Montana University System

PROGRAM REVIEW

Institution: **Montana Technological University**

Program Years: **2023**

List of the programs reviewed:

- Associate of Science (AS)
- Radiology Technology (AAS)
- Pre-Apprentice Lineman Program (CAS)
- Metals Fabrication (AAS)
- Welding Technology (CAS)(AAS)
- Precision Machining Technology (AAS)
- Machining Technology (CAS)
- Biological Sciences (BS)
- Biology (BAS)
- Nursing (BS)
- Interdisciplinary Studies (MS)

Decision(s) concerning the future of the program(s), based on the program review criteria established at the campus:

- Pre-Apprentice Line Program (CAS) – Name change
- Interdisciplinary Studies (BAS) – Name change
- Continue all other programs

Rationale or justification for the decision based on the program review process established at the campus. Include graduation numbers and student majors for each of the last seven (7) years for every program under review.

See rational in individual program review documents attached.

Institution: **Montana Technological University**

Program Years: **2022-2023**

List of the programs reviewed:

Welding Technology (CAS, AAS)

Decision(s) concerning the future of the program(s), based on the program review criteria established at the campus:

Retain Welding Technology CAS & AAS

Rationale or justification for the decision based on the program review process established at the campus. Include graduation numbers and student majors for each of the last seven (7) years for every program under review.

During AY 21-22, the Welding Technology program was expanded from a CAS to a AAS with a CAS exit. In addition, the curriculum was updated and a transition from the previous NCCR curriculum was made. Fall 22-23 was the first year of the AAS and the new curriculum.

	Welding Technology (CAS, AAS)					
	Fall Enrollment			Number of Degrees		
	CERTTS	CAS	AAS	CERTTS	CAS	AAS
2016-2017				13	7	
2017-2018				13	13	
2018-2019		1		2	2	
2019-2020				7	6	
2020-2021		1		5	6	
2021-2022		2		8	9	
2022-2023	1	2	14			1

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PROGRAM REVIEW

Institution: **Montana Technological University**

Program Years: **2022-2023**

List of the programs reviewed:

Radiology Technology (AAS)

Decision(s) concerning the future of the program(s), based on the program review criteria established at the campus:

The Radiologic Technology program has maintained strong enrollment and interest since the inception of the program. Employment opportunities for radiologic technologists are growing, with an expected 6% growth through 2032 according to the U.S. Department of Labor. The healthcare industry is constantly expanding along with advancements in all areas of radiologic technology, leaving graduates of this program with many career opportunities in advanced imaging modalities and in a variety of settings, all of which are currently in demand.

This is a competitive program that is limited in the number of spots available due to the limited number of clinical sites available in our area; however, we are continually working to increase our clinical affiliation agreements with multiple clinical facilities across the state allowing for increased enrollment. Program review and input from adjunct radiology faculty and affiliated clinical sites, student outcomes as well as coursework evaluations provide guidance for the program to continue.

Rationale or justification for the decision based on the program review process established at the campus. Include graduation numbers and student majors for each of the last seven (7) years for every program under review.

	Radiology Technology (AAS)	
	Fall Enrollment	Number of Degrees
2016-2017	36	10
2017-2018	55	9
2018-2019	52	11
2019-2020	70	12
2020-2021	56	
2021-2022	63	12
2022-2023	80	14

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Program Review

Institution: **Montana Technological University**

Program Years: **2022-2023**

List of the programs reviewed:

Precision Machining Technology (AAS)

Decision(s) concerning the future of the program(s), based on the program review criteria established at the campus:

Our precision machining AAS degree offers you very broad training experience where you will develop the full skill set required for all levels of employment in this highly technical and demanding field. During the 2021-2022 academic year, our program had 13 fall registrants but only 5 students who graduated with their AAS, which we believe was due to some students exiting prior to completing their full two years. We are working with our industry partners and with NASA to build and strengthen the program, and we believe that this will help our enrollment and graduation numbers to increase.

Rationale or justification for the decision based on the program review process established at the campus. Include graduation numbers and student majors for each of the last seven (7) years for every program under review.

The number of degrees awarded has been low for the past five years; however, with the hiring of two new instructors and with our working relationships being stronger than ever, we feel that the graduation rates will grow. Also, many of our students have shared with us that they cannot afford the graduation fee; therefore, we are not getting a true completion number. Also, the AAS in precision machining was not approved by the BOR until the spring of 2018.

	Precision Machining Technology (AAS)	
	Fall Enrollment	Number of Degrees
2016-2017		
2017-2018		
2018-2019	2	5
2019-2020	3	6
2020-2021	8	2
2021-2022	13	5
2022-2023	13	4

Montana University System

Program Review

Institution: **Montana Technological University**

Program Years: **2022-2023**

List of the programs reviewed:

Pre-Apprentice Lineman Program (CAS)

Decision(s) concerning the future of the program(s), based on the program review criteria established at the campus:

Our pre-apprentice line program has consistently grown in number since its inception, and we believe that the growth in the program will continue its upswing. We registered 52 students in our program in the fall of 2023. Our program is the only one in the State and students are able to complete the program in one semester. Our industry partners play an important role in regard to what they want to see from our students, and they need to measure up to current industry standards.

Rationale or justification for the decision based on the program review process established at the campus. Include graduation numbers and student majors for each of the last seven (7) years for every program under review.

	Pre-Apprentice Line Program (CAS)	
	Fall Enrollment	Number of Degrees
2016-2017	22	31
2017-2018	22	46
2018-2019	20	38
2019-2020	23	37
2020-2021	30	55
2021-2022	35	60
2022-2023	30	68

Institution: **Montana Technological University**

Program Years: **2022-2023**

List of the programs reviewed:

Nursing (BS)

Decision(s) concerning the future of the program(s), based on the program review criteria established at the campus:

The program should continue.

Rationale or justification for the decision based on the program review process established at the campus. Include graduation numbers and student majors for each of the last seven (7) years for every program under review.

The BSN program has the highest enrollment on the Montana Tech campus and has recently increased the capacity of students accepted into clinical seats from 20 to 30 and has plans to increase again from 30 to 40 by Spring of 2025. Our graduates consistently pass the licensing examination at a rate of >90%, and the program retains its ranking as the number one BSN program in the state of Montana based partly on these data.

	Nursing (BS)	
	Fall Enrollment	Number of Degrees
2016-2017	167	21
2017-2018	193	35
2018-2019	218	45
2019-2020	234	45
2020-2021	219	38
2021-2022	233	42
2022-2023	245	51

2016-2017 Final Phase out of AS Nursing	36	36

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Program Review

Institution: **Montana Technological University**

Program Years: **2022-2023**

List of the programs reviewed:

Metals Fabrication (AAS)

Decision(s) concerning the future of the program(s), based on the program review criteria established at the campus:

The metals fabrication AAS consists of one year of welding and one year of precision machining, which allows students within the program to gain knowledge in multiple aspects of the trades' areas. Working with our industry partners, our instructors have been able to add components into our programs that mirror what employers need. This program has consistently grown over the course of the past 7 years, and we believe that it will continue to do so.

Rationale or justification for the decision based on the program review process established at the campus. Include graduation numbers and student majors for each of the last seven (7) years for every program under review.

	Metals Fabrication (AAS)	
	Fall Enrollment	Number of Degrees
2016-2017	27	8
2017-2018	29	10
2018-2019	31	2
2019-2020	29	5
2020-2021	22	6
2021-2022	22	7
2022-2023	15	0

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Program Review

Institution: **Montana Technological University**

Program Years: **2022-2023**

List of the programs reviewed:

Machining Technology (CAS)

Decision(s) concerning the future of the program(s), based on the program review criteria established at the campus:

Our machining program is built with stackable credentials, which allows students to exit after one year with a CAS or to complete the entire two years to earn an AAS in precision machining technology. Students can then move to our four-year campus to complete a BAS degree in business. Some students encounter some life happenings, which requires them to exit early with the CAS so they are able to get a credential to help them with their job search. Having multiple options available to students is a plus.

Rationale or justification for the decision based on the program review process established at the campus. Include graduation numbers and student majors for each of the last seven (7) years for every program under review.

Fall enrollment numbers show zero for fall semester due to the fact that students entering always express an interest in the AAS option and do not declare their major as a CAS. It is usually only after the first year when something takes place in a student's life that they opt out with the CAS.

	Machining Technology (CAS)	
	Fall Enrollment	Number of Degrees
2016-2017		3
2017-2018		1
2018-2019		5
2019-2020		4
2020-2021		
2021-2022		4
2022-2023		

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PROGRAM REVIEW

Institution: **Montana Technological University**

Program Years: **2022-2023**

List of the programs reviewed:

Interdisciplinary Studies, MS (MIDS)

Decision(s) concerning the future of the program(s), based on the program review criteria established at the campus:

Retain program

Rationale or justification for the decision based on the program review process established at the campus. Include graduation numbers and student majors for each of the last seven (7) years for every program under review.

The Masters of Interdisciplinary Studies (MIDS) serves an important role on a small STEM-focused campus, in that it allows for students that do not fall into our current graduate offerings a pathway to a graduate degree. The MIDS program requires students to carefully define their graduate committee and chart the course for their degree, both formulating and seeking approval from a committee prior to submission.

As an example, the new MIDS student admitted in Fall 2023 will be advised by faculty in Biology, Computer Science, and Writing, with a thesis project *Utilizing Large Language Models for Designing, Creating, and Gamifying Study Application*. His undergraduate degree in kinesiology would not likely have qualified him for other graduate programs at Tech. His undergraduate GPA was 3.338, he plays football, and has plans to attend medical school after his MIDS degree.

We investigated whether the interdisciplinarity of the degree impacted graduation rates and/or time to degree. The answer is no: Considering students enrolled since AY2017, MIDS has a higher graduation rate than the average of graduate degrees, and higher than other on-campus MS programs.

MIDS provides a pathway for faculty in certain programs to participate in graduate advising. Of the 7 faculty advising MIDS students since in MIDS since 202070, 2 of these faculty have advised students only in MIDS (Okrush, Graff).

	Interdisciplinary Studies (MS)	
	Fall Enrollment	Number of Degrees
2016-2017	10	3
2017-2018	8	5
2018-2019	5	1
2019-2020	6	2

2020-2021	4	2
2021-2022	3	1
2022-2023	2	

Institution: **Montana Technological University**

Program Years: **2022-2023**

List of the programs reviewed:

Biology (BAS)

Decision(s) concerning the future of the program(s), based on the program review criteria established at the campus:

The program should continue.

Rationale or justification for the decision based on the program review process established at the campus. Include graduation numbers and student majors for each of the last seven (7) years for every program under review.

The B.A.S. in Biology is a long-standing option for Montana Tech students. While the number of students historically has been low, the curriculum is aligned with the B.S. degree and does not require additional faculty or other college or university resources. Retaining the B.A.S. provides our A.A.S.-earning students an additional pathway to a baccalaureate degree should they choose to continue their studies.

	Biology (BAS)	
	Fall Enrollment	Number of Degrees
2016-2017		
2017-2018		
2018-2019		
2019-2020		
2020-2021		
2021-2022	1	
2022-2023	2	1

Montana University System

PROGRAM REVIEW

Institution: **Montana Technological University**

Program Years: **2022-2023**

List of the programs reviewed:

Biological Sciences (BS)

Decision(s) concerning the future of the program(s), based on the program review criteria established at the campus:

The program should continue.

Rationale or justification for the decision based on the program review process established at the campus. Include graduation numbers and student majors for each of the last seven (7) years for every program under review.

Biological Sciences is one of the higher enrollment programs on the Montana Tech campus. Students are offered options in organismal biology, or in cellular and molecular biology. Many of the students pursuing B.S. degrees in Biological Sciences are those intending to pursue advanced training in the health professions including medical school, dental school, pharmacy school etc. Others intend to further their education into biological research. Additionally, the Biological Sciences department provides foundational curriculum support for other majors on campus including but not limited to nursing, environmental engineering, restoration ecology, and occupational health and safety majors.

	Biological Sciences (BS)	
	Fall Enrollment	Number of Degrees
2016-2017	55	8
2017-2018	59	4
2018-2019	74	13
2019-2020	71	8
2020-2021	86	13
2021-2022	100	15
2022-2023	92	11

Montana University System

PROGRAM REVIEW

Institution: **Montana Technological University**

Program Years: **2022-2023**

List of the programs reviewed:

Associate of Science (AS)

Decision(s) concerning the future of the program(s), based on the program review criteria established at the campus:

Retain the Associate of Science Program

Rationale or justification for the decision based on the program review process established at the campus. Include graduation numbers and student majors for each of the last seven (7) years for every program under review.

	Associate of Science (AS)	
	Fall Enrollment	Number of Degrees
2016-2017	211	15
2017-2018	212	8
2018-2019	191	8
2019-2020	136	2
2020-2021	121	11
2021-2022	75	4
2022-2023	57	9

Changes to test score optional triggered a decrease in the number of students enrolled in the AS program. The low number of graduates does not clearly reflect retention due to the ability of AS students to transition to a four-year degree program at the main Montana Tech campus without having to complete the two-year degree and graduate unlike the AAS programs.