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

LEVEL II REQUEST FORM

Item No.:	**143-2854-R0509**	**Date of Meeting:**	**May 28-29, 2009**
Institution:	**Montana State University-Great Falls College of Technology**		
Program Title:	**Construction Technology: Carpentry CAS and AAS Programs**		

Level II proposals require approval by the Board of Regents.

Level II action requested (check all that apply): Level II proposals entail substantive additions to, alterations in, or termination of programs, structures, or administrative or academic entities typically characterized by the (a) addition, reassignment, or elimination of personnel, facilities, or courses of instruction; (b) rearrangement of budgets, cost centers, funding sources; and (c) changes which by implication could impact other campuses within the Montana University System and community colleges. Board policy 303.1 indicates the curricular proposals in this category:

- ☐ 1. Change names of degrees (e.g. from B.A. to B.F.A.)
- ☐ 2. Implement a new minor or certificate where there is no major or no option in a major;
- ☐ 3. Establish new degrees and add majors to existing degrees;
- ☐ 4. Expand/extend approved mission; and
- ☒ 5. Any other changes in governance and organization as described in Board of Regents' Policy 218, such as formation, elimination or consolidation of a college, division, school, department, institute, bureau, center, station, laboratory, or similar unit.

Specify Request:

Montana State University-Great Falls College of Technology (herein after "the College") is requesting formal Level II approval by the Montana Board of Regents to offer a Certificate of Applied Science and an Associate of Applied Science in Construction Technology - Carpentry. The College received temporary approval through the Level I process in May, 2008. We request formal approval through the Level II at this time. Supporting documents follow.

CONSTRUCTION TECHNOLOGY - CARPENTRY
MSU-GREAT FALLS COLLEGE OF TECHNOLOGY

Curriculum Proposal

1. Overview

To expedite the implementation process of our Certificate of Applied Science and Associate of Applied Science in Construction Technology - Carpentry, MSU-Great Falls (herein after "the College") submitted and was granted temporary approval by the Montana Board of Regents through a Level I process in May, 2008. The College is now requesting formal approval by the Board to offer a Certificate of Applied Science and an Associate of Applied Science in Construction Technology - Carpentry.

The College has strong programs in healthcare, business and technology, and is working to build their trades offerings. Without trades programs, the institution cannot respond to industry demands. In fact, until last year, Great Falls was the only community with a Montana University System presence and no two-year construction trades programming.

The 2007 Legislature appropriated $3 million for the addition of a construction trades building on the College campus. Additional startup funds ($234,455) from the state One-Time-Only program were used to accelerate implementation of skilled trades programming, including construction trades, and help support these fledgling programs until they are established. The CAS and AAS in Carpentry has helped to form a solid foundation for this important workforce segment. Just as it was in the temporary Level I proposal of last year, this program is being proposed for implementation as a 1+1 program whereby students may complete the first year and receive the CAS credential, and/or continue into the second year for the AAS degree.

2. Need

a. *To what specific need is the institution responding in developing the proposed program?*

The Montana Department of Labor and Industry projects growth statewide in most industrial trades sectors from 2004-2014. Specifically, it projects growth for carpenters at 24.6% (3,300 jobs) and construction laborers at 20.6% (1,000 jobs), cumulatively representing one of the fastest growing and largest industries with anticipated employment openings generated both from new jobs created and from replacing retiring workers. The demand is projected to outnumber the workers available.

A 2005 environmental scanning report by Paulien & Associates recommended that the College develop construction trades programs, pointing to construction as one of the largest occupational categories "with more than 1700 annual openings per year in construction trades and more than 2,100 in all construction-related occupations."

Northcentral Montana, like Eastern Montana, lags behind other regions in economic health. The region's population is declining and aging, indicating worsening worker shortages. The region's economy cannot grow without a skilled workforce, and this regional stagnation will drag down Montana's overall economic recovery. However, with the appropriate training programs in trades areas, the resulting skilled workforce would allow the state to capitalize on economic opportunities.

Further, when companies are confident they can find the necessary and qualified workers, they can pursue contracts and expansion projects they might otherwise avoid, improving competition and fueling further growth. Skilled worker availability is crucial for industry recruitment.

b. How will students and any other affected constituencies be served by the proposed program?

Local industry representatives have bemoaned the time and expense they incur with workers who have no knowledge or skills in basic industrial subjects, such as safety or reading blueprints. These workers frequently must spend extended periods of time in temporary or low-paying entry-level positions while they gain these skills on the job. Employees who entered the workforce with these skills would be able to advance to higher-paying, permanent positions much faster.
The Montana Department of Labor reports construction worker wages at $15-$20 per hour depending on the location and duties. The College's carpentry program will significantly reduce the amount of time workers must spend in on-the-job training, moving them more quickly into higher paying, more responsible positions.

c. What is the anticipated demand for the program? How was this determined?

Demand was originally estimated primarily from the enrollments in the College's outreach programs, student interest gathered during recruiting trips, the annual construction trades jobs fair held on the College campus, and the experience of other construction trades programs in the state. Initial enrollment was estimated at 15 students in the first year, then to 30 students when both first and second year students are enrolled. We currently have 13 students enrolled in both programs. 11 of those have declared the AAS and 2 the CAS. We will have 3 students graduate with the CAS in May, 2009. We project that we will have an intake of approximately 8 more for fall 2009. Four new students have pre-registered to date. One of those has declared the CAS and 3 the AAS. We will have several registrations for new students over the course of the summer and expect the program to be at capacity by fall start of classes.

3. Institutional and System Fit

a. What is the connection between the proposed program and existing programs at the institution?

The College first offered welding at its Bozeman campus (fall semester 2007), expanding that program to the Great Falls campus fall 2008. Both the construction trades and welding programs in Great Falls share space in the newly completed Construction and Industrial Trades Building. Those two programs join auto body as the College's only trades-related programming. All trades programs share some resources, and related instruction designed for the trades industries (i.e. MATH 102: Math for the Trades).

b. Will approval of the proposed program require changes to any existing programs at the institution? If so, please describe.

No. The program will be located in the Construction and Industrial Trades Building. The carpentry programs have a dedicated bay and share a classroom with other trades programs in that facility. Some classroom work may be scheduled in the main campus building, but classroom space is adequate for that need.

c. Describe what differentiates this program from other, closely related programs at the institution (if appropriate).

There is no other construction trades program at the Great Falls campus.

d. How does the proposed program serve to advance the strategic goals of the institution?

In alignment with the strategic plan of the Montana Board of Regents, the College is committed to increasing participation of students in post-secondary education, specifically two-year programming, as well as increasing the number of students earning a credential. In addition, preparing people for and placing them into high-demand jobs is at the core of the College's mission. Although the College is a leader in educating students for healthcare professions, it has been notably lacking in programming for careers in the trades industries. Expansion into this sector has been a priority for the past several years. Now that we've begun that effort, we plan to continue to grow in this area.

e. *Describe the relationship between the proposed program and any similar programs within the Montana University System. In cases of substantial duplication, explain the need for the proposed program at an additional institution. Describe any efforts that were made to collaborate with these similar programs; and if no efforts were made, explain why. If articulation or transfer agreements have been developed for the substantially duplicated programs, please include the agreement(s) as part of the documentation.*

All of the state's colleges of technology, except Great Falls, have a variety of industrial trades programs. The need for more industrial trades programming is demonstrated by the award of a Department of Labor grant to MSU-Billings COT to develop a construction trades program that could be adopted throughout the state. The BILT program assisted the College in its program development, offering advice on curriculum, equipment and building design and providing curriculum materials, such as building plans that can be used in the practical areas of the program. The College also has received advice and assistance from UM-Helena COT and Flathead Valley Community College.

This program is duplication, but a deliberate one based on the previously cited Department of Labor reports of current demand and predictions of future demand and job growth in the construction industry. This demand is manifested in all areas of the state and the geographic separation between the campuses makes additional programs necessary to fill regional needs.

4. Program Details

a. *Provide a detailed description of the proposed curriculum. Where possible, present the information in the form intended to appear in the catalog or other publications. NOTE: In the case of two-year degree programs and certificates of applied science, the curriculum should include enough detail to determine if the characteristics set out in Regents' Policy 301.12 have been met.*

The programs' curricula are included in Appendix A.

5. Resources

a. *Will additional faculty resources be required to implement this program? If yes, please describe the need and indicate the plan for meeting this need.*

The College hired one construction trades faculty to teach the 26 credits of carpentry-specific courses fall 2008. Existing faculty and adjunct faculty teach the required general education classes.

The budget for FY2009 was estimated at $62,088. The College was awarded $234,455 in One-Time-Only state funds to cover operating costs for FY2008 and FY2009 in construction trades and an as-yet, undeveloped program in industrial trades. In addition, Carl Perkins monies were utilized for the start-up of this program. For the carpentry program (CAS and AAS), the estimated appropriations would be $24,544 plus the tuition paid by students at $32,448. The total, then, sits at $56,992.

b. *Are other, additional resources required to ensure the success of the proposed program? If yes, please describe the need and indicate the plan for meeting this need.*

There has been a substantial need for startup expenses for equipment and curriculum development. The College committed federal Carl Perkins funding to hire consultants and faculty to help develop and refine the curriculum in FY2008. Additionally, the College was awarded $234,455 in One-Time-Only funds from the 2007 Legislature to help fund startup equipment and program development costs for the construction and industrial trades programs.

6. Assessment

The proposed program will be assessed using the College's institutional outcomes assessment practices. These include assessing standard performance metrics such as graduation/completion rates,

student retention, and enrollments. As previously mentioned, 3 students will graduate May 2009 with the CAS. All 3 of those students are slated to continue on to earn the AAS. Additionally, the program will undergo an internal program review as required by Board of Regent Policy and standard College practice. In addition, the program's student learning outcomes will be assessed to evaluate student success in obtaining the skills identified as goals of the program. Finally, additional measures will be used to determine program success including assessing the number of students who successfully pass NCCER examinations for modules built into the curriculum.

7. Process Leading to Submission

The program was initiated because of industry demand. The greater Great Falls Community sought and obtained funding from the 2007 Legislature for a building to house industrial trades programs on the College campus. The College also successfully applied for One-Time-Only funding to cover start-up costs. The Construction and Industrial Trades Advisory Board reviewed and approved preliminary plans. A consultant was retained to work on curriculum and facility design until the full-time faculty member was hired. The curriculum was approved by the College's Curriculum Committee in April 2008.

Appendix A

Construction Technology – Carpentry
Certificate of Applied Science

FALL SEMESTER

Course No.	Title	Credits
MATH 100	Math for the Trades	3
CNST 100	Fundamentals of Construction Technology	3
CNST 115	Construction Calculators & Estimating	1
CARP 120	Carpentry Basics and Rough-in Framing	6
CARP 150	Beginning Carpentry Practicum (90 hrs)	3

Subtotal 16

SPRING SEMESTER

Course No.	Title	Credits
COM 135	Interpersonal Communications	3
ENGL XXX	Technical Writing	3
CNST 120	Introduction to Site layout & Concrete	3
CNST 150	Construction Site Safety	2
CARP 130	Exterior Finishing, Stair Construction, and Metal Stud Framing	4
CARP 152	Intermediate Carpentry Practicum (90 hrs)	3

Subtotal 18

Total Program Credits – 34

Construction Technology – Carpentry
Associate of Applied Science

FALL SEMESTER 1

Course No.	Title	Credits
MATH 100	Math for the Trades	3
CNST 100	Fundamentals of Construction Technology	3
CNST 115	Construction Calculators & Estimating	1
CARP 120	Carpentry Basics and Rough-in Framing	6
CARP 150	Beginning Carpentry Practicum (90 hrs)	3
		Subtotal 16

SPRING SEMESTER 1

Course No.	Title	Credits
COM 135	Interpersonal Communications	3
ENGL XXX	Technical Writing	3
CNST 120	Introduction to Site layout & Concrete	3
CNST 150	Construction Site Safety	2
CARP 130	Exterior Finishing, Stair Construction, and Metal Stud Framing	4
CARP 152	Intermediate Carpentry Practicum (90 hrs)	3
		Subtotal 18

SUMMER SEMESTER

Course No.	Title	Credits
CARP 240	Summer Carpentry Internship (135-270 hrs)	3-6
		Subtotal 3-6

FALL SEMESTER 2

Course No.	Title	Credits
DRFT 156	Introduction to CAD	3
Weld 151	Welding for Carpenters	2
CARP 230	Advanced Roof, Floor, Wall, and Stair Systems	6
CARP 250	Advanced Carpentry Practicum (90 hrs)	3
		Subtotal 15

SPRING SEMESTER 2

Course No.	Title	Credits
BUS 106	Introduction to Business	3
CNST 220	Advanced Concrete Working	5
CARP 220	Interior Finishing	5
CARP 252	Capstone Carpentry Practicum (120 hrs)	4
		Subtotal 17

Total Program Credits 69-72