



Associate of Applied Science Degree Diploma

Credit Hours Required for Graduation:

Associate of Applied Science Degree:

Electrical Systems Focus	62.0
Electromechanical Systems Focus	61.5
Automation Systems Focus.....	64.5

Electrician Construction - IBEW Option..... 75.0



For more information contact:

Jeff Ives, Program Director
402-761-8274, 800-933-7223 ext. 8274
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or the College Admissions Office
Milford 402-761-8243, 800-933-7223 ext. 8243

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Electrical and electromechanical technicians are in high demand, and SCC provides you with the tools to get your career on high voltage today! Electricians install, connect, test, and maintain electrical systems for residential, commercial and industrial systems, as well as maintain components for climate control, security and communications. Electromechanical technicians visualize, design, create, and repair the many devices that are used throughout the industrial-manufacturing world by combining their electrical and mechanical background.

Skills such as welding, hydraulics and machining, along with their electrical capabilities, are used every day to keep industry running. Robotics and automated control systems are a large part of industry, and our students receive many hours of training in these areas. Electricians may install and maintain the electronic controls for machines in business and industry.



"Working closely with the Electrical and Electromechanical instructors has always been a positive and rewarding experience. SCC uses the same methodology and is in 'sync' with our own in-house training department.

Creating an environment where a student/employee can learn is one thing, but to build an atmosphere where they are tested, challenged and encouraged to think on their own creates a higher level of proficiency and troubleshooting ability. These attributes are not only key to the technical trade, but valuable tools that can be used in all aspects of life. 3M has had great success with SCC students; being able to hit the ground running, demonstrating disciplined expertise, arriving to work on time, and providing a can-do attitude day-in and day-out. All of this is a reflection of the dedication and efforts that go into the Milford Campus."



Marvin Wiese, Plant Engineering GS, Valley, Neb.



Top Career Options

- Apprentice Electrician
- Automation Engineering Technician
- Electromechanical Technician
- Robotics Technician
- Substation Technician



Graduate Earnings

Recent graduates report an average starting wage of \$21.30 per hour.



2019-2020 Tuition/Fee Rate Per Credit Hour	
Nebraska Resident	\$108
Out-of-state tuition/fee rate	\$129

Estimated Expenses

Tuition/Fees	\$ 6966
Books	2160
Special Fees	202
Tools/Supplies	400

Total: \$9,728

PROGRAM OVERVIEW

Students are admitted in the Fall and Spring semesters. Approximately half of the training time will take place in a laboratory setting where students will apply their classroom theory concepts and test their ability to make proper designs and connections on industrial grade equipment. All students will focus on electrical and industrial electronic principles before they choose to enter into one of three specific focus areas.

ELECTRICAL SYSTEMS FOCUS

Types of Jobs: residential, commercial and industrial construction environments, designing, installing, maintaining and upgrading all types of electrical power and control circuits throughout industry.

ELECTROMECHANICAL SYSTEMS FOCUS

Types of Jobs: designing, installing, maintaining and upgrading industrial mechanical, electrical and automation systems. Their work may involve skills in the areas of machining, welding, fabrication, wiring and installation of new and existing production equipment along with hydraulic and pneumatic systems.

AUTOMATION SYSTEMS FOCUS

Types of Jobs: industrial manufacturing settings that allow a student to work with all types of automation. This would include, but is not limited to programmable logic controllers, robotics, variable frequency drives, vision systems and other industrial devices.

General Education Requirements (AAS)

See the General Education pages for a complete list.

GELO #1:	Oral Communications	3.0
GELO #2:	Written Communications	3.0
GELO #3:	Critical Thinking & Problem Solving	3.0-5.0
	PHYS1017 or PHYS1150 or PHYS1410 (Recommended)	
GELO #5:	Analytical, Quantitative, and Scientific Reasoning	
MATH1050	or higher	3.0
GELO #6:	Career and Life Skills	
BSAD1010		3.0
ECON1200		3.0
	Total	18.0-20.0

Core Courses

Course #	Course Title	Credit hrs.
ELEC1131	DC Principles	5.0
ELEC1217	AC Principles	5.0
ELEC2144	Motors and Controllers	4.0
ELEC2155	Automation, Communications and Alarms	5.0
ELEC2164	Transformers, Three-Phase Systems & Predictive Maintenance	5.0
	Total	24.0

Automation Focus

Course #	Course Title	Credit hrs.
ELEC2564	Industrial Electronic Controls	6.0
ELEC2534	Programmable Logic Controllers I	3.0
ELEC1337	Sketching & CAD	2.0
ELEC2614	Robotics and Integrated Automation	5.5
ELEC2624	Programmable Logic Controllers II	6.0
	Total	22.5

Electrical Focus

Course #	Course Title	Credit hrs.
ELEC1336	CAD & Electrical Estimating	2.0
ELEC1366	Residential & Commercial Wiring I	5.0
ELEC1367	Residential & Commercial Wiring II	5.0
ELEC1496	Industrial Wiring I	4.0
ELEC1497	Industrial Wiring II	4.0
	Total	20.0

Electromechanical Focus

Course #	Course Title	Credit hrs.
ELEC1337	Sketching & CAD	2.0
ELEC1356	Fluid Power	4.0
MACH1131	Manufacturing Processes for Electromechanical	3.0
WELD1191	GMAW and SMAW Industrial Welding Practices	1.5
ELEC1436	Power Transmission & Lubricants	2.0
ELEC1446	Industrial Machines & Mechanical Systems	4.0
ELEC2534	Programmable Logic Controllers I	3.0
	Total	19.5



Basic Tools and Supplies Required

Tools for Electrical/Electromechanical/Automation

1st semester

- Safety glasses
- (2) Large binders
- 10 square graph paper pad
- EI-506 Calculator
- USB drive 16GB
- Oscillogram paper pad

2nd semester

- All tools from the first semester plus the following:
- 3mm x 100mm screwdriver
 - Wire stripper
 - Multimeter (see program director)
 - Phillips #2 screwdriver with 4" shank
 - Standard screwdriver 3/16" x 6" shank
 - 6" needle-nose pliers with plastic dipped handles
 - Tool box or tool pouch with belt (optional for automation students)

3rd semester Electrical

All tools from first two Electrical semesters plus the following:

- Aluminum torpedo level with magnetized strip on bottom
- Steel locking tape (3/4" x 25" minimum)
- Electricians pocket knife or utility knife
- Hammer (heavy duty curved claw)
- 10" adjustable jaw wrench (with plastic dip handles)
- 10" water pump pliers (with plastic dip handles)
- 6 3/4" diagonal cutters (with plastic dip handles)
- 9 1/4" high leverage lineman plier (with plastic dip handles)
- Standard screwdriver 5/16" blade with 6" shank
- 1/2" / 3/4" conduit reamer
- Hard sole shoes
- Hard Hat
- Architecture Ruler

4th Semester Electrical

All tools from first three Electrical semesters

3rd Semester Electromechanical

All tools from first two semesters plus the following:

- Head gear (skull cap)
- Green Lens
- Arc welding helmet
- Welding gloves
- Pliers
- Chipping hammer/wire brush
- Wire cutters
- (2) F pencils
- (2) HB pencils

4th Semester Electromechanical

All tools from first three Electromechanical semesters plus:

- Portable tool chest
- 1/2" or 3/8" socket set (1/4" through 3/4")
- 10" ratchet for the above socket set
- 5" extension for the above socket set
- 10" and 8" adjustable wrench
- 7 piece combination wrench set-standard
- Standard tip screwdriver- 5/16" with 6" shank
- Phillips screwdriver-size #1
- Locking tape (1/2" x 12" minimum)
- Hex key set (5/64" through 3/8")
- 6 3/4" slip joint pliers
- 7 3/4" curved diagonal cut pliers
- 10" locking pliers (straight or curved jaw)
- 1 1/2 lb standard deadblow hammer
- 16 oz ball peen hammer
- 5 piece punch set (1/16" through 5/32")
- Utility knife

3rd semester Automation

All tools from first two semesters plus the following:

- Circuit breadboard
- Standard Allen key set (1/16" through 1/4")

4th semester Automation

All tools from first three Automation semesters

Electrician Construction - IBEW Option

For members of the International Brotherhood of Electrical Workers (IBEW - Local 265). The curriculum is provided with the cooperation of representatives of SCC and Nebraska representatives of the International Brotherhood of Electrical Workers, IBEW-Local 265. Applicants must meet the stated SCC and IBEW-Local 265 entrance requirements to be accepted into the program.

The curriculum is normally delivered over a five-year period. Classes are held at the IBEW Training Center, 6200 S. 14th St. in Lincoln. Prepares students for a career in the commercial and residential electrical construction industry.

For more information contact:

Roy Lamb, Director of Training
Joint Apprenticeship and Training Committee (JATC);
402-423-4519

or the College Admissions Office
Milford 402-761-8243, 800-933-7223 ext. 8243

Electrician Construction –IBEW option75 hours

General Education

Requirements

See the General Education pages for a complete list.

GELO #1:	Oral Communication	3.0
GELO #2:	Written Communication	3.0
	Plus three classes from the four areas below; no two classes from the same area.	
GELO #3:	Critical Thinking & Problem Solving	
GELO #4:	Global Awareness and Citizenship	
GELO #5:	Analytical, Quantitative, and Scientific Reasoning	
GELO #6:	Career and Life Skills	9.0
		15.0 hours

Combination Theory/Laboratory classes

One per semester, as follows:

Course #	Course title	Credit hrs.
ELET1710	DC Theory, Conduit Fab and NEC	4.0
ELET1711	DC Theory II, Conduit Fab II and Blueprints	4.0
ELET1716	AC Theory, NEC, NFPA 70E Blueprint Reading	4.0
ELET1717	AC Theory II, Test Inst. and Blueprint Reading II	4.0
ELET1722	AC Theory III, Haz. Loc. & Fire Alarm	4.0
ELET1723	NFPA 70E, OCPD's & Grd and Bond	4.0
ELET1728	Motors, Ltng Prtc. Lighting Fundamentals	4.0
ELET1731	Motor Controls, VFD, and PLC	4.0
ELET1736	TeleComm, Power Qual., UPS and EVITP	4.0
ELET1737	PV, Rigging, NEC Calculations	4.0
		40.0 hours

On-the-job Training

One course of 100 clock hours per semester. Skills checklist, as shown on syllabi, verified to SCC by IBEW. Supervision by IBEW members. Location of the OJT site varies with the demands of the Electrical industry.

Course #	Course title	Credit hrs.
ELET1712	Electrical Wiring Applications I	2.0
ELET1713	Electrical Wiring Applications II	2.0
ELET1718	Electrical Wiring Applications III	2.0
ELET1721	Electrical Wiring Applications IV	2.0
ELET1726	Electrical Wiring Applications V	2.0
ELET1727	Electrical Wiring Applications VI	2.0
ELET1732	Electrical Wiring Applications VII	2.0
ELET1733	Electrical Wiring Applications VIII	2.0
ELET1738	Electrical Wiring Applications IX	2.0
ELET1739	Electrical Wiring Applications X	2.0
		20.0 hours