



# ENERGY GENERATION OPERATIONS

Associate of Applied Science Degree

MILFORD CAMPUS

[www.southeast.edu/EnergyGenerationOperations](http://www.southeast.edu/EnergyGenerationOperations)



*Are you looking for a bright future with dozens of career opportunities? Energy generation operators must understand and oversee all aspects of a power-generating facility, whether that facility is generating electricity or liquid fuels. We offer focus areas in Industrial Process Operations, Nuclear and Military.*



*"SCC-Milford changed my life. The degree from the Energy Generation Operations program impacted my professional career significantly! I am now employed by a great company and love my career! Thank you John and the entire team for putting this program together!"*

*Vicki Lintt, System Operations Analyst  
Black Hills Corporation, Rapid City, SD*



### Types of jobs available:

- Bio-diesel Production Facility Operator
- Biofuels Production Facility Operator
- Coal-Fired Power Plant Operator
- Combined Cycle Power Plant Operator
- Heating-Cooling Plant Operator
- Hydroelectric Power Plant Operator
- Nuclear Power Plant Operator
- Pipeline Operator
- Process Plant Operator
- Refinery Operator
- Solar Power Plant Operator
- Water/Wastewater Treatment Plant Operator
- Wind Turbine Farm Operator
- Wind Turbine Technician

### Graduate Earnings

Recent graduates report an average starting wage of \$22.25 per hour.

### For more information contact:

John Pierce, Program Chair  
402-761-8394, 800-933-7223 ext. 8394  
[jpierce@southeast.edu](mailto:jpierce@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 [jsoto@southeast.edu](mailto:jsoto@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. A0720 - ENER (05/16)

Quarter 1 (Summer/Winter)		Credits	Delivery
ENER1100	Energy Industry Fundamentals	4.5	F2F
ENER1110**	Operator Safety	4.5	F2F
BSAD1010	Computer class (BSAD1010 or INFO1010)	4.5	OL, F2F
MATH1050	Thinking Mathematically or Higher	4.5	OL, F2F
<b>Total 1st Quarter 18.0</b>			

Quarter 2 (Spring/Fall)		Credits	Delivery
ENER1115**	Mechanical & Fluid Fundamentals	4.5	HY
ENER1235	Technical Diagrams	3.0	F2F
PHYS1017**	OR PHYS1150 OR PHYS1410 OR Higher	4.5	F2F
ENGL1010	English Composition I	4.5	OL, F2F
<b>Total 2nd Quarter 16.5</b>			

Quarter 3 (Summer/Winter)		Credits	Delivery
ENER1210**	Electrical Power Theory (includes Backup power)	6.0	F2F
ENER1255**	Instrumentation & Control Systems (includes SCADA)	6.0	F2F
ENER2530**	Process Plant Chemistry	3.0	HY
SPEECH	Any Speech class	4.5	OL, F2F
<b>Total 3rd Quarter 19.5</b>			

Quarter 4 (Spring/Fall)		Credits	Delivery
ENER1220**	Process Dynamics	4.5	F2F
ENER2100**	Motor Controls and Switchgear	4.5	F2F
ENER2105**	Boiler Systems	4.0	HY
ENER2120**	Steam Turbines	3.0	HY
<b>Total 4th quarter 16.0</b>			

Quarter 5 (Summer/Winter)		Credits	Delivery
ENER1250**	Emission Control Systems (1st 7 weeks)	3.0	OL
ENER1900	Internships (off campus last 3 weeks)	3.0	OFF CAMPUS
ENER2130	Green Energy Technologies (1st 7 weeks)	4.5	HY
ENER2102**	Nuclear Energy (1st 7 weeks)	3.0	HY
ACFS2020	Career Development (1st 5 weeks)	2.5	F2F
<b>Total 5th Quarter 16.0</b>			
<b>Total Core Quarter Credits 86.0</b>			

### Quarter 6 (Spring/Fall)

#### Nuclear Focus

ENER2135**	Atomic Structures	4.5	F2F
ENER2205**	Nuclear Power Plant Layout	4.5	HY
ENER2220**	Reactor Plant Materials	3.0	HY
ENER2230**	Radiation Detection & Protection	3.0	F2F
ENER2240**	Reactor Safety	3.0	OL
<b>Nuclear 6th Quarter 18.0</b>			
<b>Nuclear Focus: 104.0</b>			

#### Industrial Process Operations Focus

ENER2300	Coal Plant Operations	6.0	HY
ENER2400	Gas Turbine/HRSG Systems	3.0	HY
ENER2500	Biofuels Fundamentals	3.0	HY
ENER2520	Microbial Ecology	3.0	HY
ENER2540	Ethanol Process Operations	3.0	F2F
<b>Industrial Process Operations 6th Quarter 18.0</b>			
<b>Industrial Process Operations Focus: 104.0</b>			

#### Military Focus

ENER2099	Military Service Energy Generation Training	30.0-60.0*	
	Technical Electives	22.5-52.5*	
	General Education Requirements	22.5	
	Computer Requirement	4.5	
<b>Military Focus: 109.5 hours</b>			

\*Depends on Military Training Transcript. The student, with approval of the program chair, will complete a set of SCC courses. The student and program chair will select courses that will enhance technical expertise.

### NUCP Certificate

\*\* To receive a Nuclear Uniform Curriculum Program certificate issued by the Cooper Nuclear Station, in addition to the AAS degree, these courses require a grade of 80 percent or above.

#### Delivery Method

OL = Online Classes  
 F2F = Face-to-Face Classes  
 OC = Off-campus  
 HY = Hybrid Classes  
 (online with face-to-face labs)



#### Estimated Expenses

To determine overall costs, students should plan a budget that includes room, meals, clothing, laundry, medical care, recreation and entertainment, transportation, insurance, etc.

Nebraska Resident tuition rate is \$61.50 per credit hour. Out-of-state tuition rate is \$75.50 per credit hour.

Student fee is \$1.50 per credit hour. Graduation fee is \$25.

Housing is available at Beatrice and Milford campuses only. Quarterly tuition, books and fees are dependent upon classes taken.

#### NUCLEAR FOCUS

6 quarters to complete. Approximately 19 credits per quarter

Average Tuition & Fees per quarter	\$1,208
Books	2,400
Tools/Supplies	300
<b>Total</b>	<b>\$9,945</b>

#### INDUSTRIAL PROCESS OPERATIONS FOCUS

6 quarters to complete. Approximately 19 credits per quarter

Average Tuition & Fees per quarter	\$1,208
Books	2,600
Tools/Supplies	300
<b>Total</b>	<b>\$10,145</b>

"LES appreciates the foresight at SCC that drove investing the time and resources to bring the Energy Generation Operations program online. Having a local program that Nebraska utilities can help mold to fit their specific needs is a valuable resource that LES is proud to be a part of. The desire to source locally-educated and skilled operations staff for our generation facilities has been met by SCC with this program."

Brian McReynolds, Director  
 Generation Operations, Lincoln Electric System

