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.

What Employers Say About SCC Graduates

“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.

Graduate Earnings
Recent graduates report an average starting wage of $21.10 per hour.

For more information contact:
Ken Reinsch, Program Chair/Milford
402-761-8258, 800-933-7223 ext. 8258
kreinsch@southeast.edu

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

Equal Opportunity/NonDiscrimination Policy - It is the policy of Southeast Community College to provide equal opportunity and nondiscrimination in all admission, attendance, and employment matters to all persons without regard to race, color, religion, sex, age, marital status, national origin, ethnicity, veteran status, sexual orientation, disability, or other factors prohibited by law or College policy. Inquiries concerning the application of Southeast Community College’s policies on equal opportunity and nondiscrimination should be directed to the Vice President for Access/Equity/Diversity, SCC Area Office, 301 S. 68th Street Place, Lincoln, NE 68510, 402-323-3412, FAX 402-323-3420, or joto@southeast.edu. This publication should not be considered a contract between SCC and any prospective student. SCC’s Board of Governors reserves the right to make changes in this publication during the life of the publication and without notice.

A0718 - ELM (04/18)
Electrical & Electromechanical Technology

General Education Requirements (AAS)
See the General Education pages online for a complete list.
Oral Communications 4.5
Written Communications 4.5
Analytical, Quantitative, and Scientific Reasoning
MATH1050 or higher (Recommended) 4.5
Critical Thinking & Problem Solving
PHYS1017 or PHYS1150 or PHYS1410 (Recommended) 4.5
Career and Life Skills
BSAD1010 (Recommended) 4.5
ECON1200 (Recommended) 4.5
Total 27.0

EL/EM Technology Core
Course # Course Title Credit hrs.
ELEC1132 DC Principles I 4.5
ELCE1133 DC Principles II 4.5
ELEC1232 AC Principles I 4.5
ELEC1233 AC Principles II 4.5
ELEC1344 Motor Controls 1.5
ELEC1464 Transformers, Three-Phase Systems 4.5
ELEC1474 Predictive Maintenance Principles 3.0
ELEC2534 Programmable Logic Controllers I 4.5
ELEC2546 Electrical Machine Controls 3.0
ELEC2555 Industrial Communications & Alarm Systems 3.0
ELEC2564 Industrial Electronic Controls 7.5
ELEC2614 Robotics and Integrated Automation 8.0
ELEC2624 Programmable Logic Controllers II 9.0
Total 62.0

Electrical Focus
Course # Course Title Credit hrs.
ELEC1336 CAD & Electrical Estimating 2.5
ELEC1366 Residential & Commercial Wiring I 7.5
ELEC1367 Residential & Commercial Wiring II 7.5
ELEC1496 Industrial Wiring I 5.5
ELEC1497 Industrial Wiring II 5.5
Total 28.5

Electromechanical Focus
Course # Course Title Credit hrs.
ELEC1337 Sketching & CAD 3.0
ELEC1356 Fluid Power 6.0
ELEC1436 Power Transmission & Lubricants 3.0
ELEC1446 Industrial Machines & Mechanical Systems 6.0
MACH1121 Manufacturing Processes 3.0
MACH1131 Manufacturing Processes II for Electromechanical 3.0
WELD1191 GMAW and SMAW Industrial 3.0
Total 27.0

Construction Electrician Diploma
Course # Course Title Credit hrs.
ELEC1132 DC Principles I 4.5
ELEC1133 DC Principles II 4.5
ELEC1232 AC Principles I 4.5
ELEC1233 AC Principles II 4.5
ELEC1336 CAD & Electrical Estimating 2.5
ELEC1344 Motor Controls 1.5
ELEC1366 Residential & Commercial Wiring I 7.5
ELEC1367 Residential & Commercial Wiring II 7.5
ELEC1464 Transformers, Three Phase Systems 4.5
ELEC1474 Predictive Maintenance Principles 3.0
ELEC1496 Industrial Wiring I 5.5
ELEC1497 Industrial Wiring II 5.5
Total 55.5

General Education Requirements (Diploma)
Career and Life Skills
BSAD1010 4.5
Analytical, Quantitative, and Scientific Reasoning
MATH1050 or higher 4.5
Total 9.0

Electrician Construction - IBEW Option
The curriculum is provided with the cooperation 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. Instruction will be delivered at the IBEW training facility.

For more information contact:
Ken Reinsch, Electrical & Electromechanical Technology; Program Chair 402-761-8258, 800-933-7223 ext. 8258, kreinsch@southeast.edu
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

General Education Requirements (AAS)
See the General Education pages for a complete list.
Oral Communication 4.5
Written Communication 4.5
Plus three classes from the four areas below; no two classes from the same area.
Critical Thinking & Problem Solving
Global Awareness and Citizenship
Analytical, Quantitative, and Scientific Reasoning
Career and Life Skills 13.5
Total 22.5

IBEW Training Center
For members of the International Brotherhood of Electrical Workers (IBEW - Local 265)
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.
Combination Theory/Laboratory classes one per year, as follows:
Course # Course title Credit hrs.
ELET1714 DC Circuits and Conduit Bending 12.5
ELET1719 AC/DC Circuits and Blueprint Reading 12.5
ELET1724 AC Theory, Fire Alarm & Grounding and Bonding 12.5
ELET1729 Logic Circuits and Electrical Motors 12.5
ELET1734 Process Controllers and Special Electrical Circuits 12.5
62.5 hours

On-the-job Training:
One course of 200 clock hours per year. 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.
ELET1715 Electrical Wiring Applications I 5.0
ELET1720 Electrical Wiring Applications II 5.0
ELET1725 Electrical Wiring Applications III 5.0
ELET1730 Electrical Wiring Applications IV 5.0
ELET1735 Electrical Wiring Applications V 5.0
25.0 hours
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<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<td>DC Principles I</td>
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<td>ENGL1110</td>
<td>Business Communications</td>
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<td>MATH1050</td>
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<td>BSAD1010</td>
<td>Microsoft Applications I (recommended)</td>
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<td>PHYS1017</td>
<td>Technical Physics</td>
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<td>SPCH1110</td>
<td>Public Speaking (recommended)</td>
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<td>ECON1200</td>
<td>Personal Finance (recommended)</td>
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<td>Residential &amp; Commercial Wiring I</td>
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<td>ELEC1367*</td>
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</tbody>
</table>

* Additional courses an electromechanical graduate would need to complete to obtain a focus in Electrical Systems. (6 months -- 34.5 Quarter Credits)

** Additional courses an electrical graduate would need to complete a focus in Electromechanical Systems. (6 months -- 34.5 Quarter Credits)
Basic Tools and Supplies Required for Program

Required Tools/Supplies to Enter 1st Quarter
• Safety Glasses (must meet Z87 specs.)
• Large 3-Ring Binder (2)
• Graph Paper Pad 10 x 10 (10 sq./in.)
• Electronic Calculator
• Specifications to be provided in class
• Flash Drive
• Set of Colored Pencils

Supplies for 2nd Quarter
• *Pad of Oscillogram Paper

Tools/Supplies for 3rd & 4th Quarters
See the bulleted list for each focus area.

Supplies for 5th Quarter
• *1 Pad of Oscillogram Paper
• *1 Circuit Breadboard

**=May be purchased at the Campus Store.

Electrical - Tools/Supplies for 3rd & 4th Quarters
• Tool Pouch (equipped with large utility pocket, small utility pocket, two plier pockets, two screwdriver pockets, a chain tape thong and a knife snap)
• Tool Belt (heavy duty leather or fully adjustable poly web)
• Aluminum torpedo level with magnetized strip on bottom
• Steel locking tape (3/4" by 25 feet minimum)
• Electricians pocket knife
• Hammer (heavy duty curved claw)
• 10" adjustable jaw wrench
• 10" pump plier (with plastic dip handles)
• 6 3/4" diagonal cutters (with plastic dip handles)
• 6" long nose pliers with cutters (with plastic dip handles)
• Phillip screwdriver size #2 with 4" shank
• Standard screwdriver 3/16" blade with 6" shank
• Standard screwdriver 3/8" blade with 6" shank
• Shoes (hard-sole)
• *Architecture Ruler
• Multimeter (see Program Chairperson for details)
• Hard Hat
• 3mm x 100mm Screwdriver
• Wire Strippers w/Terminal Crimp Jaw

Electromechanical - Supplies for 3rd Quarter
• Some type of leather shoes required. No canvas. Must be high tops.
• *Oxy-Fuel Face Shield
• *Arc Welding Helmet (No. 10 Lens)
• *Leather Gauntlet Welding Gloves
• *Pliers or Locking Pliers (Vice-Grips)
• *Chipping Hammer and Wire Brush
• *Wire Cutter Pliers, Side Cutters
• *Safety Glasses With Side Shields

Electromechanical - Tools for 4th Quarter
• 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
• Wire Strippers With Terminal Crimp Jaw
• Standard Tip Screwdriver - 1/4" Blade With 4" Shank
• Standard Tip Screwdriver - 5/16" Blade With 6" Shank
• Phillips Screwdriver - Size 1
• Phillips Screwdriver - Size 2
• Locking Tape (1/2" by 12 feet)
• Hex Key Set (5/64" through 3/8")
• 6 3/4" Slip Joint Pliers
• 7 3/4" Curved Diagonal Cut Pliers
• 6" long nose 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")
• *Multimeter (see Program Chairperson for details)
• 3mm x 100mm Screwdriver
• Utility Knife

Electrician Construction – IBEW Option
The IBEW/NECA apprenticeship fund pays the tuition and student fees.

1ST YEAR APPRENTICE
Books $ 300
Tools 450
Total $ 750

2ND YEAR APPRENTICE
Books $ 400

3RD YEAR APPRENTICE
Books $ 500

4TH YEAR APPRENTICE
Books $ 600

5TH YEAR APPRENTICE
Books $ 700

No costs are shown for tools in the 2nd through 5th years, but it should be noted that the apprentice might need to replace tools from time to time due to normal wear and tear.

Estimated Expenses
Nebraska Resident tuition/fee rate is $69.50 per credit hour. Out-of-state tuition/fee rate is $83.50 per credit hour. Graduation fee is $25.
Housing is available at Beatrice and Milford campuses only. Tuition, books and fees are dependent upon classes taken each quarter.
Students should plan a budget that includes room, meals, clothing, laundry, medical care, recreation and entertainment, transportation, insurance, etc.

FIRST QUARTER
Tuition And Fees $1,564
Books 710
Supplies 66
Total $2,340

SECOND QUARTER
Tuition And Fees $1,564
Books 390
Total $1,954

ELT THIRD QUARTER
Tuition And Fees $1,286
Books 500
Tools 350
Total $2,136

ELM THIRD QUARTER
Tuition And Fees $1,286
Books 225
Tools 80
Supplies 120
Total $1,711

ELT FOURTH QUARTER
Tuition And Fees $1,251
Books 140
Total $1,391

ELM FOURTH QUARTER
Tuition And Fees $1,251
Books 200
Tools 400
Total $1,851

FIFTH QUARTER
Tuition And Fees $1,251
Books 360
Supplies 16
Total $1,627

SIXTH QUARTER
Tuition And Fees $1,182
Total $1,182

Program total ELT: $10,630
Program total ELM: $10,665