South Dakota Board of
Technical Education

March 26, 2026

Mitchell Technical College
1800 E Spruce St
Mitchell, SD 57301

RE: Academic Affairs – Approval of Non-Substantive Program Application(s)

To whom it may concern:

After review, the Executive Director of the South Dakota Board of Technical Education (SDBOTE) has approved the following application(s):

Diploma
Machining & Manufacturing

Diploma
Medical Office Professional

Diploma
Wi-Fi & Broadband Technologies

Per Board Policy 303.3, the receipt of this letter completes the SDBOTE's approval process, and the technical college may proceed with program implementation.

The SDBOTE's approval is valid for three years upon the date of this letter. If a technical college does not implement an approved program within three years, approval is terminated.

A technical college must update the program's profile in the SDBOTE's Academic Program Database by June 30 prior to the year in which students are first enrolled or at least 30 days prior to enrolling students, whichever is first.

Sincerely,

Scott DesLauriers

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PROGRAM DESCRIPTION

Institution	Mitchell Technical College
Program Identifier Code (If applicable)	
Program Title	Machining & Manufacturing Diploma
Program Award Level:	☐ Short-Term Certificate ☐ Long-Term Certificate ☒ Diploma ☐ Associate of Applied Science ☐ Associate of Applied Science Option
CIP Code (6 Digit)	48.0501
Projected Implementation Date	8/24/2026
Approved Parent Program Title (If applicable)	Machining & Manufacturing A.A.S.
Approved Parent Program Identifier Code (If applicable)	M72023
Location	☒ Main Campus ☐ Other:

SUMMARY

Type of Non-Substantive Change	☒ Program created using subset of existing courses (B.1.1) ☐ Creation of associate of applied science option (B.1.2) ☐ Consolidation of existing programs (B.1.3) ☐ Program award level change (B.1.4) ☐ Other:

Describe the change the institution is seeking approval of.

Mitchell Technical College (MTC) currently offers a two-year Associate of Applied Science (AAS) degree in Machining & Manufacturing. Historically, the first year of this program has been heavily weighted with welding coursework. While welding is a valuable complementary skill, recent industry advisory meetings have indicated that students seeking direct entry into machining and manufacturing roles do not require the extensive level of welding training currently mandated in the first year of the AAS track.

MTC is seeking approval to add a one-year (two-semester) diploma option. This new pathway streamlines the curriculum by removing non-essential welding coursework, allowing students to focus immediately and exclusively on core Machining & Manufacturing competencies

Key benefits of this structural change include:

- Industry Alignment – Directly responds to employer feedback by prioritizing machine-specific skills for faster workforce entry.
- Targeted Upskilling – Provides a high-value credential for non-traditional students who do not require a two-year degree but need specialized technical skills.
- Stackable Design – The diploma serves as a direct subset of the AAS. Graduates entering the workforce with a diploma can seamlessly return to MTC at any time to complete the remaining credits (including the welding components) to earn their full AAS degree.
- System Goals – This streamlined pathway supports the BOTE 2030 attainment goal by providing an additional 3,000 credentials while more efficiently meeting the immediate needs of the South Dakota manufacturing sector.

CRITERION 2: DEMAND

The program leads to meaningful employment, adequate student enrollment, and/or fulfills needs not being met by existing education and training providers.

2.1. The program leads to high-wage occupations that have an average/mean wage greater than the median wage across all occupations.
2.2. The program leads to high-demand occupations that have project annual openings (a measure of demand for workers) greater than the average across all occupations or is shown as an economic and/or labor market emerging field for the state of South Dakota and its regions.
2.3. The program's student enrollment is adequate to justify program existence.
2.4. The program fulfills a demand not being met by existing education and training providers in the region and/or state.

2.1. Describe the wage projections for occupations associated with the proposed program by completing Appendix 2.A.

2.2. Describe the demand projections for occupations associated with the proposed program.

A. Complete Appendix 2.A.

B. If an emerging field for the state of South Dakota, describe the field. Letter(s) of support, detailing demand, should be attached as appendices.

Manufacturing is a high-demand field in South Dakota with projected occupational growth of 7.7% from 2022 to 2032, faster than the national average of 2.8%. Manufacturing jobs are projected to grow 6.2%. Specific to machining and related careers: Machinists (SOC 51-4041), including manual and robotic applications, are projected to grow 10.0% (from 817 to 899 workers) with 91 annual openings; Computer Numerically Controlled Tool Programmers (SOC 51-9162) for CNC machining 23.5% (from 132 to 163 workers) with 17 annual openings; Industrial Machinery Mechanics (SOC 49-9041), relevant to robotic and automated systems maintenance, 27.2% (from 1,250 to 1,590 workers) with 143 annual openings. Welders, Cutters, Solderers, and Brazers (SOC 51-4121), including laser cutting applications, are included on South Dakota's Top 30 Hot Careers through 2032, with average annual openings of 387 and an average annual wage of $49,280 (2024 data).

2.3. Describe projected student enrollment for the proposed program by completing Appendix 2.B.

The enrollment goal of the Diploma in Machining & Manufacturing would initially be 8 students. The students on the diploma track would be in the same classes as the students on the AAS track. Our current capacity for Machining & Manufacturing is 16 students. For the first two years of the Diploma option, we envision having the students on the diploma track and the AAS track in the same classes. After two years, we hope the popularity of this program will require the diploma students to have their own section of classes.

2.4. Describe how the proposed program fulfills a demand not being met by existing education and training providers in the region and/or state.

A. Identify closely related program(s) that currently exist at other public higher education institutions in the system or state. If none, write "None."

Similar programs exist at Lake Area Technical College, Southeast Technical College, and Western Dakota Technical College. This identifies the closest related programs in the system for transparency but reflects no

exact duplication of MTC's Machining & Manufacturing diploma. In addition, MTC's specific curriculum alignment with local industry partners creates unique regional value.

Western Dakota Technical College offers a Welding & Fabrication diploma and/or AAS (9-month diploma/36-credit program; 18-month AAS/66-credit program), a Precision Machining Technology diploma (11-month diploma/42-credit program) and a Machining and Engineering Technology AAS (18-month AAS/68-credit program).

Lake Area Technical College offers a Precision Machining program AAS (18-month AAS/70-credit program) and a Welding Technology diploma and/or AAS (9-month diploma/34.5-credit program; 18-month AAS/71.5-credit program).

Southeast Technical College offers a Welding diploma (12-month diploma/33-credit program) and a Mechanical Engineering Technology AAS (18-month/66-credit minimum program).

B. If applicable: Describe the ways in which the demand is not currently being met by the aforementioned program(s) and provide justification as to why the program should be approved by addressing the following conditions that warrant duplication (BP 303.2). Select all that apply.

☒ Unmet Demand (C.5.1.1)
☐ Industry Partnership (C.5.1.2)
☒ Increases Student Access (C.5.1.3)
☐ Other:

I. For each condition selected above, provide a brief justification.

Adding the diploma option increases student access by removing the barrier of a two-year commitment for those desiring only machining and manufacturing and needing immediate employment. The local demand for manufacturing labor currently outpaces the supply of AAS graduates; a one-year diploma accelerates the pipeline of qualified workers into the regional industrial economy.

CRITERION 3: DESIGN

The program's learning assessment strategy, program of study, and delivery methods are designed to provide students with the necessary competencies, as demonstrated through program learning outcomes.

3.1. The program is aligned to competencies, as demonstrated through program learning outcomes, that are developed with and continually validated by relevant stakeholders.
3.2. The program has a learning assessment strategy to validate student mastery of the program learning outcomes.
3.3. The program has an integrated program of study designed to develop and reinforce the program learning outcomes.
3.4. The program, when appropriate, includes a work-based learning component that develops and reinforces the program learning outcomes.
3.5. The program, when appropriate, offers flexible delivery methods to increase student access.

3.0. Describe the proposed program's alignment with the program award level requirements established in BP 301.1.

A. Does the program align with the requirements?

☒ Yes
☐ No (Requesting Exemption)

B. If no: Provide a detailed rationale for program exemption. Specify which requirement(s) in BP 301.1 are not met; cite specific policy sections (e.g., B.3.4), when appropriate. If external organizations are involved (accreditation, regulatory, licensure, etc.), reference the organization name(s), specific requirements (including citations), and a justification for why the exemption should be approved.

3.1. Describe the program learning outcomes.

A. Provide a list of program learning outcomes for each proposed award level. Learning outcomes should be specific to the program.

- Perform welding operations using robotic systems and manual machining equipment, adhering to OSHA 10 safety standards.
- Program, install, and operate manufacturing systems, including CNC machining stations and laser cutting technology.
- Execute advanced machining procedures in lab settings to produce precise components within industry tolerances.
- Apply quality and productivity improvement techniques
- Demonstrate effective workplace communications and provide first aid/CPR/AED in manufacturing environments.

B. Describe how the program learning outcomes were developed and validated.

Learning outcomes were developed and validated by MTC faculty and the Welding and Manufacturing Technology Industry Advisory Board. They are derived directly from the existing, successful AAS program.

3.2. Describe the program's learning assessment strategy.

A. Describe how students will demonstrate mastery of the program learning outcomes. Description should be specific to the program's learning assessment plan vs. the institutional assessment plan.

Students will demonstrate mastery through a combination of written exams, hands-on lab performance assessments, and project-based competency evaluations. Assessment data will be tracked to ensure students meet industry standards before graduation.

B. Is the program preparation for a professional licensure and/or certification examination?

☐ Yes (Detail in Appendix 4: Section 3)
☒ No

3.3. Describe the program of study by completing Appendix 3.

3.4. Describe the program's work-based learning component.

A. Does the program have a work-based learning component? If so, select all that apply.

☒ None
☐ Apprenticeship
☐ Internship or Externship
☐ Clinical
☐ Capstone
☐ Other:

B. If none, describe why.

The diploma program does not include a work-based learning component to enable rapid completion within one year, allowing students to enter the job market quickly without the additional time commitment of an internship. Employers would prefer students to begin their career immediately after completing their coursework and not be required to complete a summer internship to graduate.

3.5. Describe the program's delivery methods.

A. Select the program's primary delivery method(s)[1]. Select all that apply.

☒ On Campus
☐ Online
☐ Blended
☐ Apprenticeship
☐ Other:

B. Describe how flexible delivery methods are being leveraged to increase student access.

The program is primarily face-to-face to ensure hands-on competence with equipment. However, general education courses may be available online to increase flexibility for students.

[1] ***In Person****:* 100 percent of courses are available in-person. ***Online:*** 100 percent of courses are available via distance learning. Delivery is only via the Internet. ***Blended****:* Delivery includes a required combination of both in-person and online courses. If a student has the option to take courses online, but is not required to do so, the program is not necessarily considered blended.

CRITERION 4: ALIGNMENT

The program is vertically aligned to an education and training pathway.

4.1. The program is vertically aligned to an education and training pathway, reflecting efficient articulation of:
4.1.1. Non-degree credential/industry certification
4.1.2. Certificate to diploma
4.1.3. Diploma to associate of applied science
4.1.4. Associate of applied science to baccalaureate

4.1. Describe the alignment of the proposed program along an education and training pathway.

A. Complete Appendix 4.

B. Describe the projected alignment between the proposed program and existing academic programs within the technical college system.

The diploma is fully stackable into the existing Machining & Manufacturing AAS degree. Students earning the diploma will have completed an entire year of the AAS and can seamlessly continue their education to earn the associate degree with one additional year of study. This alignment ensures no loss of credit for students choosing to advance their credentials.

C. As applicable: Insert any additional comments here.

Articulation opportunities exist for Machining & Manufacturing AAS to USD Leadership and Management BS program.

SOUTH DAKOTA BOARD OF TECHNICAL EDUCATION
Appendix 2.A: Labor Market Information

Mitchell Technical College
Machining & Manufacturing Diploma

SOUTH DAKOTA

SOC* CODE	SOC* TITLE	AVERAGE ANNUAL OPENINGS	2022 EMPLOYMENT	2032 EMPLOYMENT	NUMERIC CHANGE: 2022-2032	PERCENT CHANGE: 2022-2032	MEDIAN: ANNUAL WAGE (2024)	AVERAGE: ANNUAL WAGE (2024)
00-0000	*Total, All Occupations*	*62,664*	*491,588*	*526,251*	*34,663*	*7.1*	*$36,823*	*$44,961*
51-1011	First-Line Supervisors of Production and Operating	187	1,769	1,927	158	8.93%	$70,950	$72,660
51-4041	Machinists	91	817	899	82	10.04%	$49,830	$50,110
51-4121	Welders, Cutters, Solderers, and Brazers	387	3,412	3,802	390	11.43%	$48,340	$49,280
51-4122	Welding, Soldering, and Brazing Machine Setters,	26	256	262	6	2.34%	$50,920	$51,210

NATIONAL

SOC* CODE	SOC* TITLE	AVERAGE ANNUAL OPENINGS	2024 EMPLOYMENT	2034 EMPLOYMENT	NUMERIC CHANGE: 2024-2034	PERCENT CHANGE: 2024-2034	MEDIAN: ANNUAL WAGE (2023)	AVERAGE: ANNUAL WAGE (2023)
51-1011	First-Line Supervisors of Production and Operating	67,700	698,600	706,900	8,300	1.19%	$65,930	$71,730
51-4041	Machinists	29,500	299,500	299,600	100	0.03%	$50,840	$54,600
51-4121	Welders, Cutters, Solderers, and Brazers	45,600	457,300	467,200	9,900	2.16%	$48,940	$52,640
51-4122	Welding, Soldering, and Brazing Machine Setters,	3,200	38,900	35,400	-3,500	-9.00%	$45,350	$47,120

SOURCE: South Dakota Department of Labor and Regulation, Labor Market Information Center (LMIC) (https://dlr.sd.gov/lmic/)
DATE: 01/15/2026

NOTES: National data taken from O*NET OnLine (www.onetonline.org), 2024-2034 employment projections, and Bureau of Labor Statistics (www.bls.gov/oes/2023/may/oes_nat.htm) wage estimates. Date 1/15/2026.

SOUTH DAKOTA BOARD OF TECHNICAL EDUCATION
Appendix 2.B: Student Demand Projections

Mitchell Technical College
Machining & Manufacturing Diploma

	YEAR 1	YEAR 2	YEAR 3
Student Full-Time Equivalent (FTE)	**8**	**13**	**17**
Headcount: Full-Time	8	12	16
Headcount: Part-Time	0	0	0
Headcount: Total	**8**	**12**	**16**
Total Program or Site Capacity	16	16	16

SOUTH DAKOTA BOARD OF TECHNICAL EDUCATION
Appendix 3: Program of Study

Mitchell Technical College
Machining & Manufacturing Diploma

MONTHS:	9
SEMESTERS:	2
TOTAL CREDITS:	35.5

PREFIX AND NUMBER	TITLE	CREDITS	DESCRIPTION	EXISTING COURSE
I. GENERAL EDUCATION CORE				
ENGL 110	Workplace Communications	3	This course emphasizes written and oral skills needed for success in the workplace. Students will practice professional communications through activities and collaborative projects. Instruction will provide students with strategies for addressing essential writing, speaking, and listening skills.	Y
MATH 103	Mathematical Reasoning	3	This course is designed to develop students' problem-solving skills and quantitative reasoning through topics including: problem-solving processes, logic, percentages, measurement, ratios and proportions, statistics, linear equations, geometry and trigonometry, and personal finance.	Y
SSS 100	Student Success	1	Provides a foundation for gaining the knowledge, skills and attitudes necessary for college success. Students will learn to make a successful transition to higher education by setting up a pattern of success that will last the rest of their lives. Students will define goals and develop thinking skills, learning strategies and personal qualities essential to both academic and career success.	Y
SUBTOTAL OF GENERAL EDUCATION CREDITS:		**7**	**TOTAL NEW COURSES:**	**0**
II. PROGRAM CORE				
WMT 121	Blueprint Reading	1	Interpretation of blueprints, creation of weld maps, applying weld symbols to corresponding parts, study of current manufacturing blueprints, draw fabricated parts in detail with weld symbols, formulate math problems into created drawing and research blueprints with unknowns.	Y
WMT 122	Metallurgy	1	Introduction to metallurgy of carbon steel, aluminum, and stainless steel. Set up and Illustrate proper mechanical requirements for welding steel, aluminum with GMAW/GTAW/ SMAW processes; create electrical diagrams for specific current needed to weld steel/aluminum; acquire proper meanings for welding terminology; exchange of carbon in steel; allotropy of iron atoms; transformation temperatures; treatment of metals with heat; adhere to the ASTM designation system; summarize the classification of carbon steels and aluminum for proper filler metal selection; and illustrate heat affected zone. Acquaint self with acceptable, unacceptable welds through the interpretation of relevant welding codes.	Y
WMT 201	Quality & Productivity Improvement	2	Quality and productivity improvement. Will appeal to everyone concerned with enhancing productivity in the Welding workplace. Reviews management systems for welding supervisors, requirements of welds, welding instruction, and application of welding standards, welding inspection, health, safety, work reports, and records.	Y
WMT 231	Manual Machining Lab	3	Set up and operation of manual machining equipment. Birmingham Mill and Nardini Engine Lathe will be introduced as the machining stations as well as manual operation of CNC equipment. Instructions on, set up, and quality part production will be the key attributes.	Y
WMT 240	Manuf Programming & Installation	3	Introduction to Solidworks CAD software that helps create files that operate most automated manufacturing equipment. Students will draft and model formed parts and create cut files that will simulate a machine cutting a specified material and drawn part. Students will use these files that are drawn in the fourth semester CNC machining lab.	Y

SOUTH DAKOTA BOARD OF TECHNICAL EDUCATION
Appendix 3: Program of Study

Mitchell Technical College
Machining & Manufacturing Diploma

WMT 250	Laser Cutting Technology	3	Introduction to the basic operations of the most up-to-date automated laser cutting system. The learning objectives will be focused on cutting, engraving, and rastering along with recognizing the ultimate advancement in the human machine interface controller. Education will assure complete part make up from drafting to piece part.	Y
WMT 251	CNC Machining Station Lab	3	Introduction to a CNC machining lathe and mill stations. Using proprietary conversational operating systems that make modeling parts and creating part programs nearly effortless. Through an interactive graphical environment - using full-color graphics on liquid crystal displays. Operations such as tool and work offsets using the Renishaw probing system, drilling and tapping, pocket milling, engraving, facing, and boring. Education will assure complete part make up from drafting to piece part.	Y
WMT 255	Machine Tool Programming	3	Students will learn to write, read, and edit code programs for CNC machines. While modern software can generate code, the elite machinist must understand the manual logic to troubleshoot errors on the fly and optimize machine performance. Topics include coordinate systems, tool path geometry, code functions, and program simulation.	N
WMT 260	Advanced Machining	4	Introduction to a CNC Programming on Haas lathe and milling stations. Using proprietary computer aided machining software that makes G coding parts and creating part programs nearly effortless. Through an interactive graphical environment using full-color graphics laptop displays. Operations such as constant Z machining of three dimensional parts, drilling Cann Cycles and rough and finish cut programming to complete finished parts on the CNC milling and lathe stations.	Y
CPR 100	First Aid, CPR AED	0.5	This course trains participants to provide first aid, CPR, and the use of an automated external defibrillator (AED). Students must complete the hands-on skill session.	Y
OSHA 100	OSHA 10 General	1	An overview of OSHA (Occupational Safety and Health Administration) standards focusing on hazard recognition and injury and illness prevention. The 10-hour general program is intended to provide entry-level workers with awareness of hazards in and around the work site. Emphasis is placed on recognition and prevention and helps create a culture of safety. Upon successful completion the student will receive OSHA 10 certification.	Y
SUBTOTAL OF PROGRAM CREDITS:		**24.5**	**TOTAL NEW COURSES:**	**1**

SOUTH DAKOTA BOARD OF TECHNICAL EDUCATION
Appendix 4: Alignment Projection

Mitchell Technical College
Machining & Manufacturing Diploma

TOTAL CREDITS IN PROPOSED PROGRAM:
35.5

I. STACKABLE OPPORTUNITIES

PROGRAM NAME		Credential		Status	If Forthcoming: Projected Timeline	Total Credits in Stackable Program	How many PROPOSED PROGRAM credits are in this stackable program opportunity?
Machining & Manufacturing AAS		Short-term Certificate	x	Existing			
		Long-term Certificate		Forthcoming			
		Diploma					
	x	AAS				64.5	35.5
PROGRAM NAME		Short-term Certificate		Existing	If Forthcoming: Projected Timeline	Total Credits in Stackable Program	How many PROPOSED PROGRAM credits are in this stackable program opportunity?
		Long-term Certificate		Forthcoming			
		Diploma					
		AAS					
PROGRAM NAME		Short-term Certificate		Existing	If Forthcoming: Projected Timeline	Total Credits in Stackable Program	How many PROPOSED PROGRAM credits are in this stackable program opportunity?
		Long-term Certificate		Forthcoming			
		Diploma					
		AAS					
PROGRAM NAME		Short-term Certificate		Existing	If Forthcoming: Projected Timeline	Total Credits in Stackable Program	How many PROPOSED PROGRAM credits are in this stackable program opportunity?
		Long-term Certificate		Forthcoming			
		Diploma					
		AAS					

II. ARTICULATION AGREEMENTS (BACCALAUREATE)

PROGRAM NAME	COLLEGE OR UNIVERSITY		Status	If Forthcoming: Projected Timeline	Total Credits in Bachelor's Degree	How many PROPOSED PROGRAM credits are projected to be accepted in the articulation agreement?
Machining & Manufacturing AAS to baccalaureate programs	Dakota Wesleyan University	x	Existing			
			Forthcoming		varies	maximum 63
PROGRAM NAME	**COLLEGE OR UNIVERSITY**	x	Existing	If Forthcoming: Projected Timeline	Total Credits in Bachelor's Degree	How many PROPOSED PROGRAM credits are projected to be accepted in the articulation agreement?
Machining & Manufacturing AAS to B.S. in Leadership and Management Program	University of South Dakota		Forthcoming		120	60
PROGRAM NAME	**COLLEGE OR UNIVERSITY**		Existing	If Forthcoming: Projected Timeline	Total Credits in Bachelor's Degree	How many PROPOSED PROGRAM credits are projected to be accepted in the articulation agreement?
			Forthcoming			

III. LICENSURE AND CERTIFICATION OPPORTUNITIES

The PROPOSED PROGRAM will qualify students to pursue the following licensure and/or certification opportunities:

LICENSURE/CERTIFICATION	OVERSIGHT ORGANIZATION	Will the licensure/certification require reporting per SDCL 13-1-61?
LICENSURE/CERTIFICATION	**OVERSIGHT ORGANIZATION**	Will the licensure/certification require reporting per SDCL 13-1-61?
LICENSURE/CERTIFICATION	**OVERSIGHT ORGANIZATION**	Will the licensure/certification require reporting per SDCL 13-1-61?