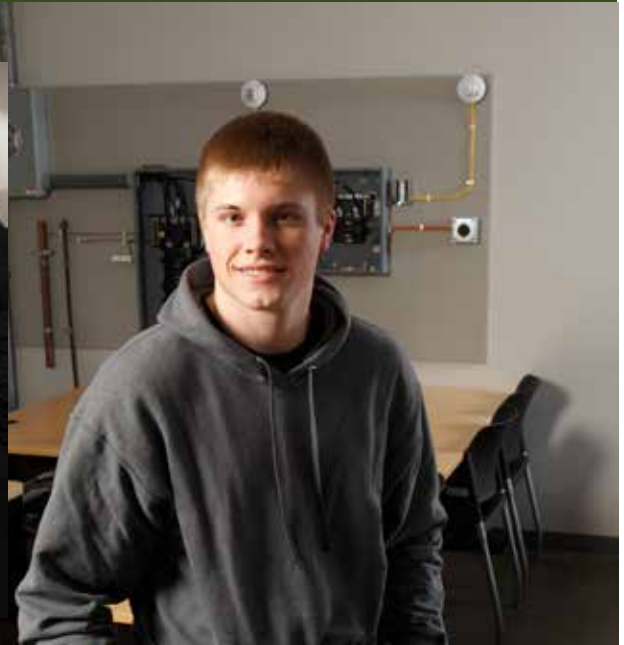


Electrical Construction & Maintenance Registered Apprenticeship Program Expansion Proposal



Presented to the South Dakota
State Board of Education
May 2017
For Implementation
Summer 2018



Mitchell Technical Institute
1800 E. Spruce St. • Mitchell, SD 57301

Mitchell Technical Institute

Program Expansion:	Electrical Construction & Maintenance Registered Apprenticeship Certificate
Length of Program:	Dependent upon number of required apprenticeship hours/credits
Number of Students:	18 initial cohort
Projected Start Date:	Certificate Option Summer 2018
Total Program Credits:	24

Executive Summary:

Mitchell Technical Institute is requesting approval to offer as part of our Advanced Technical Education division, a Registered Apprenticeship training program for academic credit as a certificate program expansion for the existing Electrical Construction and Maintenance program. This certificate program would provide an opportunity for employees, or apprentices to access a training program that would recognize the skills and abilities necessary for success in the electrical industry. Academic credit will be awarded for skills training that occurs outside of the traditional technical institute environment.

According to the American Association of Community Colleges, “Registered Apprenticeship is an ‘earn while you learn’ model that provides on-the-job learning and related classroom instruction focused on certain high-skilled jobs.”¹ The proposed curriculum and utilization of nationally recognized assessments will meet requirements of the Office of Apprenticeship, a division of the US Department of Labor. A comprehensive Standards of Apprenticeship document has been developed jointly by MTI and the US Department of Labor to encompass the mandatory apprenticeship program components.²

This program will allow students to pursue journeyworker status within their electrical career field, framed within a formalized, recognizable structure. Graduates of the program will earn stacked credentials: an initial diploma or Associate of Applied Science degree from MTI; a certificate of completion for each year of apprenticeship training; and a Journeyworker certificate from the US Department of Labor at the conclusion of their apprenticeship experience.

Mitchell Technical Institute is well prepared to offer this Registered Apprenticeship training program after receiving approval in January 2017 that MTI is “registered as part of the national apprenticeship system in accordance with the basic standards of apprenticeship established by the Secretary of Labor”³. MTI has already received SD Board of Education approval for a similar program for Power Line Registered Apprenticeships scheduled to begin in Summer 2017.

Identification and Description of Program:

The Electrical Construction and Maintenance Registered Apprenticeship certificate program will provide an opportunity for students to take both online and on-campus classes and perform skills training under supervision in their selected occupational area. All apprentices will be registered through the federal Office of Apprenticeship, a division of the US Department of Labor. MTI's DOT code is 824.261.010.

Objectives and Purpose of the Program:

The Electrical Construction and Maintenance Registered Apprenticeship certificate program is dedicated to offering students the practical experience, targeted curriculum, and focused training to become a highly skilled practitioner of their chosen occupation. This program will provide detailed attention to all phases of their industry using supervised on-the-job learning, combined with related instruction.

General Program Objectives

According to the US Department of Labor, Registered Apprenticeship training has several program objectives:

- Participants who are newly hired (or already employed) earn wages from employers during training
- Programs must meet national standards for registration with the U.S. Department of Labor (or federally-recognized State Apprenticeship Agencies)
- Programs provide on-the-job learning and job-related technical instruction
- On-the-job learning is conducted in the work setting under the direction of one or more of the employer's personnel
- Training results in an industry-recognized credential.

Advantages

There are several advantages to the operation of a Registered Apprenticeship program by a technical institute. These include the development of a strong symbiotic industry relationship; the immediate identification and familiarity with Apprenticeship as an industry credential; and the public profile that the Apprenticeship would display as a unique offering of the school, the program and the employer.

Methods of Attaining the Objectives of the Program:

Students are recruited into the Electrical Construction and Maintenance Registered Apprenticeship certificate program in two ways: either through matriculation into the Electrical Construction and Maintenance academic program at Mitchell Technical Institute, or by enrolling in the Electrical Construction and Maintenance Registered Apprenticeship certificate program offered through MTI's Department of Advanced Technical Education. (Please note: this program would be open only to students who have completed MTI's Electrical Construction and Maintenance program.) Content would be delivered through a combination of classroom, online and workplace supervised instruction. The MTI Admissions office would may assist in the recruitment of prospective students.

MTI provides assurance that it possesses the resources and staff necessary to:

- Develop marketing materials and recruit students
- Recruit and supervise qualified staff
- Collaborate with business partners to identify students
- Assess the abilities of students for proper program and course placement
- Develop and administer budgets
- Make available instructional resources
- Provide career guidance to students
- Evaluate programs and staff
- Secure input from industry through an advisory committee
- Maintain membership in professional organizations and provide time and fiscal resources for professional development
- Provide services to disabled students
- Provide classrooms and laboratories

Description of Labor Market Demand:

South Dakota's job growth has outpaced the US average for the past 15 years with an average rate of growth at 12.9%. In 2015 specifically, South Dakota ranked 15th nationally for job growth with 2.3% real job growth.

Registered Apprenticeships are typically associated with highly skilled technical occupations. The Electrical Construction and Maintenance program at MTI has historically supported ongoing apprenticeships for our graduates. Students enrolled currently earn 2,000 hours of credit toward the total 8,000 needed for journeywork status.

According to US Census Bureau data, in 2003, 82% of the baby boom generation participated in the workforce. In 2013, that number was at 66% and expected to continue to decrease at an annual rate near 5%. This program will help to increase the number of highly skilled workers who have either already completed a technical program and are seeking additional skills or who are seeking entry into an occupation that is in need of registered journeyworkers across South Dakota and in neighboring states.

Students who complete the Electrical Construction and Maintenance Registered Apprenticeship program will not only see the potential for higher wages, but also increased demand for their skills, education and technical experience.

South Dakota	Employment		Percent Change	Annual Demand
	2014	2024		
Electricians	2,000	2,250	13%	60

Midwest Region	Employment		Percent Change	Annual Demand
	2014	2024		
Electricians	34,550	38,810	12%	970

United States	Employment		Percent Change	Annual Demand
	2014	2024		
Electricians	628,800	714,700	14%	18,180

Source: **National and Midwest Region Data Source:** Bureau of Labor Statistics, Office of Occupational Statistics and Employment Projections. The Midwest Region includes the state of Iowa, Minnesota, Montana, Nebraska, North Dakota, South Dakota, and Wyoming. **State Data Source:** [South Dakota Department of Labor, Labor Market Information Center](#).

Population Served:

MTI does not discriminate in its educational programs on basis of race, color, creed, religion, age, sex, disability, national origin or ancestry. The program will draw traditional students from South Dakota and surrounding states. MTI also anticipates that there may be interest in the program from past ECM graduates already employed as laborers, seeking to increase their skill level to journeyworker. Opportunities for employment will be available in South Dakota, the surrounding states and anywhere that licensed journeyworkers are needed.

Projected Three-Year Budget:

Categories	2016-2017	2017-2018	2018-2019
Salaries/Benefits*	\$15,000	\$25,000	\$28,000
Travel/Training	\$0	\$2,500	\$3,500
Supplies	\$0	\$1,000	\$1,000
Miscellaneous	\$500	\$500	\$1,000
TOTAL	\$17,500	\$29,000	\$36,500

* MTI instructors from related programs will develop the curriculum for this program. Contractual agreements outside of their regular full-time compensation will ensure that the curriculum is developed by highly qualified instructors. Funds from the SD DOLR Registered Apprentice Grant will be used to support the cost of program development and any up-front costs. Curriculum development is scheduled for 2016-2017 and 2017-2018. In 2018-2019, although curriculum development would be completed, there may be travel and training expenses along with a need for a part-time Apprenticeship Coordinator as enrollment grows.

Program Competencies and Entry and Exit Points:

The electrical industry already rewards those who attain their journeyworker status within a defined amount of time in order to make career progress and receive the benefits of a registered journeyworker.

Students will concurrently register as apprentices upon entering the full time Electrical Construction and Maintenance program at MTI. The courses they complete during their first two years of enrollment, along with the field training and lab activities, will allow them to advance to a second-year level apprentice. Students who graduated from the two-year program will already have earned 2,000 of the 8,000 required hours toward attainment of their journeyworker status.

The curriculum is designed to help participants develop the knowledge, skills, and behaviors necessary to be successful upon completion of the program. The program will follow a defined work process schedule as required by the terms of the apprenticeship:

- Preliminary work 600 hours
- Residential and Commercial Rough Wiring 4,000 hours
- Residential and Commercial Finish Work 2,000 hours
- Troubleshooting 1,000 hours
- Motor Installation and Controls 400 hours
- Total 8,000 hours

A student enrolled in the MTI Registered Apprenticeship program must spend a minimum of four years/8,000 hours in supervised training, plus a minimum of 576 required hours of job-related instruction.

Statement of Nonduplication:

At the present time, there are no similar programs offered in an educational setting anywhere in South Dakota. However, private companies use for-profit and internally managed apprenticeship training programs. The unique aspect of an MTI Electrical Construction and Maintenance Registered Apprenticeship certificate program is the value-added component. MTI's program has deep and robust support from the electrical industry. Our graduates are sought after to fill entry-level positions and many types of electrical jobs for a variety of contracting firms and commercial and residential construction companies. With our nearly 50 years of experience training electricians, we are confident that the industry will be eager to support MTI's Electrical Construction and Maintenance Registered Apprenticeship certificate program.

Proposed Curriculum Design:

The curriculum proposed for this program will be delivered in a variety of methods including traditional classroom delivery; lab activities; supervised field work; online materials and assignments; short-term annual workshops on campus during years two, three and four; and supervision at the workplace.

A First Year Apprentice will have successfully completed 69 credits toward an MTI diploma or 75 credits toward an AAS degree and will have graduated from MTI with 2,000 hours of concurrent apprenticeship training.

Second Year Apprentice

Residential Wiring & Code.....	2
Commercial Wiring & Code	2
Internship	4
	8

Third Year Apprentice

Conduit Bending Lab	1
Installation & Service of Electrical Equipment	1
Grounding & Bonding Code.....	2
Internship	4
	8

Fourth Year Apprentice

Service Calculations (Residential & Commercial).....	2
Motor Calculations	1
Estimating.....	1
Internship	4
	8

At the completion of four years/8,000 hours of supervised training, plus a minimum of 576 required hours of job-related instruction, the student will be awarded a Journeyworker certificate from the US Department of Labor and a certificate of completion from Mitchell Technical Institute.

Wage Factor:

Typically, apprentices are paid on a graduated, increasing scale of wages and benefits as their training progresses. The established hourly rate for a journeyworker electrician in North or South Dakota is \$27.47 per hour.⁴

The workday and work week for apprentices is the same as that for journey/craft workers and is subject to the same conditions.

4-Year Term Example:

First Year:	2000 hours complete	44%
Second Year:	3500-5000 hours complete	51%
Third Year:	5000-6500 hours complete	58%
Fourth Year:	6500-8000 hours complete	73%

Source: NECA/IBEW Local 212 (Dakotas). <http://www.electricaltc.org/docs/2016%2D2017%20wage%20schedule%2Epdf>

CIP Code: 46.0302

Title: Electrical Construction and Maintenance Registered Apprenticeship Certificate

Definition: A program that prepares individuals to apply technical knowledge and skills to install, operate, maintain, and repair electric apparatus and systems such as residential, commercial, and industrial electric-power wiring; and DC and AC motors, controls, and electrical distribution panels. Includes instruction in the principles of electronics and electrical systems, wiring, power transmission, safety, industrial and household appliances, job estimation, electrical testing and inspection, and applicable codes and standards.⁵

Sources Cited

¹Dembicki, Matthew. "Fed program aims to bridge college credit for apprenticeships." www.ccdaily.com/Pages/Workforce-Development/Fed-program.aspx. April 7, 2014.

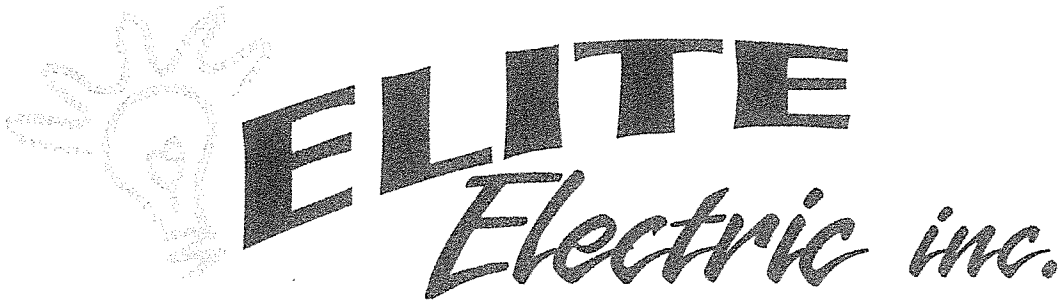
²*Standards of Apprenticeships*. US Department of Labor Office of Apprenticeship, 2014.

³*Standards of Apprenticeship Developed by Mitchell Technical Institute*. US Department of Labor Office of Apprenticeship, 2017.

⁴Apprentice wages are based on a percentage of the prevailing inside (general) journeyman rate (\$27.47 per hour effective 06/06/17) in addition to benefits.
<http://www.electricaltc.org/docs/2016%2D2017%20wage%20schedule%2Epdf>

⁵"Detail for CIP Code 46.0302." Retrieved from
<https://nces.ed.gov/ipeds/cipcode/cipdetail.aspx?y=55&cipid=88606>.

Letters of Support



April 12th, 2017

Mr. Mark Wilson, President
Mitchell Technical Institute
1800 E. Spruce St.
Mitchell, SD 57301

Dear Mr. Wilson:

On behalf of Elite Electric Inc. I would like to provide you with a letter of support for your proposed Electrical Construction & Maintenance Registered Apprenticeship program. Elite Electric Inc. and Mitchell Technical Institute have a long and mutually beneficial relationship and this program is the start of another new venture that will benefit us both.

Qualified electricians with a high degree of skill can be very difficult to find. We expend a great deal of time and effort to recruit, hire and train new employees. A registered apprenticeship program such as this one will allow us to hire graduates with documented hours of training, and who will be working toward journey-worker status while employed.

The new Electrical Registered Apprenticeship program will be of great benefit to our company. We are aware that these programs exist in other states and we look forward to having well-qualified apprentices working for us.

Elite Electric Inc. looks forward to one more way that we can work with MTI to benefit our customers and our service area.

Sincerely,

A handwritten signature in cursive script that reads "Linda Wells".

Linda Wells, President
Elite Electric Inc.



Muth Electric Inc.



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PHONE (605) 996-3983 • FAX (605) 996-2203
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April 10, 2017

Mr. Mark Wilson, President
Mitchell Technical Institute
1800 E Spruce St
Mitchell, SD 57301

Dear President Wilson:

This letter is in support of your proposal for Registered Apprenticeship program to the South Dakota State Board of Education.

We have had a long and successful relationship with both MTI and the state of South Dakota as advisors to the Electrical Construction and Maintenance program. One of the things we appreciate about the ECM program is that graduates who accept employment with us have already complete 2,000 hours of apprenticeship when they graduate. This gives us the confidence to hire these men and women and know that they adhere to a standard that the apprenticeship program requires.

We are very pleased that MTI is taking an active role in pursuing a broader based Registered Apprenticeship program. Although Muth Electric currently handles our own apprenticeship training, both related instruction and supervised on-the-job-training, we would turn to MTI in the event that we needed assistance.

Muth Electric strongly supports this application for the Registered Apprenticeship program and will continue to support you as your prepare to serve our industry in this new and unique way.

Sincerely,

MUTH ELECTRIC, INC.

Terry Sabers
Co-President

"Professional Answers For All Your Electrical Needs"

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WILLISTON, ND
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TRINITY ELECTRIC, LLC.

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600 N DERBY LN. SUITE 101 | PO BOX 107
NORTH SIOUX CITY, SD 57049

4/12/2017

Mr. Mark Wilson, President
Mitchell Technical Institution
1800 E Spruce Street
Mitchell, SD 57301

Dear Mr. Wilson,

On behalf of Trinity Electrical Services, LLC, I would like to provide you with a letter of my support for your proposed Electrical Construction & Maintenance Registered Apprenticeship Program.

Trinity Electric and Mitchell Technical Institute have a long and mutually beneficial relationship and this program is the start of another new venture that will benefit us both.

Qualified electricians with a high degree of skill can be very difficult to find. We expend a great deal of time and effort to recruit, hire and train new employees. A registered apprenticeship program such as this one will allow us to hire graduates with official documented hours of training, and who will be working toward journey worker status while employed.

The new Electrical Registered Apprenticeship program will be of great benefit to our company. We are aware that these programs exist in other states and we look forward to having well-qualified apprentices working for us.

Trinity Electrical Services, LLC, looks forward to one more way that we can work with MTI to benefit our customers and our service area.

Sincerely,

A handwritten signature in black ink, appearing to read "Gregg Lamoreux", with a long, sweeping horizontal line extending to the right.

Gregg Lamoreux, President
Trinity Electrical Services, LLC