



ENERGY GENERATION OPERATIONS

Associate of Applied Science Degree

MILFORD CAMPUS

www.southeast.edu/EnergyGenerationOperations



Are you looking for a bright future with dozens of career opportunities? Energy 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:

- Biodiesel 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



"In need of a career change, I decided to visit SCC's Milford Campus. After a little encouragement from program chair John Pierce, I enrolled that day in the Energy Generation Operations program. The variety of courses were taught by knowledgeable instructors, each of whom challenged me to do my best. Concepts and theories were explained in an overlapping manner so that the relationship between them was evident. I did not have any background in this

field of study, yet I was able to understand and apply my knowledge from the program in a work environment. The program has prepared me for my career as an Operations Technician. The curriculum gave me a basic understanding of mechanical and electrical operations, ranging from pumps and valves to heat transfer and refrigeration cycle, along with basic electricity and controls. In the course of my job, I have used information from nearly all of my classes. This program could not have been any more applicable to my career, and it is the reason I was able to get my foot in the door. Thank you to SCC, the Milford Campus and to John Pierce for helping me focus, which yielded positive results."

-James Frerichs, Data Center Operations Technician, Google

Graduate Earnings

Recent graduates report an average starting wage of \$22.35 per hour.

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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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
PHYS1150**	OR PHYS1017 OR PHYS1410 OR Higher	4.5	F2F
Total 1st Quarter 18.0			

Quarter 2 (Spring/Fall)

ENER1115**	Mechanical & Fluid Fundamentals	4.5	HY
ENER1235	Technical Diagrams	3.0	HY
ENGL1110	Business Communications	4.5	OL, F2F
MATH1050	Thinking Mathematically or Higher	4.5	OL, F2F
Total 2nd Quarter 16.5			

Quarter 3 (Summer/Winter)

ENER1210**	Electrical Power Theory	6.0	F2F
ENER1255**	Instrumentation & Control Systems	5.5	F2F
ENER2530**	Process Plant Chemistry	3.0	HY
SPEECH	Any Speech class	4.5	OL, F2F
Total 3rd Quarter 19.0			

Quarter 4 (Spring/Fall)

ENER1220**	Process Dynamics	4.5	HY
ENER2100**	Motor Controls and Switchgear	4.5	F2F
ENER2105**	Boiler Systems	4.0	HY
ENER2120**	Steam Turbines	3.0	HY
Total 4th quarter 16.0			

Quarter 5 (Summer/Winter)

ENER1250**	Emission Control Systems (1st 7 weeks)	3.0	OL
ENER1900	Internships (off campus last 3 weeks)	3.0	OC
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
Total 5th Quarter 16.0			

Total Core Quarter Credits 85.5**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
Nuclear 6th Quarter 18.0			

Nuclear Focus: 103.5**Industrial Process Operations Focus**

ENER2300	Coal Plant Operations	4.5	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
Industrial Process Operations 6th Quarter 16.5			

Industrial Process Operations Focus: 102.0**Military Focus**

ENER2099	Military Service Energy Generation 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 courses. The student and program chair will select courses that will enhance technical expertise.

Elective Classes:

ENER1140	Power Plant Operator Selection System (POSS) Test Prep.	1.0
ENER1141	System Operator/ Power Dispatcher (SO/PD) Test Preparation	1.0
ENER2999	Special Project	1.0-3.0

Delivery Method

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

**** 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.

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 \$65.50 per credit hour. Out-of-state tuition rate is \$79.50 per credit hour.

Student fee is \$2 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. Total credits divided by six. Approx. 17 per qtr.

Average Tuition & Fees per quarter	\$1,165
Books	2,400
Tools/Supplies	300
Total	\$9,687

INDUSTRIAL PROCESS OPERATIONS FOCUS

6 quarters to complete. Total credits divided by six. Approx. 17 per qtr.

Average Tuition & Fees per quarter	\$1,148
Books	2,600
Tools/Supplies	300
Total	\$9,785

