State the mission, objectives, and primary functions of this program: The Computer Aided Design (CAD) program offers graduates pathways into professional careers as technicians in architectural, civil, and mechanical drafting. Other career opportunities exist in Geographic Information Systems, mapping, surveying, and technical design.

The one year program provides students training in business, mathematics, and writing, as well as the following skills: computer aided design, geographic information and modeling systems; graphic communications and surveying. Graduates emerge understanding how to use computer aided design software to solve real world graphic communications problems in a team-oriented environment.

Regions throughout the Western United States continue to wrestle with issues involving appropriate infrastructure, land use, new development, subdivision, revitalization projects, and transportation systems. The demand for a workforce educated with the technical skills to assist architects, engineers, land-use planners and surveyors will continue. As a STEM-related (Science, Technology, Engineering, and Mathematics) career field, individuals trained in Computer Aided Design play a critical role in designing solutions for the economic and societal well-being of our world. Academically prepared students can complete this Certificate of Applied Science program certification in one year.

Complete the FTE Detail Excel spreadsheet using the link below: 17Acad171_CompletetheFTEDetailExcelspreadsheetusingthelinkbelow_1001100552.pdf

Using the space below, address any issues with your FTE Detail Sheet: N/A

Identify Special Program Requirements. (e.g., extended credit requirements, accreditation): There are no special requirements for the program.

Criteria 1. - Bullet 1.: Two-year education must respond to local, regional, national, and global needs. The curriculum provides hands-on, practical experience with real-world applications, as well as developmental coursework to ensure that students are prepared to succeed in the college environment and in the field. The curriculum also provides academic certificates, two-year degrees, and college transfer programs for students desiring to enter baccalaureate programs.

The Computer Aided Design program collaborates with business and industry to prepare graduates to compete in and contribute to a diverse, dynamic global society. Students engage in experiential learning embracing technical education, effective communication, problem solving, professionalism, and workplace skills. The Department promotes lifelong learning to empower students in an ever-changing world.

CAD program meets its mission, the mission of the department, the Missoula College mission, and the University of Montana mission by providing quality education in the programs.

Criteria 1. - Bullet 2.: Computer Aided Design, an interdisciplinary STEM (Science, Technology, Engineering and Mathematics) program, is essential for UM to achieve its mission.
Criteria 1. - Bullet 3.: Computer Aided Design, or CAD, revolutionized modern day engineering. CAD allows for the easier development of products and product management integration, for both 2 - Dimensional and 3 - Dimensional modeling. It also allows for greater modeling and even provides a basis for virtual networking.

In the engineering world, as well as in fields of arts, sciences, communications, and humanities, CAD is extremely important and widely used to design and develop products to be used by consumers. The knowledge of CAD is a hot commodity for those employing engineers and technicians, because its benefits in the engineering workplace of the 21st century.

The program prepares students for the social, cultural, and workforce needs of the 21st century with the following:

- Ability of problem-solving and creative and analytical thinking
- Ability of working in a team in a diverse environment
- Spoken and written communication skills
- Ability to clearly articulate technical concepts using written language.
- Ability to develop safe workplace practices.
- Ability to effectively utilize information technology as a research and productivity tool.
- Ability to employ logic, critical thinking, and problem solving skills in the troubleshooting of engineering design and drafting.
- Ability to solve technical problems involving mathematics at the level of college algebra and trigonometry.
- Ability to utilize instrumentation to measure, calibrate, test, and repair engineering drawings.
- Project management and hands-on skills.

Criteria 2. - Bullet 1.: CAD is an interdisciplinary STEM program.

DDSN 113 Technical Drafting course has been approved as a general education course with an aspect of communication arts.

Students from different programs, such as electronics technology, energy technology, industrial technology, arts and sciences, etc. have taken some of the CAD courses, such as Intro to CAD, SolidWorks, etc.

Criteria 2. - Bullet 2.: CAD is an interdisciplinary STEM program and is needed for multiple programs at UM.

Criteria 3. - Bullet 1.: N/A

Criteria 3. - Bullet 2.: N/A

Criteria 3. - Bullet 3.: N/A

Criteria 4. - Bullet 1.: The CAD program is a well-designed Certificate of Applied Science degree program and has gone through continuous improvements to meet the needs of students and local and national industries. The major strengths of the program include:
1) The program has well-qualified faculty members dedicated to teaching and research. All of them have solid academic background in engineering technology, many years of teaching and research experiences at postsecondary education, strong hands-on skills, and broad industrial experiences.

2) The curriculum of the program is well designed and developed with significant laboratory components for quality teaching, hands-on training, and effective learning.

3) Most of the graduates of the program worked in the engineering technology fields.

4) Some of the graduates moved forward to baccalaureate and/or masters degree study in engineering.

Criteria 4. - Bullet 2.: 1) Professional development – The faculty members of the program, including tenured, tenure-track, fully-time, and adjunct, have been and will continue to be actively participating in and engaging in conferences, seminars, workshops, and professional certificate exams (both in-person and online). An ETA-I (Electronics Technician Association – International) Certificate Testing Site has been established here at Missoula College. One of the faculty members serves as the examination administrator. Through the professional activities, the faculty members are closely connected with their colleagues and experts in the same or related fields for information exchange and experience sharing. The faculty members refresh, update and improve their knowledge and credentials with new technology and skills, and in turn, enhance and strengthen their teaching and research for the benefits of students.

2) Scholarly activities – basic and applied research integrated into teaching and linkage to educational pathways, and committee and community services. Faculty members of the program make significant efforts in research not only in the fields of engineering technology, but also in multidisciplines for the pursuit of perfection academically and professionally. Through scholarly activities, the faculty members serve the college, the university, and the community, and update and improve their knowledge and skills for effective teaching.

3) Through the collaborations with other programs, departments, and colleges or schools of the University of Montana, with local and national industries/companies, with professional organizations or societies, and with Missoula County Public Schools, the faculty will gain academic, professional, and financial supports, enhance teaching and research.

Criteria 4. - Bullet 3.: The program has been preparing for the ABET (Accreditation Board for Engineering and Technology) accreditation.

Criteria 5. - Bullet 1.: The CAD program and the Department of Applied Computing and Engineering Technology has experienced employee reduction in recent years.

Criteria 5. - Bullet 2.: A new course, DDSN 135 SolidWorks has been developed and taught in the Spring 2017 and Autumn 2017 semesters to strengthen the program.

Criteria 5. - Bullet 3.: The Department of Applied Computing and Engineering Technology shared one Administrative Associate with the Business Technology Department.

Criteria 6. - Bullet 1.: CAD is an interdisciplinary STEM program.

The program provides a general education course, DDSN 113 Technical Drafting, to the UM curriculum. The program will continue to contribute to the UM curriculum and to enhance the general education and STEM education for the UM.

Criteria 6. - Bullet 2.: As an interdisciplinary STEM program, CAD will continue to contribute to the STEM education of the University of Montana and of the Montana University System.

Criteria 6. - Bullet 3.: The faculty of the CAD program has been working on strengthening the existing certificate program and on expanding the program to an Associate of Applied Science degree program.
Criteria 6. - Bullet 4.: Allocation of additional resources to the program is certainly beneficial.

To Complete your report, Please upload the Centrally Provided Datasheet for your unit of analysis that you downloaded from the website:
17Acad171_ToCompleteyourreportPleaseuploadtheCentrallyProvidedDatasheetforyourunitofanalysisthatyoudownloadedfromthewebsite_1001100554.pdf