New Program Approval Cover Sheet
Montana State University

New program requests require Level I or II documentation as specified by the Board of Regents. This page simply illustrates the approval process, and includes all required approvals.

Proposed New Program Information

Title (as listed on Level I or II documents): CNC Machining Program CAS
Submitted by: Stephanie Gray
Submitter's Contact Info: Phone, Email: 994-5256, Stephanie.Gray2@montana.edu
Department: Program Development
College: Gallatin College

New Program Review Process

1. Department completes the documentation required by the Board of Regents, typically Level II for new programs, Level I for new minors if major already exists. (Regents' Information Items are not reviewed by this process.) Some additional information required by our accrediting commission is also collected.

2. Department Head’s signature indicates that proposed program has been approved by the process used within the Department.

3. The Chair of the College Curriculum Committee signs to indicate College academic approval.

4. The College Dean signs to indicate that adequate resources are available to offer the program.

5. The Level I or II documents are uploaded to the Provost's Office server for distribution to other committees.

6. Program requests are sent to the Curriculum and Programs Committee (CPC). A New Programs Working Group researches all new programs and returns a recommendation to the CPC.

7. Results of program reviews are sent to Faculty Senate.

8. Results of program reviews are sent to Deans' Council.

9. Provost's Office reviews the program request based on the input from CPC, Faculty Senate, and Deans' Council. If approved, the proposal is sent to Board of Regents.

10. Level I or II documents submitted to Board of Regents. Dean and Department notified of BOR approval.

11. We must file "substantive change" documents with our accrediting commission and receive approval to offer any new program (degree, option, minor, certificate).

APPROVALS

Department Head

Chair, College Curriculum Comm.

Dean

Chair, CPC

Assoc. Provost

Note: This diagram illustrates the typical flow path, but at any review step there can be a request for additional information or modifications. Careful review in early steps is the best way to speed the overall process.
Montana Board of Regents

LEVEL II REQUEST FORM

Item Number: XXX-XXXX-XXXXX  Meeting Date: March 6-7, 2014
Institution: Gallatin College  CIP Code: 48.0510

Program Title: Computer Numerically Controlled (CNC) Machining Program

Level II proposals require approval by the Board of Regents.

Level II action requested (place an X for all that apply and submit with completed Curriculum Proposals Form):

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.)

X 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; and

4. 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:

Gallatin College is applying to offer a CNC Machining Certificate of Applied Science. This will be a 32 credit certificate of applied science that is designed to be completed in two semesters. This CAS will prepare students to apply technical knowledge and skills to operate a computer numerically controlled (CNC) machines, such as lathes, mills, precision measuring tools, and related attachments and accessories, to perform machining functions, such as cutting, drilling, shaping, and finishing products and component parts. Includes instruction in CNC terminology, setup, programming, operations, and troubleshooting; blueprint reading; machining; lathe and mill operations; technical mathematics; computer literacy; CAD/CAM systems; shop and safety practices; equipment capabilities; and regulations and laws. This program proposal is a piece of the TAACCCT grant that was awarded to a statewide consortium. The startup cost for this new program will be covered for 3 years by TAACCCT grant funding.
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CURRICULUM PROPOSALS

1. Overview

In the fall of 2013 Gallatin College, along with 12 other 2 year colleges, received a Trade Adjustment Assistance-Community College and Career Training (TAACCCT) grant. The statewide consortium name of this project is Strengthening Workforce Alignment in Montana’s Manufacturing and Energy Industries (SWAMMEI). Gallatin College will use their grant funding to start and operate a Computer Numerically Controlled (CNC) Machining Program.

2. Provide a one paragraph description of the proposed program. Be specific about what degree, major, minor or option is sought.

Gallatin College is applying to offer a Computer Numerically Controlled (CNC) Machining Certificate of Applied Science. This will be a 32 credit certificate of applied science that is designed to be completed in two semesters. This CAS will prepare students to apply technical knowledge and skills to operate computer numerically controlled (CNC) machines, such as lathes, mills, precision measuring tools, and related attachments and accessories, to perform machining functions, such as cutting, drilling, shaping, and finishing products and component parts. This CAS includes instruction in CNC terminology, setup, programming, operations, and troubleshooting; blueprint reading; machining; lathe and mill operations; technical mathematics; computer literacy; CAD/CAM systems; shop and safety practices; equipment capabilities; and regulations and laws.

3. Need

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

Gallatin College applied for, and was awarded, a second round TAACCCT grant with a focus on a set of interconnected, stackable credential training programs directed toward developing workers for northwest Montana’s advanced manufacturing industry. Our process included the development of an industry advisory committee to provide insight into educational needs within the local manufacturing industry. This advisory committee included representatives from 5 different machining businesses. There were robust discussions aimed at identifying competency voids in the local workforce, and then how to design training programs and curriculum that would effectively address those voids.

In 2012 Gallatin and Park counties accounted for 15% of the state’s total manufacturing employment, which makes this region one of the top 3 manufacturing areas in the state.1 “Gallatin County’s manufacturing companies employed 2,702 people in 2011 with reported earnings of $123 million. “Manufacturing made up 18% of the Gallatin County economic base during 2011-2013, 11% of that was in metals, 3% plastic and rubber, and 9% in minerals”2 Local employers have expressed “an on-going need for

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2 Sources: BEA-REIS; Census Bureau; and BBER estimates.
highly skilled computer-operated machinery workers.”$^3$ Machine technology and computer numeric controlled (CNC) machine technology are in demand in Gallatin Valley. These are highly skilled jobs, paying between $30,380 up to $57,420 a year within the Gallatin Valley, and require expertise and training beyond on the job training.$^4$

At the state level manufacturing is projected to remain steady or increase as reported by Montana manufacturers.$^5$ Specifically for Gallatin and Park counties, from March 2013 through June 2013, there were 42 production jobs listed. Of those 42 listings 18 were openings that required the skills and training that will be acquired in a CNC Machine program.$^6$ In preparation for the TAACCCT grant Gallatin College surveyed five local machine shops. They were asked how many CNC Machinist openings they would have in the next four years. They reported they would have a total of 67 openings in the next four years and the stated range of salary for those openings was $30,380 up to $57,420.

In the 2011 Gallatin College Workforce Needs Assessment forty two percent of the surveyed high school students reported they would be interested in a career in manufacturing. Students from the Gallatin College Design Drafting and the Welding program have also shown an interest in completing this one year certificate.

National and State data also validates projected growth for CNC machinist.

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<thead>
<tr>
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<tbody>
<tr>
<td>National Data</td>
<td>$38,522 per year $18.52 per hour</td>
<td>10.8% increase</td>
</tr>
<tr>
<td>State</td>
<td>$18.56</td>
<td>18.6% increase</td>
</tr>
</tbody>
</table>


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$^3$ Gallatin College 2011 Analysis of Workforce Needs”, Gallatin College MSU.

$^4$ “Gallatin College 2011 Analysis of Workforce Needs”, Gallatin College MSU. Local employer survey.


$^6$ Source: Labor/Insight (Burning Glass Technologies)
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B. How will students and any other affected constituencies be served by the proposed program?

Offering a new Gallatin College program in CNC Machining will provide students with another avenue of post-secondary education that they can attain locally. This CAS will provide the skills and training necessary to attain a good paying job that is in high demand. The summer of 2013 Gallatin College asked machine shops if they needed additional CNC machine operators and technicians. Five CNC machine shops reported back that in the next 4 years they would be hiring 67 new CNC machine operators to keep up with their workload. They also reported that adding new employees would allow them to grow their business.

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

Currently Gallatin College’s welding program has a waiting list, offering another option for those welding students either while they wait for welding to open or in addition to welding would be a compatible educational offering. This high number of welding students is a good indication that there will be students interested in this program. As stated in questions 3A and 3B there is a need from employers to hire students with this level of certification. Employers have also said they have employees that they would send to the program for the certificate. As mentioned above a survey of local high school students revealed that forty two percent of surveyed students would be interested in manufacturing.

4. Institutional and System Fit

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

Currently Gallatin College is offering a Design Drafting and a Welding program; some design drafters have expressed a strong interest in non-building design. Working and learning about design work that machine shops produce. Welders also are interested in continuing their education on product creation utilizing different materials and tools. Incorporating the CNC machining program into Gallatin College will allow either welders or design drafters to take that next step into production.

Engineering and CNC Machining go hand in hand. Engineers offer the design work and CNC machinist bring the design to life by building it.

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

No.

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

There are no other closely related programs at this institution.
D. How does the proposed program serve to advance the strategic goals of the institution?

Gallatin College operates under the MSU Strategic plan and the Comprehensive Two-Year Mission Plan for Gallatin College. Below are the MSU strategic plan metrics that this program will contribute towards.

In the MSU Strategic Plan 2012 Metric L.2.3: states that “By 2019, the number of associate degrees conferred will increase from 38 to 70 per year. Workforce certificates conferred will increase from 35 to 65 per year.” By offering additional workforce certificate opportunities and utilizing community partners that will support those certificates with student referrals, this program should increase the number of certificates conferred.

Metric L.3.1: “By 2019, the percent of graduates employed full time in their field or in positions of their choosing will increase from an average of 62 percent to 70 percent. By offering another option for students that are focused on targeted employment opportunities students should be able to better fulfill their employment goals.

Metric A.1.5: “By 2019, the number of students enrolled in Gallatin College degree and certificate programs will double to 400.” By offering another certificate option to our community we should attract another variety of students, perhaps that we haven’t been able to recruit before. If Gallatin College is going to double the amount of students attending more certificates must be added so students can maintain workforce diversity for the local economy.

Metric A.2.4: “By 2019, the number of nontraditional students enrolled in MSU undergraduate and Gallatin College programs will increase to 3,200 (a 20 percent increase).” Gallatin College hopes that by offering this CNC Machining CAS more non-traditional students will have the opportunity to attend college.

Gallatin College also operates under a Two-Year Comprehensive Mission Expansion Plan. By adding the CNC Machining CAS the following numbered initiatives will be addressed and responses to these can be found in above metric answers.

1. Enrollment and program growth;

5. Develop industry partnerships and meet local workforce demand;

6. Expand short-term workforce training;

8. Prepare students to be career ready.

E. Describe the relationship between the proposed program and any similar programs within the
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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.

This program was designed in collaboration with a statewide consortium. The consortium consisted of 12 other 2 year institutions across the state. The consortium spent the summer of 2013 writing the grant and in the grant addressed ways to alleviate statewide workforce needs. This program was identified as a statewide and local workforce need that could be addressed by Gallatin College.

5. 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.

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
<th>Spring</th>
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<tbody>
<tr>
<td>M111: Technical Math</td>
<td>3</td>
<td>COMX 102- Interpersonal Communication in the Workplace</td>
</tr>
<tr>
<td>MCH 120 Blueprint Reading</td>
<td>2</td>
<td>WRIT 104- Workplace Communications</td>
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<tr>
<td>MCH 130 – Machine Shop</td>
<td>3</td>
<td>MCH 232- CNC Turning Programming and Operations Level 2</td>
</tr>
<tr>
<td>MCH 231-CNC Turning Operations Level 1</td>
<td>3</td>
<td>MCH 235- CNC Milling Programming and Operations Level 2</td>
</tr>
<tr>
<td>MCH 234- CNC Milling Operations Level 1</td>
<td>3</td>
<td>MCH 230- Tooling and Fixtures Used in CNC</td>
</tr>
<tr>
<td>MCH 103 Intro to Computer Aided</td>
<td>2</td>
<td>MCH 104 Computer Aided Manufacturing</td>
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CURRICULUM PROPOSALS

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<thead>
<tr>
<th>Manufacturing Level I-Online Immerse 2learn</th>
<th>Level II-Online Immerse 2 learn</th>
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<tbody>
<tr>
<td></td>
<td>MCH 122-Introduction to MASTERCAM 3</td>
</tr>
<tr>
<td></td>
<td>Total 16 16</td>
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</table>

M 111 Technical Mathematics
- Utilize and apply mathematical operations, measurement (English and Metric Systems), introductory geometric principles and applied algebra into technical applications in academic and workplace situations;
- Read, interpret, and produce solutions to applications at the introductory technical mathematics level;
- Apply ratio and proportion concepts to introductory technical mathematical situations;
- Apply appropriate technology in a mathematical situation;
- Determine the validity of results and data;
- Solve any component of a right triangle with any two components given.

MCH 120: Blueprint Reading : 2Cr
Recognize blueprints as a primary form of communication in the machinist trade.
- Interpret and understand all information provided on a standard blueprint.
- Construct an adequate working drawing for use in the shop.
- Identify lines used in industry.
- Use orthographic projection to read prints.
- Identify sectional and auxiliary views including broken out, full, half, rotated, removed, and assembly sectioning practices.
- Identify in-line and baseline dimensioning practices.
- Perform tolerancing practices for radii, angles, chamfers, holes, threads, and tapers.
- Read and identify symbols for geometric dimensioning and tolerancing.
- Identify abbreviations on prints.
- Practice good sketching techniques.

MCH 130 Machine Shop: 3
Identify and properly use hand and measuring tools in a safe manner.
- Use proper set-up and operation of drill presses.
- Properly sharpen, care for and use cutting tools such as drills, taps, dies, reamers and basic hand tools.
- Measure properly using tapes, rules, and verniers.
- Use proper procedures in set-up and operation of the pedestal grinders.
- Employ proper procedures in the use of layout equipment such as vernier height gage, surface gage, scribes, and assorted layout blocks.
- Demonstrate safe and proper use of hand tools such as files, hacksaws, chisels, scribes, punches, etc.
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- Demonstrate proper use of taps, dies, helicoils, and threaded inserts.
- Given various jobs, students will set-up and use precision layout tools such as surface gage, layout table, height gage, etc.
- Demonstrate how to properly sharpen drill bits, lathe tools, chisels, screwdrivers, punches, etc.
- Explain and demonstrate proper care, safety, and maintenance of bench and pedestal grinders.
- Set-up and properly use the drill press and radial arm drill press in accordance with operation manuals.
- Identify and demonstrate proper procedures in using a center drill, countersink, counter bore, and reamers.

MCH 231 CNC Turning Operations Level 1
- Perform start-up procedures and maintenance.
- Demonstrate tasks related to set-up & operation.
- Utilize CNC Control / Operator Panel buttons and switches.
- MDI Programmable Machine Functions.
- Exhibit knowledge of CNC Modes of Operation.
- Exhibit CNC Safe Operating Procedures.
- Demonstrate Speed & Feed Relationships & Manipulation.
- Operations used to manufacture piece parts.
- Understand Tool Offset Concepts – Lengths, Diameters & Wear.
- Perform Work & Fixture Offsets.
- Understand the use and modification of Cutter Compensation.
- Perform Program Editing Procedures.
- Understand expectations of Operator Edits (PGM & COMP values).
- Recognize Basic Program Structure from an Operators Viewpoint.
- Perform Program Verification.

MCH 234 CNC Milling Operations Level 1
- Perform start-up procedures and maintenance.
- Utilize tasks related to set-up & operation.
- Operate "CNC Operator Panel" buttons and switches.
- MDI Programmable Machine Functions.
- Exhibit knowledge of CNC Modes of Operation.
- Exhibit CNC Safe Operating Procedures.
- Demonstrate Speed & Feed Relationships & Manipulation.
- Operations used to manufacture piece parts.
- Understand Tool Offset Concepts – Lengths, Diameters & Wear.
- Perform Work & Fixture Offsets.
- Understand the use and modification of Cutter Compensation.
- Perform Program Editing Procedures.
- Understand expectations of Operator Edits (PGM & COMP values).
- Recognize Basic Program Structure from an Operators Viewpoint.
- Perform Program Verification.

MCH 103 Intro to Computer Aided Manufacturing Level I: Immerse 2Learn online component Semester 1: 2CR
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- Demonstrate understanding of basic safety rules of a CNC manufacturing facility.
- Demonstrate proficiency in shop math level 1 and 2
- Complete the basic introduction to the Haas VF-Series Milling Machine and GUI Control setup.
- Use tools and equipment to form and shape various materials in a manufacturing laboratory environment;
- Discuss processes necessary to cast and mold materials in a manufacturing laboratory environment;
- Use tools and equipment to machine various materials;
- Safely operate basic machinery and equipment.

COMX 102 Interpersonal Communication in the Workplace
- Understand the key elements of the communication process;
- Identify the elements of nonverbal and verbal communication and explain their significance in the communication process;
- Describe appropriate business ethics and professional courtesy;
- Identify practical skills geared toward improving communication in the workplace;
- Practice skills in listening reflectively, attentively, and more empathetically

WRIT 104 Workplace Communications
- Determine audience, purpose, and topic for workplace writing tasks;
- Develop skills in prewriting, organizing, drafting, editing and revising documents;
- Produce and edit short technical documents such as instructions, memos, and incident reports;
- Demonstrate basic competency in the use of grammar, syntax, punctuation, spelling, and mechanics;
- Design and evaluate documents in order to clearly and effectively communicate the message to the intended audience;
- Demonstrate the ability to work individually and in small groups to produce written documents

MCH 232 CNC Turning Programming and Operations Level 2
- Exhibit knowledge of coordinate systems used on the CNC Turning Center through their awareness of zero assignments, their relativity to one another and various codes and methods utilized.
- Demonstrate a firm understanding of absolute / incremental coordinates.
- Exhibit knowledge of program structure and steps to writing a program.
- Utilize safety lines in their programs.
- Verify their programs using various machine operation methods.
- Exhibit conscientiousness while performing program verification.
- Exhibit an understanding of canned cycles.
- Exhibit an understanding of compensation types and usages.
- Exhibit documentation for their programs.
- Demonstrate ability to visualize the execution of programmed motion.

MCH 235 CNC Milling Programming and Operations Level 2
Upon completion of this course, a student will be able to:
- Exhibit knowledge of coordinate systems used on the CNC Machining Center through their awareness of zero assignments, their relativity to one another and various codes and methods
utilized.

- Demonstrate a firm understanding of absolute / incremental coordinates.
- Exhibit knowledge of program structure and steps to writing a program.
- Utilize safety lines in their programs.
- Verify their programs using various machine operation methods.
- Exhibit conscientiousness while performing program verification.
- Exhibit an understanding of canned cycles.
- Exhibit an understanding of compensation types and usages.
- Exhibit documentation for their programs.
- Demonstrate ability to visualize the execution of programmed motion.

**MCH 230 Tooling and Fixtures Used in CNC**
- Exhibit knowledge of various cutting tool types and work holding methods.
- Demonstrate an ability to calculate proper speeds and feeds per recommendations.
- Recognize limits regarding the machine tool, cutting tool, set-up and material being cut.
- Understand the various cutting tool materials used in manufacturing.
- Exhibit knowledge of carbide insert numbering system.

**MCH 122 Introduction to MASTERCAM: 3**
- Exhibit a working knowledge of Mastercam’s primary functions as a computer aided machining software.
- To work from typical engineering blueprint; drafts within Mastercam and from those designs create toolpaths for CNC milling machines and CNC turning machines.
- Demonstrate the ability to use Mastercam’s post processor capability to write G-code for standard CNC mills and lathes.
- Use the virtual rendering capabilities of Mastercam (Backplot) to verify toolpaths before post processing and before machining on both lathes and mills.
- Create simple Solid models in Mastercam and create toolpaths from them.
- Demonstrate the use of Mastercam’s Work coordinate system (WCS), Construction Planes and various coordinate planes to create multiple machining operations on the same part.
- Demonstrate the engraving functions.
- Create tool libraries in Mastercam that relate to actual tooling used in mills and lathes.
- Demonstrate the ability to import CAD solid models in to Mastercam, orientate the part model and define Work Coordinate Systems and apply a manufacturing plan to efficiently machine lathe and mill parts.
- Import and create tooling, fixturing and other machine components to the machining plan, especially to verify correct machining in Backplot feature of Mastercam.

**104 Intro to Computer Aided Manufacturing Level II: Immerse 2**
- Learn online component
- Semester 2: 2CR
- Demonstrate ability in reading manufacturing blueprints.
- Use precision measuring tools.
- Create speeds and feeds calculations for turning, milling and drilling.
- Complete the basic introduction to the Haas CNC lathe control.
- Use the Haas Intuitive Programming System to write a program for a lathe. This program can edited and save to memory.
- Reinforce safety while using machinery.
B. Describe the planned implementation of the proposed program, including estimates of numbers of students at each stage.

<table>
<thead>
<tr>
<th></th>
<th>Fall 2014</th>
<th>Spring 2015</th>
<th>Fall 2015</th>
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<th>Fall 2016</th>
<th>Spring 2017</th>
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<tbody>
<tr>
<td>Courses</td>
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<td>All spring</td>
<td>All fall</td>
<td>All spring</td>
<td>All fall</td>
<td>All spring</td>
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<tr>
<td>Students</td>
<td>10 students</td>
<td>10</td>
<td>15</td>
<td>15</td>
<td>20</td>
<td>20</td>
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6. 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.

Classroom and Lab Space: TAACCCT grant funds will be used for the first 3 years to lease a new off-campus space that will include a lab space for the hands on machining courses, a computer lab and a classroom. This new space has been located and the lease is being reviewed by the BOR during the January meeting.

Equipment: TAACCCT grant resources are also being used to purchase the startup equipment and the materials needed for the program.

Instructional Staffing: TAACCCT grant resources are being used for the first 3 years to pay for the Program Director that will carry a six credit instructing responsibility per semester. TAACCCT grant funds will also pay for an adjunct that will be responsible for a six credits per semester. Gallatin College will pay for eight credits of instructional hours that are not covered by the grant. In addition to instructional staff, the TAACCCT grant will cover the cost of a .25FTE student success coordinator for machining and welding students and a .5 FTE faculty and grant support position.

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

For the next three years all resource for the startup of this program, with the exception of the eight credits of adjunct hours, are being covered by the TAACCCT grant.

7. Assessment

How will the success of the program be measured?

The first indicator of success will be based on student enrollment; Gallatin College courses will require at least 10-12 enrolled students by year two. Year three should have 15-18 students in the new courses. If level of growth is not occurring then continuation of the course will be evaluated.
Second, third and fourth measurements will be retention, completion and job placement numbers. The final measurement of success will be industry specific credentials that our students receive. This program will incorporate the testing of Haas Level I certification and Hass Level 2 certification.

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<tbody>
<tr>
<td># Enrolled students</td>
<td>10</td>
<td>15</td>
<td>20</td>
<td>15 students/class</td>
</tr>
<tr>
<td>Retention</td>
<td>8</td>
<td>12</td>
<td>16</td>
<td>82%</td>
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<tr>
<td>Completion</td>
<td>7</td>
<td>10</td>
<td>14</td>
<td>70%</td>
</tr>
<tr>
<td>Job Placement</td>
<td>6</td>
<td>8</td>
<td>11</td>
<td>80%</td>
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<tr>
<td>Industry Certification</td>
<td>4</td>
<td>4</td>
<td>6</td>
<td>50% of completers will receive certification.</td>
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</table>

8. Process Leading to Submission
Describe the process of developing and approving the proposed program. Indicate, where appropriate, involvement by faculty, students, community members, potential employers, accrediting agencies, etc.

This CNC Machining Program was identified as a high demand workforce need by local employers in “Opportunities Ahead: 2011 Analysis of Workforce Needs Gallatin Valley” a report developed for Gallatin College. The summer of 2013 Gallatin College met with five local machine shops of varying size and production. These industry leaders strongly encouraged that Gallatin College participate in the TAACCCT grant and implement a CNC Machine program and these employers committed to hiring 67 graduates over the next four years. In the fall of 2013 the TAACCCT grant was awarded and work began on developing the curriculum for a CNC Machining program. Local industry professionals, faculty from other two year institutions, and MSU College of Engineering, Mechanical and Engineering Technology Program faculty assisted with program development. In addition to these employers and faculty, students in welding and design drafting have expressed an interest in this program.

This program will be reviewed by the MSU Curriculum and Programs Committee, Faculty Senate and the Deans Council at MSU. Then the review process moves to the Board of Regents, after the Board of Regents approval, the accreditation and gainful employment review will occur.