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

Scott DesLauriers
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**PROGRAM DESCRIPTION**

| | |
|---|---|
| Institution | Mitchell Technical College |
| Program Identifier Code (If applicable) | |
| Program Title | Wi-Fi & Broadband Technologies |
| Program Award Level: | ☐ Short-Term Certificate<br>☐ Long-Term Certificate<br>☒ Diploma<br>☐ Associate of Applied Science<br>☐ Associate of Applied Science Option |
| CIP Code (6 Digit) | 15.0305 |
| Projected Implementation Date | 8/24/2026 |
| Approved Parent Program Title (If applicable) | Wi-Fi & Broadband Technologies |
| Approved Parent Program Identifier Code (If applicable) | |
| Location | ☒ Main Campus<br>☐ Other: |

**SUMMARY**

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

Describe the change the institution is seeking approval of.

Mitchell Technical College (MTC) currently offers an Associate of Applied Science degree in Wi-Fi & Broadband Technologies. Students in the program learn skills in broadband installation, maintenance, and related technologies that lend themselves to opportunities in the telecommunications sector. MTC is seeking approval to add a diploma option to increase the target market for this program.

The proposed diploma option will be a direct subset of the existing AAS curriculum. It is designed to prepare students for immediate entry-level employment in the high-demand telecommunications and broadband sectors. This option provides a streamlined pathway for students who wish to enter the workforce sooner or for non-traditional students seeking to upskill without committing to the full two-year degree. Recruitment efforts could be extended by broadening the pool of potential students in the region.

The curriculum is designed to teach essential areas needed to be successful including Wi-Fi, fiber optics, VoIP, networking, and safety practices. The diploma also seamlessly stacks into the AAS degree, allowing graduates to return and complete the full associate degree if desired.

By extending the opportunity to those who desire to enter the broadband field but are not ready for the full AAS, MTC will help meet workforce needs. This additional pathway to success will help in obtaining the 2030 attainment goal of 3,000 additional credentials within the BOTE system.

## 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.

Broadband technology continues to be an emerging field in South Dakota due to recent funding initiatives, including over $72 million secured in 2025 for high-speed internet expansion and Bluepeak's $150 million investment in broadband infrastructure. These efforts, supported by the Broadband Equity, Access, and Deployment (BEAD) program, create increased demand for technicians.

Sources: https://news.sd.gov/news?id=news_kb_article_view&sys_id=7cca1b2847b17a90da219464336d439a

https://mybluepeak.com/bluepeak-expands-investment-in-south-dakota-broadband-infrastructure/

There is a critical and immediate need for skilled broadband technicians in South Dakota and the surrounding region. As broadband networks expand to rural areas and technology evolves (e.g., fiber optics, 5G), industry partners have expressed a strong preference for a credential that produces qualified workers in a shorter timeframe. This diploma option directly addresses that workforce gap by delivering trained technicians in one year.

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

The enrollment goal of the Diploma in Wi-Fi & Broadband Technologies would be 12 students each year. The students on the diploma track would be in the same first-year classes as the students on the AAS track. Our current enrollment cap for the first-year cohort in Wi-Fi & Broadband Technologies is 24 students. We envision having 12 students begin in the diploma track each year and 12 students begin on the AAS track each year. Each academic year we would have 12 students on the diploma track, 12 students in the first year of their AAS degree, and 12 students in the second year of their AAS degree. At the end of each academic year, we would graduate 12 students with their diploma and 12 students with their AAS.

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.”

Lake Area Technical College and Southeast Technical College offer related electronics programs, but MTC’s specific focus on Wi-Fi & Broadband Technologies is unique in its curriculum design.

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 who need immediate employment. The demand for broadband infrastructure professionals currently outpaces the supply of AAS graduates; a one-year diploma helps fill these open positions faster.

## 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.

- Construct, install, and configure data systems to customer specifications while adhering to industry standards and safety practices.
- Apply principles of electrical circuits, GPS/GIS, and introductory broadband technologies to design and troubleshoot connectivity solutions.
- Utilize computer systems and Wi-Fi/wireless technologies for transmitting media through various networks.
- Demonstrate effective workplace communication and customer service skills in technical broadband environments.

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

Learning outcomes were developed and validated by MTC faculty and the program's industry advisory board.

The program learning outcomes were developed with input from industry stakeholders and validated through advisory committee meetings. 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 field-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. In our discussion with industry, they preferred to employ the graduates after two semesters of coursework and not have an internship requirement in the diploma curriculum.

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 Wi-Fi & Broadband Technologies AAS degree. Students earning the diploma will have completed the first year of the AAS and can seamlessly continue their education to earn the associate degree with an internship and 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.

We plan to explore the option of combining the Wi-Fi & Broadband Technologies diploma with the Drone Aviation & Geospatial Technologies diploma for an AAS degree.

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

Mitchell Technical College
Wi-Fi and Broadband Technologies

**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* | *63,435* | *511,117* | *550,566* | *39,449* | *7.72%* | *$45,620* | *$55,480* |
| 17-3023 | Electrical and Electronics Engineering Technologis | 24 | 220 | 235 | 15 | 6.82% | $58,860 | $60,540 |
| 49-2022 | Telecommunications Equipment Installers and Rep | 38 | 326 | 362 | 36 | 11.04% | $59,700 | $62,170 |
| 49-9052 | Telecommunications Line Installers and Repairers | 29 | 279 | 312 | 33 | 11.83% | $56,380 | $54,890 |
| | | | | | | | | |
| | | | | | | | | |

**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) |
|---|---|---|---|---|---|---|---|---|
| 17-3023 | Electrical and Electronics Engineering Technologis | 8,400 | 93,700 | 94,300 | 600 | 1% | $72,800 | $74,440 |
| 49-2022 | Telecommunications Equipment Installers and Rep | 13,200 | 156,900 | 150,400 | -6,500 | -4% | $61,270 | $64,010 |
| 49-9052 | Telecommunications Line Installers and Repairers | 8,900 | 99,900 | 96,800 | -3,100 | -3% | $64,640 | $69,040 |
| | | | | | | | | |
| | | | | | | | | |

**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
Wi-Fi and Broadband Technologies

| | YEAR 1 | YEAR 2 | YEAR 3 |
|---|---|---|---|
| **Student Full-Time Equivalent (FTE)** | **7** | **11** | **14** |
| Headcount: Full-Time | 6 | 9 | 12 |
| Headcount: Part-Time | 0 | 0 | 0 |
| **Headcount: Total** | **6** | **9** | **12** |
| **Total Program or Site Capacity** | 24 | 24 | 24 |

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

Mitchell Technical College
Wi-Fi and Broadband Technologies

| | |
|---|---|
| **MONTHS:** | 9 |
| **SEMESTERS:** | 2 |
| **TOTAL CREDITS:** | 35 |

| PREFIX AND NUMBER | TITLE | CREDITS | DESCRIPTION | EXISTING COURSE |
|---|---|---|---|---|
| **I. GENERAL EDUCATION CORE** | | | | |
| MATH 162 | Digital Math | 3 | A course designed to increase awareness and appreciation for math in digital and electronic applications. Topics covered include: the metric system with applications in engineering notation, algebra to solve electrical formulas, trigonometry in AC circuit analysis, the use of logarithms with the application of intensity, logic, and an introduction to binary notation with number systems including octal and hexadecimal. | 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 |
| 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 |
| CIS 105 | Intro to Computers | 3 | Overview of computer applications with emphasis on email, word processing, spreadsheets, and presentation tools. This course will cover the Microsoft Office Suite: Outlook, Word, Excel, PowerPoint, and Teams as well as features in Widows 11 with an emphasis on file/folder management. | Y |
| **SUBTOTAL OF GENERAL EDUCATION CREDITS:** | | **10** | **TOTAL NEW COURSES:** | **0** |
| **II. PROGRAM CORE** | | | | |
| EC 105 | Data Cabling | 3 | Covers fundamental principles for cable installation and splicing. Topics include cable construction, (Fiber, Copper, Coax) basics of transmission media, color coding, cable closures and splicing of cable. Define copper cable transmission medium. Define fiber optic transmission medium. Define wireless transmission medium | Y |
| EC 112 | Electrical Circuits | 3 | Direct Current (DC) theory and the fundamentals of series and parallel DC circuits. An introduction to the concept of electricity and its behavior with respect to conductors and resistance devices. The study of Alternating Current (AC) circuits begins with the generation of a sine wave and review of trigonometric functions and continues through resonance. | Y |
| WBT 100 | Intro to Broadband | 2 | tudy of the history of broadband technologies. Regulatory milestones will be explained. Students will gain an overview of data network infrastructure, be able to define modulation schemes and describe analog to digital conversion. Students will also be introduced to broadband's physical infrastructure. The components of the outside plant will be introduced. | Y |

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

Mitchell Technical College
Wi-Fi and Broadband Technologies

| | | | | |
|---|---|---|---|---|
| BUS 204 | Customer Service | 3 | Customer service is a critical element in the success and future of all businesses that compete in today's economy. It is more challenging than ever to attract and retain customers because more companies are competing for the same customer. This course is a study of issues in the workplace relating to effective customer service and emphasizes three different aspects of customer service: the profession, skills for success, and building and maintaining relationships. Through role play scenarios, collaborative learning activities, and application of concepts to real-world situations, students are introduced to the issues of ethics, problem solving, strategy implementation, empowerment, communications, motivation and leadership necessary for the delivery of exceptional customer service and customer retention. | Y |
| PAT 102 | Principles of GPS/GIS | 2 | This course introduces students to the fundamental principles of GPS and their application in precision agriculture and Geographic Information System (GIS) applications. It will cover various aspects of GPS technology, including corrections, constellations, and their primary uses in the industry, alongside essential GPS terminology and its relevance to professional practice. After building a solid foundation in GPS technology, the focus will transition to the utilization of GIS operations within the agricultural sector, equipping students with the skills and knowledge to leverage these technologies in enhancing farming efficiency and productivity. | Y |
| WBT 151 | Broadband Lab I | 3 | Hands-on instruction covering hand tools, safety, component identification, color codes, Ohm's law and reading schematic diagrams will be covered. Students will construct basic circuits, predict circuit values, and measure current voltage and resistance. Knowledge in the proper operation of electronic test equipment will be stressed. This lab will supplement the student of Theory and DC/AC classes. | Y |
| WBT 211 | Wi-Fi & Wireless Technologies | 3 | Studies the current state of advanced digital wireless technologies including cellular radio, Wi-Fi, 4G and 5G technologies. Fixed and Mobile Wireless Access (WiFi), WiMAX and WLANs is studied. Students will focus their studies on the wireless Industry and how it pertains to telephony. Provides fundamental concepts from the basis of wireless communications. | Y |
| WBT 249 | Outside Plant | 3 | Installation and repair of outside plant technologies, copper, fiber, coax, able to analyze problems in outside plant systems and make effective repairs. Students will understand Fiber To The Home (FTTH) concepts and terminology, and comprehend terminology and acronyms. The locating of underground cable and fault location, reading staking sheets and telecommunication maps and diagrams will be covered. The required steps in testing OSP will be identified. Students will have an opportunity to discuss residential services and to hone their customer service skills. | Y |
| WBT 260 | Advanced Fiber Optics | 3 | This course will cover fiber optic topics such as theory, cleaning, troubleshooting, OTDR and optical loss budgets. Characteristics of both singlemode and multimode fiber, as well as fiber optic cable construction will be discussed. Students will also learn FTTx network architecture design considerations. Everything from FTTx systems to FTTx components will be covered. | Y |
| **SUBTOTAL OF PROGRAM CREDITS:** | | **25** | **TOTAL NEW COURSES:** | **0** |

**SOUTH DAKOTA BOARD OF TECHNICAL EDUCATION**
**Appendix 4: Alignment Projection**

Mitchell Technical College
Wi-Fi and Broadband Technologies

**TOTAL CREDITS IN PROPOSED I** 35

| **I. STACKABLE OPPORTUNITIES** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **PROGRAM NAME** | | Short-term Certificate | x | Existing | If Forthcoming: Projected Timeline | Total Credits in Stackable Program | How many PROPOSED PROGRAM credits are in this stackable program opportunity? |
| Wi-Fi and Broadband Technologies - AAS | | Long-term Certificate | | Forthcoming | | | |
| | | Diploma | | | | | |
| | x | AAS | | | | 73 | 35 |
| **PROGRAM NAME** | | Short-term Certificate | x | Existing | If Forthcoming: Projected Timeline | Total Credits in Stackable Program | How many PROPOSED PROGRAM credits are in this stackable program opportunity? |
| Technical Studies | | Long-term Certificate | | Forthcoming | | | |
| | | Diploma | | | | | |
| | x | AAS | | | | 60 | 35 |
| **PROGRAM NAME** | | Short-term Certificate | x | Existing | If Forthcoming: Projected Timeline | Total Credits in Stackable Program | How many PROPOSED PROGRAM credits are in this stackable program opportunity? |
| Utilities Technology | | Long-term Certificate | | Forthcoming | | | |
| | | Diploma | | | | | |
| | x | AAS | | | | varies | 35 |
| **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** | x | Existing Forthcoming | If Forthcoming: Projected Timeline | Total Credits in Bachelor's Degree | How many PROPOSED PROGRAM credits are projected to be accepted in the articulation agreement? |
| Wi-Fi and Broadband Technologies - AAS to baccalaureate programs | Dakota Wesleyan University | | | | varies | maximum 63 |
| **PROGRAM NAME** | **COLLEGE OR UNIVERSITY** | x | Existing Forthcoming | If Forthcoming: Projected Timeline | Total Credits in Bachelor's Degree | How many PROPOSED PROGRAM credits are projected to be accepted in the articulation agreement? |
| Wi-Fi and Broadband Technologies - AAS to B.S. in Electronics Engineering Technology | South Dakota State University | | | | 120 | 34 |
| **PROGRAM NAME** | **COLLEGE OR UNIVERSITY** | x | Existing Forthcoming | If Forthcoming: Projected Timeline | Total Credits in Bachelor's Degree | How many PROPOSED PROGRAM credits are projected to be accepted in the articulation agreement? |
| Wi-Fi and Broadband Technologies - AAS to B.S. in Leadership and Management Program | University of South Dakota | | | | 120 | 60 |

| **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? |
| | | |