fund new costs associated with the implementation of this program.

MONTANA BOARD OF REGENTS

NEW ACADEMIC PROGRAM PROPOSAL SUMMARY

Institution: Miles Community College

Program Title: Certificate in Agriculture

1. How does this program advance the campus' academic mission and fit priorities?

Part of the mission of the Miles Community College is to "seek partnerships" to strengthen programs and services aimed at helping learners succeed at their chosen goals and to "serve as a facilitator of economic development through workforce training and continuing education." Miles City and the surrounding area has a need for workers to fill agricultural-related positions that do not require a college degree. Yet, entry level skills are necessary for employer-employee satisfaction. Preparing students for these employment positions assists Miles Community College in meeting these goals. Additionally, while enrolled students will attend the theory / classroom portion of the program, part of the certificate program allows local ranchers and farmers to participate in the "clinical" part of the program.

2. How does this program fit the Board of Regents' goals and objectives?

This certificate program provides an efficient, affordable, and practical learning opportunity for students in the Miles Community College service area. It strongly reflects the employment needs of the Miles City area and the entire state. Students earning this certificate will qualify for many of these employment opportunities. The most recent goal of the Board of Regents, to provide occupational programs that advance Montana's economic development, is met with this certificate program.

3. How does this program support or advance Montana's needs and interests?

Agriculture and its support industry still remains the number one employer in Montana. A large number of Montana high school graduates currently enter the work force with no postsecondary training. This severely limits the graduates available opportunities, and also falls short of many of the requirements for entry level jobs in agriculture. Many of the jobs in Montana require an associate degree or less. This certificate program will allow students to acquire those skills needed, as well as take advantage of farm / ranch / business partnerships developed within the program. The agriculture certificate program will not only fill employment gaps that now exist, but will also attract and retain Montana students from agricultural communities. Perhaps, the most important outcome of the Agriculture Certificate program hinges on the fact that most of these students will STAY in Montana to live and work.

4. How will this program contribute to economic development in Montana? (Note projected annual economic impact both regionally and statewide.)

Workers are needed to fill agricultural jobs. According to the 2003 Department of Labor Report, salaries for workers in entry-level agricultural positions range from \$16,000 to \$36,000 per year with a wide range of benefits packages. Students will be encouraged to take advantage of program partnerships and their career-related opportunities.

5. What is the program's planned capacity?

• Break-even point?	8 FTE students
• Enrollments / year?	30
• Graduates / year?	30
• MT jobs / year?	166 (Dept. of Labor)

6. Resource Allocation:

• Total program budget?	\$ 17,665
• Faculty FTE?	0.3
• Staff FTE?	none

7. Does this program require new resources? Yes No

If yes, what is the amount? \$ _____

8. How will the campus fund the program?

Program implementation will require the development of two additional courses. Current and adjunct faculty will teach these two courses. The program requires some purchase of new equipment as well as fuel costs for bus use. The Miles Community College Endowment has provided \$10,000 for the first year to jump start the renovation of the certificate program.

9. If internal reallocation is necessary, name the sources.

To help coordinate this program and the agriculture emphasis in the AS degree transfer, Miles Community College reallocated a faculty position and created a coordinator / faculty position. The coordinator is able to teach some of the courses, and the adjunct faculty will teach the majority of the agriculture certificate program.

Miles Community College

Agriculture Certificate Program Description

1. Briefly describe the proposed new program. Please indicate if it is an expansion of an existing program; a new program; cooperative effort with another institution, business or industry; or an on-campus or off-campus program. Attach any formal agreements established for cooperative efforts.

Farm/Ranch workers and agriculture support business workers typically assist those businesses in a variety of tasks. The farm/ranch worker needs skills that enable them to accomplish those tasks associated with the success of the operation. This may include everything from machinery maintenance and operation, livestock handling, irrigation, and crop production, to data entry, supply purchasing, and crop/livestock transportation. The agriculture- support business employees need to have a background that enables them to serve wholesale-retail customers. Included in this program is a general knowledge of each facet of the agriculture industry as well as customer service skills. The Miles Community College Agriculture Certificate program will enable students to “customize” their education, through the choice of available electives, with classes which best serves their occupational goal.

Currently, many of these opportunities are filled by high school graduates who have chosen NOT to enroll in postsecondary education. Lack of knowledge and skills often results in dissatisfaction on both the part of the employer and employee. It is the goal of the Agriculture Certificate program to provide employers and potential employees with a solution!

Students enrolling in this program will achieve a certificate in one year with the completion of thirty credits. This will allow students to take subject area classes without the general requirements of an Associate Degree. Six classes are required, with additional electives to fill the thirty credit standard. The Applied Agriculture Science class, which is new for this program, consists of education surrounding major skills needed in agriculture production and business. On-site labs and hands-on experience will make up a large part of the class. In addition, students are required to participate in an Agriculture Forum where a variety of topics involving agriculture will be discussed, utilizing appropriate professional people in the industry.

2. Summarize a needs assessment conducted to justify the proposal. Please include how the assessment plan was developed or executed and the data derived from this effort.

The Agriculture Certificate program is the result of a regional agriculture forum and advisory council work. Initially, Miles Community College and the Board of Trustees held an agriculture forum and invited area ranchers, farmers, ag producers, ag bankers, and other ag-related business people to attend. Over thirty ag representatives from four counties attended the forum. The forum focused on the SWOT analysis (strengths,

weaknesses, opportunities, and threats) to determine the needs of Miles Community College and the area ranchers and farmers. As a result of the forum, Miles Community College organized an Agriculture Advisory Committee to review the outcomes of the forum. Consequently, the Miles Community College Agriculture Advisory Committee developed the agriculture certificate program. The Committee is represented by all facets of the agriculture industry, including production, business, government agency, and education. Subcommittee of the Agriculture Advisory Committee researched and proposed curriculum. The Agriculture Advisory Committee approved proposal and sent it to the Miles Community College Board of Trustees for approval. The Board of Trustees unanimously approved the proposal.

3. Explain how the program relates to the Role and Scope of the institution as established by the Board of Regents.

The program represents technical education as demanded by Montana business and industry. This certificate was offered at one time at Miles Community College and was inadvertently erased from the State of Montana Regents' program inventory. Consequently, Roger Barber, Deputy Commissioner, asked that we re-submit the certificate. It is a necessity for an area that is heavily agriculture production and agriculture-related businesses. This Board of Regent's approved certificate would provide a benefit to students at no additional cost to the institution.

4. Please state what effect, if any, the proposed program will have on the administrative structure of the institution. Also indicate the potential involvement of other departments, divisions, colleges, or schools.

There will be no change to the administrative structure of the institution since all of the courses and activities are covered by existing instructors and coordinators. The classes will all transfer into an Associates Degree, should a student decide to pursue further education after finishing the Agriculture Certificate. This will include transfer to other member schools of the MUS.

5. Describe the extent to which similar programs are offered in Montana, the Pacific Northwest, and the states bordering Montana. How similar are these programs to the one proposed.

Dawson Community College offers a two-year certificate in Farm and Ranch Business Management and a one year certificate in Livestock Technology. Dickinson State University offers a certificate in Farm and Ranch Management. MSU-Northern offers a departmental certificate in Agricultural Mechanics Technology. Each of these programs is unique in that they allow students to bypass degree requirements, much like the Miles Community College proposed certificate. The Dawson Community College Farm and Ranch Business Management programs, however, specifically targets farm and ranch owners/families and delivers the program directly to the ranch/farm families onsite. By catalog definition, the Dawson Community College Livestock Technology certificate specifically gives students a broad background in animal production. The Miles

Community College Agriculture Certificate provides a background in all phases of agriculture, with specific interest in and focus on the agricultural employee. The development of the Applied Agriculture Science class and the Agriculture Issues Forum provides for hands-on training in specific areas of agriculture, as well as contact with industry professionals in their workplace, thus instilling in the student an understanding of the industry that surpasses classroom training.

6. Please name any accrediting agency/ies or learned society/ies that would be concerned with the particular program herein proposed. How has this program been developed in accordance with criteria developed by said accrediting body/ies or learned societies?

The agency responsible for developed criteria would be the Miles Community College Agriculture Advisory Committee.

7. Prepare an outline of the proposed curriculum showing course titles and credits. Please include any plans for expansion of the program during its first three years.

Required Core Classes:		Credit
Ag 101	Animal Science	3
Ag 102	Principles of Range Management	3
BU 121	Principles of Accounting	3
CA 111	Interpersonal Communications Or CA 112 Public Speaking	3
*	Applied Agriculture Sciences class	3
**	Agriculture Issues Forum	2

Optional Classes:		
AM 210	Oxy-Acetylene Welding	2
AM 220	Electric Arc Welding	2
BU 105	Occupational Development	3
BU 108	Vocational Bookkeeping	3
BU 210	Sales, Merchandising, and Retailing	3
CA 105	Technical Writing	3
CA 112	Public Speaking	3
IT 120	Introduction to Computers	3
IT 140	Business Software I	3
PE 214	First Aid and CPR	3

***Applied Ag Science class:**

This three-credit class includes a variety of topics in agriculture. It involves two hours per week of classroom and two hours per week of lab (tours/hands on). The purpose of this class is to expose students to a different area of agriculture every week for 15 weeks. This will include working with professional people in each area.

Applied Agriculture Science Topics:

Agriculture Careers	Animal Health	Global Positioning Systems (GPS)	Noxious Weed Management
Agriculture Construction	Dry land Crop Operations	Horse care and Training	Precision Agriculture
Agriculture Equipment Maintenance	Equipment Finance	Irrigated Crop Operations	Rangeland Assessment
Agriculture Research	Farm Service Agency	Livestock Handling	Sheep Operations
Alternative Crops	Feedlot Operations	Marketing Tools	Specialty Animals
Beef Cattle Operations	Government. Policy	New Technology	Wildlife Management

****Agriculture Issues Forum:**

This two-credit class highlights specific issues that are relevant to agriculture. The timing of the class would be set up to accommodate participation from the public as well as the enrolled students.

Agriculture Issues Topics:

Agriculture Chemicals	Estate Planning	Irrigation Options	Research
Agriculture Law	Fertilizer Management	Livestock Nutrition	Taxes
Agriculture Websites	GPS Technology	Marketing	Water Development
Biotechnology	Insurances	Political Topics (COOL, Animal ID, CAFO-AFO)	Value Added Products

Course Sequence:

Fall Semester		Spring Semester	
Course	Credits	Course	Credits
Ag 101 Animal Science	3	Ag 102 Principles of Range Management	3
Bu 121 Principles of Accounting	3	CA 111 Interpersonal Communications	3
		Or	
Applied Agriculture Science	3	CA 112 Public Speaking	
Electives	6	Agriculture Issues Forum	2
		Electives	7
Total Fall:	15	Total Spring:	15

Faculty and Staff Requirements

1. Please indicate, by name and rank, current faculty who will be involved with the program proposed herein.

Jack R. Larson, Agriculture Coordinator

Ryan Jones, adjunct faculty

Current Miles Community College faculty to teach core education courses

2. Please project the need for new faculty over the first five years of the program. Include special qualifications or training. If present faculty are to conduct the program, please explain how they will be relieved from present duties.

Mr. Larson was hired for the development of this program. No additional full-time faculty needed although adjunct faculty and area agriculture experts will be utilized to fulfill the requirements of the program.

3. Please explain the need for support personnel or other personnel expenditures.

No additional personnel costs are expected. (See comments in #2).

Capital Outlay, Operating Expenditures and Physical Facilities

1. Please summarize operating expenditure needs.

With the exception of two courses, Applied Agriculture Science and the Agriculture Issues Forum, all other courses are currently being offered as part of other degree programs. All equipment, labs, and facilities are in place to support the required courses.

2. Please evaluate library resources. Are they adequate for operation of the proposed program? If not, how will the library need to be strengthened during the next three years?

Library resources are excellent and far more than adequate. We recently became part of the State of Montana Library system. The Library also is connected to the National Agriculture Library.

3. Please indicate special clinical, laboratory, and/or computer equipment that will be needed. List those pieces of equipment or computer hardware presently available in the department.

The current biology, chemistry, and computer labs are already in place and will be shared. Additionally, the one of the Miles Community College's buses will be used for transportation with the Applied Agriculture Science course and other field trip opportunities.

4. Please describe facilities and space required for the proposed program. Are current facilities adequate for the program? If not, how does the institution propose to provide new facilities?

Current facilities and space, including science and computer labs, are adequate for the new certificate program. Increased enrollment in existing courses will improve space utilization in the current facilities.

Evaluation of the Proposed Program

1. Please name faculty committees or councils that have reviewed and approved the program herein proposed.

The Miles Community College Agriculture Advisory Committee developed and reviewed proposed curriculum and courses proposed for this degree program. In addition, the Miles Community College Board of Trustees, the Academic Standards and Curriculum Committee, and the Vocational/Technical Faculty reviewed and unanimously approved the proposal.

Fiscal Impact and Budget Information

1. Planned Student Enrollment

	FY 05 First Year Head Count	FY 06 Second Year Head Count	FY 07 Third Year Head Count
a. new enrollment	15	20	20
b. shifting enrollment	-	-	-
GRAND TOTAL Student Enrollment	15	20	20

II. Expenditures

	First Year FTE Cost	Second Year FTE Cost	Third Year FTE Cost
A. Personnel Cost			
1. Faculty	*	*	*
2. Administration	*	*	*
3. Adjunct Faculty	\$ 5,665	\$ 5,665	\$ 5,665
4. Grad. Asst.	0	0	0
5. Research	0	0	0
Personnel			
6. Support Personnel	0	0	0
7. Fringe Benefits	0	0	0
8. Other	0	0	0
Total Personnel/FTE Costs	\$5,665	\$5,665	\$5,665

* Personnel are already in place at Miles Community College

	First Year	Second Year	Third Year
B. Operating Expenditures			
1. Travel	\$250.00	\$250.00	\$250.00
2. Prof. Services	**	**	**
3. Other Services	**	**	**
4. Communications	**	**	**
5. Utilities	**	**	**
6. Materials and supplies	* \$9,750	\$1,750.00	\$1,750.00
7. Rentals	0	0	0
8. Repairs/Maintenance.	0	0	0
9. Materials & Goods for Manufacturing & Resale	0	0	0
10. Miscellaneous	0	0	0
Total Operating Costs	\$10,000.00	\$2,000.00	\$2000.00
C. Capital Outlay			
1. Library Resources	0	0	0
2. Equipment	0	0	0
Total Capital Outlay	0	0	0
D. Physical Facilities	0	0	0
Construction or Major Renovation	0	0	0
E. Indirect Costs (overhead)	0	0	0
Grand Total Expenditures	\$15,665	\$7,665	\$7,665

	First Year	Second Year	Third Year
III. Revenue			
A. Source of Funds			
1. Appropriated Funds-Reallocation			
2. Appropriated Funds-New	\$39,360	\$54,480	\$54,480
3. Federal Funds			
4. Other Grants	*		
5. Tuition	\$31,950	\$35,500	\$35,500
6. Other (fees)	\$17,100	\$19,000	\$19,000
Total Source of Funds	\$88,410	\$108,980	\$108,980
B. Nature of Funds			
1. Recurring	Yes	Yes	Yes
2. Non-recurring			
Grand Total	\$88,410	\$108,980	\$108,980
Revenues			

Note: Assumes \$2,145 per new FTE in tuition dollars

* Miles Community College Endowment has injected \$10,000 in the Agriculture Certificate Program to jump start it the first year.