

2018-2019

SOUTHEAST
COMMUNITY
COLLEGE
NEBRASKA

ENERGY GENERATION OPERATIONS

Associate of
Applied Science
Degree

Diploma

Certificate

MILFORD CAMPUS

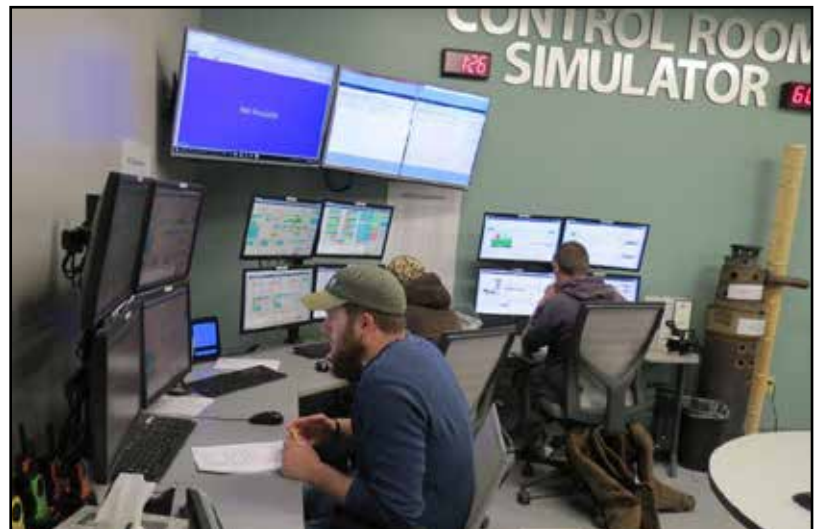
www.southeast.edu/EnergyGenerationOperations



Are you looking for a bright future with dozens of career opportunities? Plant operators must understand and oversee all aspects of an industrial facility, whether it generates electricity or processes fluids for many different types of industrial processes. We offer focus areas in Industrial Process Operations, Nuclear and Military.

Types of jobs available:

- 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
- Power Dispatcher
- Process Plant Operator
- Refinery Operator
- Solar Power Plant Operator Systems Operator
- Transmission/Distribution Systems Operator
- Water/Wastewater Treatment Plant Operator
- Wind Turbine Technician



"Attending Southeast Community College was the best decision I've ever made, and the Energy Generation Operations program changed my life tremendously. I wouldn't be where I am today if it wasn't for instructors John Pierce, Doug Burks and David Madcharo. They have many years of experience, are dedicated and very knowledgeable. The program prepares you for the real-time work setting. It also prepares operators to be alert, proactive and safe. SCC Milford is a small, friendly community that really cares about its students."

*-Renee Peters
Distribution Operator,
MidAmerican Energy, Des Moines, IA*

Graduate Earnings

Recent graduates report an average starting wage of \$27.05 per hour.

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For more information contact:

John Pierce, Program Chair
402-761-8394, 800-933-7223 ext. 8394
jpierce@southeast.edu

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

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General Education Requirements:

Contact your program advisor to select general education courses from each category, which will meet your program's graduation requirements. See the General Education pages online for a complete list.

(One class from each area below).

Oral Communications	4.5
Written Communications	4.5
Analytical, Quantitative, and Scientific Reasoning	4.5
MATH1050* or higher (Recommended)	
Critical Thinking & Problem Solving	4.5
PHYS1017* or PHYS1150* or PHYS1410* or higher (Recommended)	
Career and Life Skills	
BSAD1010 (Recommended)	4.5
	22.5 hours
Total Core Credits:	87 hours

Core Courses:

Course #	Course title	Credit hrs.
ENER1100*	Energy Industry Fundamentals	4.5
ENER1110*	Operator Safety	4.5
ENER1115*	Mechanical & Fluid Fundamentals	4.5
ENER1210*	Electrical Power Theory	6.0
ENER1220*	Process Dynamics	4.5
ENER1235	Technical Diagrams	3.0
ENER1250	Emission Control Systems	3.0
ENER1255*	Instrumentation & Control Systems	5.5
ENER1900*	Internship	3.0
ENER2100*	Motor Controls and Switchgear	4.5
ENER2102*	Nuclear Energy	3.0
ENER2105*	Boiler Systems	4.0
ENER2120*	Steam Turbines	3.0
ENER2130	Green Energy Technologies	4.0
ENER2140	Electric Power Transmission Fundamentals	3.0
ENER2530*	Process Plant Chemistry	3.0
ACFS2020	Career Development	1.5
		64.5

Elective Classes:

ENER1140	POSS Preparation Strategies	1.0
ENER1141	SO/PD Preparation Strategies	1.0
ENER2999	Special Project	1.0-3.0

Nuclear Focus:

Course #	Course title	Credit hrs.
ENER2135*	Atomic Structures	3.0
ENER2205*	Nuclear Power Plant Layout	4.5
ENER2220*	Reactor Plant Materials	3.0
ENER2230*	Radiation Detection & Protection	3.0
ENER2240*	Reactor Safety	3.0
		16.5
	Core Credits: 87	
	Nuclear: 103.5 hours	



Nuclear Uniform Curriculum Program Certificate

* To receive a NUCP Certificate issued by the Cooper Nuclear Station, in addition to the A.A.S. degree, these courses require a final grade of 80% or above.

Industrial Process Operations Focus:

Course #	Course title	Credit hrs.
ENER2300	Coal Plant Operations & Troubleshooting	4.5
ENER2400	Gas Turbines & HRSG Systems	3.0
ENER2500	Biofuels Fundamentals	4.5
ENER2520	Microbial Ecology	3.0
		15.0 hours
	Core Credits: 87	
	Industrial Process Operations: 102.0 hours	

Energy Generation Operations Military Focus:

Course #	Course title	Credit hrs.
ENER2099	Military Service Energy Generations Training	30.0-60.0**
	Technical Electives	21.5-51.5**
	General Education Requirements	22.5
	Military Focus: 104.0 hours	

**Depends on Military Training Transcript.

The student, with approval of the program chair, will complete a set of SCC ENER courses. The student and program chair will select courses that will enhance technical and operational expertise.

Introduction to Energy Industry Certificate

Description: This certificate will introduce students to the energy industry with a close look at all aspects of energy generation and delivery. It will provide students with fundamental understandings of how the energy industry is organized and regulated. Students will also get a closer look at nuclear energy, green energy technologies, and how why and how emissions from power plants are managed.

Course #	Course title	Credit hrs.
ACFS1015	New Student Orientation	1.0
ENER1100	Energy Industry Fundamentals	4.5
ENER1250	Emission Control Systems	3.0
ENER2102	Nuclear Energy	3.0
ENER2130	Green Energy Technologies	4.5
	Total Core Classes: 16.0	

General Education Requirements: Certificate

Contact your program advisor to select general education courses from each category, which will meet your program's graduation requirements. See the General Education pages for a complete list.

(One class from any of the three following areas).
Oral Communications, Written Communications, Critical Thinking & Problem Solving 4.5
Total credit hours for Certificate: 20.5



Energy Systems Overview Diploma

Description: This diploma will provide a closer look at the energy industry including some of the technical aspects of the operations of various types of power plants including fossil fuels, green energy generation and nuclear power.

Course #	Course title	Credit hrs.
ACFS1015	New Student Orientation	1.0
ENER1100	Energy Industry Fundamentals	4.5
ENER1235	Technical Diagrams	3.0
ENER1250	Emission Control Systems	3.0
ENER2102	Nuclear Energy	3.0
ENER2130	Green Energy Technologies	4.5
PHYSICS	Any college level Physics course	4.5
	Total Core classes: 23.5	

Plus any of the following courses to total a minimum of 17.0 credits:

ENER2105	Boiler Systems	4.0
ENER2205	Nuclear Power Plant Layout	4.5
ENER2220	Reactor Plant Materials	3.0
ENER2240	Reactor Safety	3.0
ENER2400	Gas Turbines and HRSG Systems	3.0
ENER2500	Biofuels Fundamentals	4.5
	Total Electives: 17.0-20.5	

General Education Requirements: Diploma

Contact your program advisor to select general education courses from each category which will meet your program's graduation requirements. See the General Education pages for a complete list.

(One class from one of the three following areas).
Oral Communications, Written Communications, Analytical, Quantitative and Scientific Reasoning 4.5 hours

Total credit hours for Diploma: 45.0-48.5

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.

Nuclear Focus

103.5 credit hours	
Average Tuition & Fees per quarter	\$1,199
Books	2,235
Tools/Supplies	300
TTP Access Fee	450
EIF Certification Exam	30
Total	\$10,208

Industrial Process Operations Focus

102 credit hours	
Average Tuition & Fees per quarter	\$1,182
Books	2,410
Tools/Supplies	300
TTP Access Fee	450
EIF Certification Exam	30
Total	\$10,279