Montana University System

PROGRAM REVIEW

Institution/Department: **Montana Technological University / Lance College of Mines and Engineering**

Years Under Review: **AY2019-AY2026**

List of programs reviewed and decision(s) concerning the future of the program(s), based on the program review criteria established at the campus: Choose from Continue, Continue with Modifications, Discontinue

PROGRAM	DECISION
Electrical Engineering (BS)	Continue

1. **Provide a rationale or justification for the decision based on the program review process established at the campus. Identify any program modifications that may result from this process.**

   The BS in Electrical Engineering is an excellent program at Montana Tech and fits well within Montana Tech's designation as Montana's special-focus STEM university. The program is accredited by the Accreditation Board for Engineering and Technology (ABET), which is the highest accreditation standard avaialbe. The program is strongly connected to industry through employment oppurtunities for graduates, capstone and research oppurtunities sponsored by industry, and guidance on program quality through their industrial advistory board. Faculty are highly qualified and research active. The level of external funding continues to be among the highest at Montana Tech.

2. **Provide a high level overview of the programs' assessment of programmatic learning outcomes.**

   Montana Tech's BS in Electrical Engineering assesses student learning outcomes through a structured, ABET-aligned system that combines course-embedded evaluation, design project performance, and continuous program review. The approach is built around the ABET EAC (Engineering Accreditation Commission) Student Outcomes, which define the specific competencies every graduate must demonstrate.

3. **What is the alignment of these programs with the institution's strategic plan? (i.e. university mission, vision, values, and/or goals)**

   Montana Tech's BS in Electrical Engineering aligns tightly with the university's strategic plan because the program embodies the institution's mission, vision, values, and goals through its curriculum, pedagogy, and professional preparation expectations. At a high level, the program advances

Montana Tech's identity as a special-focus STEM university committed to experiential learning, innovation, and preparing graduates who benefit society.

The BS in Electrical Engineering at Montana Tech advances the university's mission and strategic plan by preparing graduates to support the Infrastructure and Natural Resources lanes of Montana Tech's Four-Lane Highway, reflecting the institution's role as Montana's special-focus STEM university. Through rigorous, hands-on coursework and industry-connected design experiences, the program develops the technical, analytical, and professional skills needed to strengthen critical infrastructure and modern energy systems. In doing so, it embodies Montana Tech's values of student-centered learning, innovation, ethical responsibility, and determined effort while contributing directly to strategic goals in Student Success, Programs of Distinction, and a Healthy and Vibrant Campus Ecosystem.

4. Provide enrollment and degrees awarded for the past 7 years for each program under review.

UNDERGRADUATE ENROLLMENT									
DEGREE	MAJOR	CONCENTRATION	Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2025
BS	Electrical Engineering (Major 1)	NA	66	63	69	70	74	75	71
BS	Electrical Engineering	NA	1	1					
TOTAL UNDERGRADUATE ENROLLMENT:			***67***	***64***	***69***	***70***	***74***	***75***	***71***
GRADUATE ENROLLMENT									
DEGREE	MAJOR	CONCENTRATION	Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2025
TOTAL GRADUATE ENROLLMENT:									
TOTAL ENROLLED:			***67***	***64***	***69***	***70***	***74***	***75***	***71***
MINOR ENROLLMENT									
MINOR			Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2025

TOTAL MINOR ENROLLED:									
AWARDED DEGREES									
DEGREE	MAJOR	CONCENTRATION	AY_19_20	AY_20_21	AY_21_22	AY_22_23	AY_23_24	AY_24_25	AY_25_26
BS	Electrical Engineering	NA	12	15	8	10	12	17	7
TOTAL DEGREES AWARDED:			***12***	***15***	***8***	***10***	***12***	***17***	***7***
AWARDED MINORS									
MINOR			Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2025
TOTAL MINORS AWARDED:									

Montana University System

PROGRAM REVIEW

Institution/Department: **Montana Technological University/Highlands College**

Years Under Review: **AY2019-AY2026**

List of programs reviewed and decision(s) concerning the future of the program(s), based on the program review criteria established at the campus: Choose from Continue, Continue with Modifications, Discontinue

PROGRAM	DECISION
General Studies (CAS)	Continue

1. **Provide a rationale or justification for the decision based on the program review process established at the campus. Identify any program modifications that may result from this process.**

   The Certificate of General Studies serves to fulfill the requirements of the MUS Core recognizing that students may want to complete their general education courses at Highlands College before transferring to Montana Tech or another institution within the MUS. It serves as a stackable credential that is no additional cost to the University or Highlands College and may also be important to high school students as many of these courses can be taken as Dual Enrollment courses. At this time, no modifications are necessary.

2. **Provide a high level overview of the programs' assessment of programmatic learning outcomes.**
   As this program contains all courses that are in the General Education area, assessment is done through the general education program which has its own general education committee and oversees the assessment of these courses.

3. **What is the alignment of these programs with the institution's strategic plan? (i.e. university mission, vision, values, and/or goals)**

   This program provides access to students to complete the general education core at Highlands College and possibly through dual enrollment at a decreased cost. This is also a stackable option for students who may complete and then return or transfer at a later date. As an institution of higher education our mission is student focused, and this program benefits students in the areas of access and cost savings. As noted below, not many students take advantage of this option, but it is valuable to a student who may need it.

4. Provide enrollment and degrees awarded for the past 7 years for each program under review.

UNDERGRADUATE ENROLLMENT									
DEGREE	MAJOR	CONCENTRATION	Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2025
CAS	General Studies (Major 1)	NA			0	0	0	0	0
CAS	General Studies (Major 2)	NA			0	0	0	0	0
TOTAL UNDERGRADUATE ENROLLMENT:			***0***	***0***	***0***	***0***	***0***	***0***	***0***
GRADUATE ENROLLMENT									
DEGREE	MAJOR	CONCENTRATION	Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2025
TOTAL GRADUATE ENROLLMENT:									
TOTAL ENROLLED:									
MINOR ENROLLMENT									
MINOR			Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2025
TOTAL MINOR ENROLLED:									
AWARDED DEGREES									
DEGREE	MAJOR	CONCENTRATION	AY_19_20	AY_20_21	AY_21_22	AY_22_23	AY_23_24	AY_24_25	AY_25_26
CERT	General Studies	NA	0	0	0	1	0	2	0

TOTAL DEGREES AWARDED:			***0***	***0***	***0***	***1***	***0***	***2***	***0***
AWARDED MINORS									
MINOR			AY_19_20	AY_20_21	AY_21_22	AY_22_23	AY_23_24	AY_24_25	AY_25_26
TOTAL MINORS AWARDED:									

Montana University System

PROGRAM REVIEW

Institution/Department: **Montana Technological University / Lance College of Mines and Engineering**

Years Under Review: **AY2019-AY2026**

List of programs reviewed and decision(s) concerning the future of the program(s), based on the program review criteria established at the campus: Choose from Continue, Continue with Modifications, Discontinue

PROGRAM	DECISION
Project and Engineering Management (M)	Continue

1. **Provide a rationale or justification for the decision based on the program review process established at the campus. Identify any program modifications that may result from this process.**

   The Master of Project and Engineering Management should be continued. The program serves working engineers and other technical professionals seeking to strengthen their project-management, leadership, business, and technical management skills. Its online delivery provides access to graduate education for professionals who are unable to leave employment or relocate, and the program was originally developed in collaboration with industry in response to workforce needs.

   Program demand has strengthened during the review period. Enrollment increased from five students in Fall 2019 to eleven students in Fall 2025, the highest enrollment during the seven-year review period. The program has also produced graduates consistently, with between one and five degrees awarded annually during the period. These trends, together with the program's professional focus and flexible delivery, support continuation of the degree. Continued periodic review of course offerings and industry needs is appropriate, but no major structural modification is recommended.

2. **Provide a high level overview of the programs' assessment of programmatic learning outcomes.**

   Program learning outcomes focus on the ability to apply project-management and engineering-management principles in technical organizations. Students are expected to demonstrate the ability to plan and manage complex projects; integrate technical, financial, organizational, and economic considerations in decision-making; analyze and solve management problems encountered in engineering and scientific organizations; communicate effectively with technical and nontechnical stakeholders; and exercise leadership and professional judgment.

Assessment is embedded throughout the graduate curriculum through advanced course assignments, analyses, project-based work, presentations, and other applied activities. The program culminates in requirements that allow students to demonstrate the integration and application of knowledge developed across the curriculum. Because students enter the program from a variety of engineering and scientific disciplines and frequently bring substantial professional experience, assessment emphasizes common competencies in project and technical management rather than discipline-specific engineering content.

3. What is the alignment of these programs with the institution's strategic plan? (i.e. university mission, vision, values, and/or goals)

The Master of Project and Engineering Management aligns particularly well with Montana Tech's strategic emphasis on Leadership & Workforce Development and also supports the Infrastructure and Natural Resources lanes through the technical industries served by its students. The program develops engineers and scientists into more effective project managers, supervisors, and organizational leaders while allowing working professionals to continue in the workforce during their studies. This directly advances Montana Tech's mission of developing leaders and meeting the changing needs of society and supports the strategic goals of Student Success and Programs of Distinction through accessible, career-focused, industry-responsive graduate education.

4. Provide enrollment and degrees awarded for the past 7 years for each program under review.

UNDERGRADUATE ENROLLMENT									
DEGREE	MAJOR	CONCENTRATION	Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2025
TOTAL UNDERGRADUATE ENROLLMENT:									
GRADUATE ENROLLMENT									
DEGREE	MAJOR	CONCENTRATION	Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2025
M	Project and Engineering Management (Major 1)	NA	5	6	7	5	8	8	11
M	Project and Engineering Management (Major 2)	NA							

TOTAL GRADUATE ENROLLMENT:			***5***	***6***	***7***	***5***	***8***	***8***	***11***
TOTAL ENROLLED:			***5***	***6***	***7***	***5***	***8***	***8***	***11***
MINOR ENROLLMENT									
MINOR			Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2025
NA									
TOTAL MINOR ENROLLED:									
AWARDED DEGREES									
DEGREE	MAJOR	CONCENTRATION	AY_19_20	Year2	Year3	Year4	Year5	Year6	Year7
M	Project and Engineering Management	NA	4	1	3	1	5	4	3
TOTAL DEGREES AWARDED:			***4***	***1***	***3***	***1***	***5***	***4***	***3***
AWARDED MINORS									
MINOR			AY_19_20	AY_20_21	AY_21_22	AY_22_23	AY_23_24	AY_24_25	AY_25_26
TOTAL MINORS AWARDED:									

Montana University System

PROGRAM REVIEW

Institution/Department: **Montana Technological University / College of Letters, Sciences and Professional Studies**

Years Under Review: **AY2019-AY2026**

List of programs reviewed and decision(s) concerning the future of the program(s), based on the program review criteria established at the campus: Choose from Continue, Continue with Modifications, Discontinue

PROGRAM	DECISION
Interdisciplinary Studies (BAS)	Continue

1. **Provide a rationale or justification for the decision based on the program review process established at the campus. Identify any program modifications that may result from this process.**

   As the only Bachelor of Science program in Arts and Sciences in the state of Montana, IAS prepares holistically competent multidisciplinary leaders for post-graduate education, and careers in government, counseling, education, communications, business, public service, and multiple areas within the private sector. Graduates entering these fields draw from the program's core strengths in ethical reasoning, communication, cross-cultural knowledge, human psychology and social interaction, as well as quantitative and scientific literacy, among others.

   IAS represents the Humanities and Social Sciences backbone of the university's general education academic coursework, supporting students' complete learning. IAS faculty guide students desiring more flexibility and control in designing their academic programs to find their unique pathways to success. While the Interdisciplinary Studies degree has limited numbers of graduates, it is built around existing coursework already offered for other degrees and general education support to present minimal marginal cost to the university.

   Because IAS draws its curriculum from, and contributes to broadening the education base of, nearly every discipline on campus, the program itself embodies Montana Tech's "Deliberately Distinct" model. It occupies a primary lane, while veering off into others to car-pool with fellow faculty, staff, and students across all four lanes of the Montana Tech highway of higher education.

2. Provide a high level overview of the programs' assessment of programmatic learning outcomes.

The program's Educational Outcomes are:

1. Graduates will assume employment positions in a multitude of occupational capacities, including but not limited to education, industry, and government.
2. Graduates will demonstrate an advanced aptitude for reasoning and analysis as they relate to complex individual and societal problems.
3. Graduates will be able to articulate ideas and thoughts effectively in written and oral communication.
4. Graduates will demonstrate competencies in Science, Quantitative Reasoning, Social Science, and the Humanities.

Performance metrics are based on internal grade distributions and ETS standardized test results. The results are difficult to interpret due to low number statistics (N=1). The Interdisciplinary Studies Bachelor's degree remains viable despite these low numbers because it is built on coursework already being offered for general education offerings and other degree programs, introducing minimal marginal cost to the university while supporting students needing more flexible plans of study.

3. What is the alignment of these programs with the institution's strategic plan? (i.e. university mission, vision, values, and/or goals)

The Interdisciplinary Arts and Sciences Department (IAS), advances Montana Tech's strategic plan through Leadership & Workforce Development. As the only Bachelor of Science program in Arts and Sciences in the state of Montana, IAS prepares holistically competent multidisciplinary leaders for post-graduate education, and careers in government, counseling, education, communications, business, public service, and multiple areas within the private sector.
IAS contributes to Health & Wellbeing through faculty and student research in medical and behavioral science, and through graduates who pursue careers and further study in psychology, counseling, nursing, med school, and other related health fields. The program's applied community-engaged work, including faculty partnerships in archaeology, cultural preservation, and EPA Superfund research in Butte and the broader SW Montana community, extends into the Natural Resources Lane as well.

4. Provide enrollment and degrees awarded for the past 7 years for each program under review.

UNDERGRADUATE ENROLLMENT									
DEGREE	MAJOR	CONCENTRATION	Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2025
BAS	General Studies (Major 1)	NA	0	0	0	0	1	1	1
BAS	General Studies (Major 2)	NA	0	0	0	0	0	0	0
BAS	Interdisciplinary Studies(Major 1)	NA					0	0	0

BAS	Interdisciplinary Studies(Major 2)	NA					0	0	0
TOTAL UNDERGRADUATE ENROLLMENT:			***0***	***0***	***0***	***0***	***1***	***1***	***1***
GRADUATE ENROLLMENT									
DEGREE	MAJOR	CONCENTRATION	Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2025
TOTAL GRADUATE ENROLLMENT:									
TOTAL ENROLLED:									
MINOR ENROLLMENT									
MINOR			Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2025
NA									
TOTAL MINOR ENROLLED:									
AWARDED DEGREES									
DEGREE	MAJOR	CONCENTRATION	AY_19_20	AY_20_21	AY_21_22	AY_22_23	AY_23_24	AY_24_25	AY_25_26
BAS	General Studies (Major 1)	NA	0	0	0	0	0	0	0
BAS	Interdisciplinary Studies (Major 1)	NA					0	0	0
TOTAL DEGREES AWARDED:			***0***	***0***	***0***	***0***	***0***	***0***	***0***
AWARDED MINORS									
MINOR			AY_19_20	AY_20_21	AY_21_22	AY_22_23	AY_23_24	AY_24_25	AY_25_26
NA									

TOTAL MINORS AWARDED:							

Montana University System

PROGRAM REVIEW

Institution/Department: **Montana Technological University / Lance College of Mines and Engineering**

Years Under Review: **AY2019-AY2026**

List of programs reviewed and decision(s) concerning the future of the program(s), based on the program review criteria established at the campus: Choose from Continue, Continue with Modifications, Discontinue

PROGRAM	DECISION
Earth Science and Engineering (PhD)	Continue

1. **Provide a rationale or justification for the decision based on the program review process established at the campus. Identify any program modifications that may result from this process.**

   The Ph.D. in Earth Science and Engineering should be continued. The program builds upon Montana Tech's long-standing strengths in earth sciences, engineering, mining, energy, environmental research, and natural resources and leverages expertise across academic departments and the Montana Bureau of Mines and Geology. Its interdisciplinary structure allows doctoral students to address complex problems that increasingly require integration of scientific and engineering approaches.

   The program has demonstrated substantial growth during the review period. Enrollment increased during the early years of the program and reached thirteen students in each of the three most recent fall semesters reported. The program has also progressed into sustained degree production, awarding one Ph.D. in AY2023-24 and three degrees in each of AY2024-25 and AY2025-26. These trends indicate that the program has moved successfully from establishment into a productive and sustainable phase. Continued refinement of research emphasis areas is expected as faculty expertise, external research opportunities, and societal needs evolve, but no major structural modification is recommended.

2. **Provide a high level overview of the programs' assessment of programmatic learning outcomes.**

   The Earth Science and Engineering Ph.D. is an interdisciplinary research degree, and individual programs of study vary significantly according to each student's research field. Accordingly, program learning outcomes are assessed through common doctoral-level expectations rather than through an identical curriculum for every student. Graduates are expected to demonstrate mastery of advanced knowledge within their area of specialization, integrate concepts from earth science and engineering, formulate significant research questions, apply appropriate scientific, quantitative, computational, experimental, or engineering methods. critically evaluate and synthesize information, conduct

independent original research, and communicate the significance and results of that research effectively.

These outcomes are assessed progressively through advanced coursework, faculty and graduate-committee review, development and execution of the doctoral research program, the dissertation, and the final oral defense. The student's graduate committee provides discipline-specific assessment appropriate to the research area while the dissertation and defense provide a common culminating demonstration of independent scholarship, critical analysis, problem solving, and professional communication.

3. What is the alignment of these programs with the institution's strategic plan? (i.e. university mission, vision, values, and/or goals)

The Earth Science and Engineering Ph.D. is closely aligned with Montana Tech's special-focus STEM mission and particularly with the Natural Resources lane of the University's strategic plan. The program prepares advanced scientists and engineers to address issues related to mineral and energy resources, geological systems, environmental protection, water, land and resource management, and related societal needs. Its emphasis on interdisciplinary research, faculty mentorship, externally relevant scholarship, and development of highly trained STEM professionals advances the strategic goals of Student Success and Programs of Distinction. The program also strengthens Montana Tech's research enterprise and its capacity to address complex challenges important to Montana and the nation.

4. Provide enrollment and degrees awarded for the past 7 years for each program under review.

UNDERGRADUATE ENROLLMENT									
DEGREE	MAJOR	CONCENTRATION	Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2025
TOTAL UNDERGRADUATE ENROLLMENT:									
GRADUATE ENROLLMENT									
DEGREE	MAJOR	CONCENTRATION	Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2025
PHD	Earth Sciences & Engineering (Major 1)	NA		5	7	10	13	13	13
PHD	Earth Sciences & Engineering (Major 2)	NA							
TOTAL GRADUATE ENROLLMENT:									

TOTAL ENROLLED:								
MINOR ENROLLMENT								
MINOR			Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2025
TOTAL MINOR ENROLLED:									
AWARDED DEGREES									
DEGREE	MAJOR	CONCENTRATION	AY_19_20	AY_20_21	AY_21_22	AY_22_23	AY_23_24	AY_24_25	AY_25_26
PHD	Earth Sciences & Engineering	NA					1	3	3
TOTAL DEGREES AWARDED:			***0***	***0***	***0***	***0***	***1***	***3***	***3***
AWARDED MINORS									
MINOR			AY_19_20	AY_20_21	AY_21_22	AY_22_23	AY_23_24	AY_24_25	AY_25_26
TOTAL MINORS AWARDED:									

Montana University System

PROGRAM REVIEW

Institution/Department: **Montana Technological University / Lance College of Mines and Engineering**

Years Under Review: **AY2019-AY2026**

List of programs reviewed and decision(s) concerning the future of the program(s), based on the program review criteria established at the campus: Choose from Continue, Continue with Modifications, Discontinue

PROGRAM	DECISION
Electrical Engineering (MS)	Continue

1. **Provide a rationale or justification for the decision based on the program review process established at the campus. Identify any program modifications that may result from this process.**

   The M.S. in Electrical Engineering should be continued. The program supports Montana Tech's historic and current strengths in engineering, energy, instrumentation, controls, and electrical power systems and provides students with opportunities for advanced study and applied research. Electrical Engineering faculty maintain active research programs supported by industry and government partners, providing graduate students opportunities to address complex, real-world engineering problems.

   Enrollment has remained relatively stable over the review period despite the small size typical of a specialized research-oriented graduate program. Fall enrollment ranged from three to seven students of the period in review. The program has also continued to produce graduates throughout the review period. No significant program modification is recommended at this time. The program should continue to evaluate curriculum and research emphasis as technologies and workforce needs evolve.

2. **Provide a high level overview of the programs' assessment of programmatic learning outcomes.**

   Graduate learning outcomes in Electrical Engineering are assessed through advanced coursework and, depending on the student's selected graduate pathway, research and other culminating graduate requirements. At the program level, students are expected to demonstrate advanced knowledge of electrical engineering; apply engineering, scientific, mathematical, and quantitative methods to complex problems; critically evaluate technical information; communicate technical results effectively; and demonstrate the ability to work independently at a level appropriate for graduate professional practice or further study.

Because individual programs of study vary according to a student's technical emphasis and research interests, these outcomes are assessed within the student's approved graduate curriculum and through faculty evaluation of advanced coursework and culminating work. For research-oriented students, the thesis or other graduate product provides an integrated assessment of the student's ability to define a problem, apply appropriate analytical or experimental methods, interpret results, and communicate findings. This approach allows disciplinary depth and individualization while maintaining common expectations for graduate-level analytical ability, problem solving, communication, and professional competence.

3. What is the alignment of these programs with the institution's strategic plan? (i.e. university mission, vision, values, and/or goals)

The M.S. in Electrical Engineering is strongly aligned with Montana Tech's mission to develop leaders and advance science, engineering, and technology to meet the changing needs of society. The program contributes particularly to the University's strategic emphasis on Infrastructure, while also supporting work related to energy and natural resources. Its integration of advanced education, faculty-mentored research, industry engagement, and applied problem solving directly supports the strategic goals of Student Success and Programs of Distinction. Graduate students gain advanced technical expertise while participating in research and professional activities that address practical needs in electrical power, energy, controls, instrumentation, and related technologies.

4. Provide enrollment and degrees awarded for the past 7 years for each program under review.

UNDERGRADUATE ENROLLMENT									
DEGREE	MAJOR	CONCENTRATION	Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2025
TOTAL UNDERGRADUATE ENROLLMENT:									
GRADUATE ENROLLMENT									
DEGREE	MAJOR	CONCENTRATION	Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2025
MS	Electrical Engineering (Major 1)	NA	7	5	5	3	3	4	6
MS	Electrical Engineering (Major 2)	NA							

TOTAL GRADUATE ENROLLMENT:			***7***	***5***	***5***	***3***	***3***	***4***	***6***
TOTAL ENROLLED:			***7***	***5***	***5***	***3***	***3***	***4***	***6***
MINOR ENROLLMENT									
MINOR			Year1	Year2	Year3	Year4	Year5	Year6	Year7
TOTAL MINOR ENROLLED:									
AWARDED DEGREES									
DEGREE	MAJOR	CONCENTRATION	AY_19_20	AY_20_21	AY_21_22	AY_22_23	AY_23_24	AY_24_25	AY_25_26
MS	Electrical Engineering	NA	2	2	1	3	0	1	2
TOTAL DEGREES AWARDED:			***2***	***2***	***1***	***3***	***0***	***1***	***2***
AWARDED MINORS									
MINOR			AY_19_20	AY_20_21	AY_21_22	AY_22_23	AY_23_24	AY_24_25	AY_25_26
TOTAL MINORS AWARDED:									

Montana University System

PROGRAM REVIEW

Institution/Department: **Montana Technological University / Lance College of Mines and Engineering**

Years Under Review: **AY2019-AY2026**

List of programs reviewed and decision(s) concerning the future of the program(s), based on the program review criteria established at the campus: Choose from Continue, Continue with Modifications, Discontinue

PROGRAM	DECISION
Engineering (M)	Continue

1. **Provide a rationale or justification for the decision based on the program review process established at the campus. Identify any program modifications that may result from this process.**

   The Master of Engineering should be continued. The program provides a flexible, professionally oriented graduate pathway for practicing engineers and recent engineering graduates seeking advanced technical knowledge without pursuing a research-focused degree. Its structure allows students to specialize in an engineering discipline while completing a common graduate core that strengthens project management, economic decision-making, and professional practice.

   The program's interdisciplinary structure allows Montana Tech to serve students across its engineering disciplines efficiently while drawing upon existing graduate faculty and coursework. Enrollment has increased during the review period, from three students in Fall 2021 to seven students in Fall 2025, while degrees have been awarded consistently across multiple engineering areas. The program should continue in its current interdisciplinary format, with periodic review of specialization offerings and coursework to ensure continued alignment with student demand, professional practice, and workforce needs.

2. **Provide a high level overview of the programs' assessment of programmatic learning outcomes.**

   Because the Master of Engineering spans multiple engineering disciplines, learning outcomes are intentionally stated at a level appropriate to the degree as a whole, while discipline-specific outcomes are addressed through each student's selected specialization. Across the program, students are expected to demonstrate advanced engineering knowledge; apply quantitative and analytical methods to complex engineering problems; integrate technical, economic, and project-management considerations in engineering decision-making; communicate technical information effectively; and exercise professional judgment appropriate to advanced engineering practice.

Assessment occurs through successful completion of an approved graduate program of advanced coursework and the required culminating exit examination. Discipline-specific coursework is reviewed and approved within the academic unit responsible for the student's specialization, allowing the program to assess both common graduate-level competencies and the specialized technical knowledge appropriate to the student's engineering field. This distributed assessment model is appropriate for a program intentionally designed to serve multiple engineering disciplines rather than a single uniform curriculum.

3. What is the alignment of these programs with the institution's strategic plan? (i.e. university mission, vision, values, and/or goals)

The Master of Engineering aligns directly with Montana Tech's purpose of preparing the next generation of STEM leaders and with the University's emphasis on Infrastructure, Natural Resources, and Leadership & Workforce Development. The degree provides advanced technical education for practicing and emerging engineers while integrating project management, entrepreneurship, economic feasibility, and professional decision-making. It therefore supports the strategic goals of Student Success through career-relevant graduate education and Programs of Distinction through advanced, applied, industry-responsive engineering education. The program also strengthens Montana Tech's ability to respond efficiently to changing engineering and workforce needs across multiple technical sectors.

4. Provide enrollment and degrees awarded for the past 7 years for each program under review.

UNDERGRADUATE ENROLLMENT									
DEGREE	MAJOR	CONCENTRATION	Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2025
TOTAL UNDERGRADUATE ENROLLMENT:									
GRADUATE ENROLLMENT									
DEGREE	MAJOR	CONCENTRATION	Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2025
M	Engineering (Major 1)	NA				2		3	1
M	Engineering (Major 1)	Civil Engineering							

M	Engineering (Major 1)	Electrical Engineering							1
M	Engineering (Major 1)	Environmental Engineering							
M	Engineering (Major 1)	Geological Engineering		1					
M	Engineering (Major 1)	Hydrogeological Engineering		2	2		1	2	
M	Engineering (Major 1)	Mechanical Engineering					2		
M	Engineering (Major 1)	Mining Engineering					1		
M	Engineering (Major 2)	No Option							
M	Engineering	Civil Engineering				1			
M	Engineering	Electrical Engineering			1				1
TOTAL GRADUATE ENROLLMENT:			***0***	***0***	***3***	***2***	***2***	***4***	***7***
TOTAL ENROLLED:			***0***	***0***	***3***	***2***	***2***	***4***	***7***
MINOR ENROLLMENT									
MINOR			Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2025
TOTAL MINOR ENROLLED:									
AWARDED DEGREES									
DEGREE	MAJOR	CONCENTRATION	AY_19_20	AY_20_21	AY_21_22	AY_22_23	AY_23_24	AY_24_25	AY_25_26
M	Engineering	No Option	1						
M	Engineering	Civil Engineering				1			

M	Engineering	Electrical Engineering			1				1
M	Engineering	Environmental Engineering				1			
M	Engineering	Geological Engineering		2					
M	Engineering	Geotechnical						2	
M	Engineering	Hydrogeological Engineering		1	3	1		2	
M	Engineering	Mechanical Engineering							
M	Engineering	Mining Engineering			1		2		2
M	Engineering (Major 2)	No Option							
M	Engineering	Civil Engineering				1			
M	Engineering	Electrical Engineering			1				1
TOTAL DEGREES AWARDED:			***1***	***3***	***5***	***3***	***2***	***4***	***4***
AWARDED MINORS									
MINOR			AY_19_20	AY_20_21	AY_21_22	AY_22_23	AY_23_24	AY_24_25	AY_25_26
NA									
TOTAL MINORS AWARDED:									

Montana University System

PROGRAM REVIEW

Institution/Department: **Montana Technological University / College of Letters, Sciences and Professional Studies**

Years Under Review: **AY2019-AY2026**

List of programs reviewed and decision(s) concerning the future of the program(s), based on the program review criteria established at the campus: Choose from Continue, Continue with Modifications, Discontinue

PROGRAM	DECISION
Mathematical Sciences (BS)	Continue

1. **Provide a rationale or justification for the decision based on the program review process established at the campus. Identify any program modifications that may result from this process.**

   As the "M" in STEM, Mathematics is foundational to Montana's only STEM Special Focus University. The mathematical sciences department at Montana Tech prepares students for in-demand, high-paying careers. Mathematics is not only one of the most in-demand area of education, but a degree in mathematical sciences also gives students options for compelling career or graduate opportunities including the federal government or in private science and engineering research companies. Mathematics graduates may find themselves working on medical research teams, with engineers, research firms, scientists, or other professionals.

   The continuing rise in computer automation requires professionals with training in mathematics and data analysis, and students emerge from our campus fully prepared to excel in these fields. Offering a major, minor and teaching certificate, Montana Tech prepares students for graduate school or careers in the private sector, medicine, law, education or government.

   Nearly all math courses offered at Montana Tech are requirements for one or more other majors such as engineering. The BS in Mathematical Sciences represents minimal marginal cost compared to the existing needs of other programs for both its lower and upper division offerings; only the capstone course and a few intermittently offered electives are unique to the Math BS.

2. **Provide a high level overview of the programs' assessment of programmatic learning outcomes.**

The current set of Student Outcomes is out of date and are not closely aligned with the required courses for mathematics majors. To address this issue, our department has drafted a new set of Student Outcomes that we will submit to be included beginning in next year's catalog. The current Student Outcomes for the B.S. Mathematics program are:

1. Graduates will be prepared to assume positions as mathematicians in education, industry, or government upon graduation.
2. Graduates will be able to select appropriate mathematical methods to solve quantitative problems.
3. Graduates entering industry will be able to recognize the need for quantitative information and apply it to problem solving and data analysis in real world situations.
4. Graduates entering graduate programs in mathematics and statistics will be well trained in the fundamentals and theory of modern mathematics.

Two of our Outcomes (1 and 4) are too broad to be closely aligned with our courses, which also makes them difficult to assess. These two Outcomes are assessed by job placement rate (Outcome 1) and graduate program acceptance rate (Outcome 4), but these metrics do not measure the level of preparedness. Three of our current assessment metrics are indirect measures that are unrelated to coursework. Only Outcome 3 is associated with coursework, but it is based only on completion of a project without assessing the quality of work. We are currently assessing Outcome 3 with the target of all of our students completing a research project, but the wording of Outcome 3 applies only to graduates entering industry. Furthermore, some students choose to complete a research project in theoretical math that may not explore real-world applications.

1. Apply mathematical concepts to solve problems
2. Construct correct and complete mathematical arguments
3. Analyze and interpret data in real-world contexts
4. Independently study and communicate mathematical topics

3. What is the alignment of these programs with the institution's strategic plan? (i.e. university mission, vision, values, and/or goals)

The Mathematical Sciences program contributes directly to two of these areas: Infrastructure and Leadership & Workforce Development.

Infrastructure: The Mathematics degree provides skills in problem-solving, including applications of mathematics to science and engineering, and in data analysis, all of which are necessary for infrastructure development and maintenance.

Leadership & Workforce Development: The Mathematics degree provides skills in analytical thinking, problem-solving, logic, and data analysis that are essential in the workforce and for successful leadership. Mathematics majors learn persistence in working through complex problems by using logic and decision-making.

4. Provide enrollment and degrees awarded for the past 7 years for each program under review.

UNDERGRADUATE ENROLLMENT									
DEGREE	MAJOR	CONCENTRATION	Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2025

BS	Mathematical Sciences (Major 1)	NA	11	6	4	10	10	9	7
BS	Mathematical Sciences (Major 1)	MAPP	2	1	2	3	3	1	
BS	Mathematical Sciences (Major 1)	MAMA							1
BS	Mathematical Sciences (Major 1)	MAST	1	1	4	3	1	3	2
BS	Mathematical Sciences (Major 2)	NA	4	3	3	2		1	
BS	Mathematical Sciences (Major 2)	MAPP					1		
BS	Mathematical Sciences (Major 2)	MAMA							1
BS	Mathematical Sciences (Major 2)	MAST		1	2	1			
TOTAL UNDERGRADUATE ENROLLMENT:			***18***	***12***	***15***	***19***	***15***	***14***	***11***
GRADUATE ENROLLMENT									
DEGREE	MAJOR	CONCENTRATION	Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2025
TOTAL GRADUATE ENROLLMENT:									
TOTAL ENROLLED:			***18***	***12***	***15***	***19***	***15***	***14***	***11***
MINOR ENROLLMENT									
MINOR			Fall 2019	Fall 2020	Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2025
Mathematics									
Statistics									
TOTAL MINOR ENROLLED:			***0***	***0***	***0***	***0***	***0***	***0***	***0***
AWARDED DEGREES									
DEGREE	MAJOR	CONCENTRATION	AY_19_20	AY_20_21	AY_21_22	AY_22_23	AY_23_24	AY_24_25	AY_25_26

BS	Mathematical Sciences	No Option		1	2	4			
BS	Mathematical Sciences	MAPP	3	1			2		1
BS	Mathematical Sciences	MAMA						1	1
BS	Mathematical Sciences	MAST			1	3		1	1
TOTAL DEGREES AWARDED:			***3***	***2***	***3***	***7***	***2***	***2***	***3***
AWARDED MINORS									
MINOR			AY_19_20	AY_20_21	AY_21_22	AY_22_23	AY_23_24	AY_24_25	AY_25_26
Mathematics			42	41	42	38	42	34	32
Statistics			10	7	6	8	7	3	5
TOTAL MINORS AWARDED:			***52***	***48***	***48***	***46***	***49***	***37***	***37***