

# Lakeland

COMMUNITY COLLEGE

PROGRAM GUIDE

Applied Studies Division

## Nuclear Engineering Technology

- Associate of Applied Science in Nuclear Engineering Technology



Opportunity  
starts **HERE**  
[lakelandcc.edu](http://lakelandcc.edu)

# Nuclear Engineering Technology



Energy, isotopes, and radiation produced by nuclear science provide for a vast range of beneficial applications. Nuclear engineering technicians utilize essential science and math-based knowledge for many different jobs in the nuclear power industry including non-licensed operators, mechanical maintenance, electrical maintenance, chemical laboratory, radiation protection, and instrumentation and control technicians.

## Career Opportunities

Many of the employees at FirstEnergy's nuclear power plants are 50 years or older. The need to train a new generation of nuclear engineers and technicians is required. Statistics indicate an industry-wide need for up to 10,000 new employees throughout the next decade. As such, Lakeland's nuclear technology program established a pipeline of employees in partnership with the Great Lakes Nuclear Workforce Development. Based on a student's grades, skills and aptitude, employment opportunities may exist with FirstEnergy and other nuclear utilities upon graduation. Current starting salaries range from approximately \$50,000 to \$59,000 per year.\*

## Lakeland's Program

Lakeland's nuclear engineering technology program will prepare students for employment in selected areas within a nuclear power plant. The technical course curriculum is designed around direct specifications from the nuclear power industry to train students to become technicians as non-licensed operators. However, graduates have obtained positions in maintenance, chemistry, health physics, and instrumentation and control. More than 100 power plants exist in the United States and graduates of this program are trained to work at any domestic nuclear power plant. A summer paid field experience is available in cooperation with FirstEnergy. The nuclear engineering technology curriculum complies with the Nuclear Energy Institute (NEI) and the Institute of Nuclear Power Operations (INPO) "Uniform Curriculum." Students meeting specific GPA requirements are eligible to receive a "Nuclear Uniform Curriculum" certificate upon graduation. Students must be "college ready" to take nuclear curriculum courses.

\* Source: Center for Engineering Workforce Development

## The Lakeland Advantage

- Lakeland's nuclear engineering technology program is a trend-setting degree and serves as a model for the development of an industry standard curriculum.
- Lakeland's program is Ohio's only Nuclear Uniform Curriculum Program (NUET) recognized degree program.
- Lakeland graduates in this program have been hired to work at numerous nuclear power plants in the United States.\*
- Lakeland's nuclear engineering technology program is one of only a few Engineering Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (ETAC/ABET) accredited NUET programs in the country.

*\* Please note:  
Background checks and  
drug testing are required  
to work in the utility  
industry.*



## Applying to the Program

To be qualified for this degree program, students must be "college ready." In addition, students must pass a background check and drug test, which are coordinated through the FirstEnergy Nuclear Operating Company. For further information about the program, contact a Lakeland engineering counselor at 440.525.7200, the college's program coordinator at 440.525.7523, or a FirstEnergy representative at 440.280.5665.

## For more information

1.800.589.8520 • lakelandcc.edu • lakelandcc.edu/nuclear  
Arnold Killian  
440.525.7523 • akillian@lakelandcc.edu  
Perry Nuclear Power Plant  
Tangela Hogue, Human Resources  
440.280.5665 • tkhogue@firstenergycorp.com

## Nuclear Engineering Technology (9416)

### Associate of Applied Science Degree

This program is based on the nuclear industry "Non-Licensed Operator" training requirements. Students must be "College Ready" (placement in MATH 1180 Technical Mathematics I and ENGL 1110 English Composition I (A) or ENGL 1111 English Composition I (B)) prior to registering for any NUET courses. A minimum GPA of 2.0 and a "C" grade or higher is required in all ELEC, MATH, CHEM, PHYS, NUET, and program-specific courses for graduation.

Graduates will be able to:

1. solve basic technical problems typical of what is encountered when working at a nuclear power plant;
2. perform tests and experiments, data analysis, and report findings including recommendations for improvement;
3. work and communicate effectively in diverse and multi-disciplinary teams;
4. be aware of modern professional, ethical, and societal issues as well as recognize the need for lifelong learning.

Students meeting specific academic standards are eligible to receive, upon graduation, a "Nuclear Uniform Curriculum" certificate issued by the Nuclear Energy Institute (NEI) and Lakeland. Before being hired to work within the nuclear industry, students must be able to pass a background check, drug tests, and psychological screening, typically administered by the utility.

Lakeland is one of only a handful of colleges nationwide to offer a two-year degree program in Nuclear Engineering Technology (9416) that is ETAC/ABET accredited. (ETAC/ABET – Engineering Technology Accreditation Commission of the Accreditation Board of Engineering and Technology 415 N. Charles St. Baltimore, MD 21201, phone: 410.347.7700, www.abet.org (http://www.abet.org).)





Students must meet specific admission requirements for this program. Interested students should contact the director of admissions or the Counseling Office for details about applying for admission to the program.

**NOTE:** Students planning to transfer to a four-year college are encouraged to take ENGL 1120 English Composition II




Course	Title	Credit Hours
<b>First Semester</b>		
ENGL 1110 or ENGL 1111	English Composition I (A) <sup>1</sup> or English Composition I (B)	3
ENGR 1000	Introduction to Engineering Technology	2
FYEX 1000	First Year Experience	1
MATH 1180	Technical Mathematics I	4
NUET 1000	Nuclear Industry Fundamental Concepts	3
NUET 1100	Radiation Detection and Protection	3
	Credit Hours	16
<b>Second Semester</b>		
CHEM 1100 or CHEM 1500	Elementary Chemistry <sup>2</sup> or General Chemistry I	4
ELEC 1120	Direct Current Circuit Analysis	2
MATH 1280	Technical Mathematics II	4
NUET 1200	Plant Drawings	3
NUET 1300	Power Plant Components	3
PHYS 1100	Applied Physics Mechanics	3
	Credit Hours	19



### Third Semester


COMM 1000 or COMM 1100	Effective Public Speaking or Effective Interpersonal Communications	3
ELEC 1220	Alternating Current Circuit Analysis 	2
ELEC 1260	Direct Current and Alternating Current Laboratory 	1
NUET 2000	Reactor Plant Materials 	3
NUET 2250	Reactor Theory, Safety and Design 	3
PHYS 1200	Applied Physics Heat and Thermodynamics	3
Credit Hours		15

### Fourth Semester

ECON 1150 or ECON 2500 or ECON 2600	Basic Economics or Principles of Macroeconomics or Principles of Microeconomics	3
ELEC 2300	Sensors, Actuators, and Control 	3
HUMX 1100	Introduction to Humanities	3
NUET 2300	Thermo-Fluid Sciences 	4
NUET 2400	Capstone and Case Studies in Nuclear Engineering Technology 	2
Credit Hours		15
Total Credit Hours		65

<sup>1</sup> English course selection is based on placement test results (ENGL 1111 English Composition I (B) is 4 credits, only 3 credits apply to the degree).

<sup>2</sup> Chemistry course selection is based on prior chemistry experience.

 This course is designated as a technical course in the program. Students must earn a "C" grade or higher in the course to fulfill the college's graduation requirements policy.

#### Quality Education

Professors at Lakeland are experts in their fields with real-world experience. Lakeland prepares you for a high-demand career or for transfer to a four-year college or university. Access to bachelor's and graduate degrees is available on campus from partner institutions through Lakeland's Holden University Center ([lakelandcc.edu/uc](http://lakelandcc.edu/uc)).

#### Affordable Tuition

Lakeland's tuition is about one-third the cost of most four-year schools. More than 50 percent of Lakeland students receive some form of financial assistance ([lakelandcc.edu/tuition](http://lakelandcc.edu/tuition)).

#### Convenience

Lakeland offers convenient day, evening, weekend and online courses ([lakelandcc.edu/schedule](http://lakelandcc.edu/schedule)).

#### Focus on Students

Lakeland offers a variety of student services to help you succeed, such as counseling, tutoring, computer labs, career services, free parking and affordable child care.

## Opportunity starts HERE

**Visit** us on campus or online. Call 440.525.7900, email [recruitmentcenter@lakelandcc.edu](mailto:recruitmentcenter@lakelandcc.edu) or visit [lakelandcc.edu/visit](http://lakelandcc.edu/visit) for a campus tour.

**Apply** online: [lakelandcc.edu/apply](http://lakelandcc.edu/apply)

#### Accreditation

Lakeland Community College is accredited through the Higher Learning Commission (HLC) and participates in the Academic Quality Improvement Program (AQIP). The Higher Learning Commission, 230 South LaSalle Street, Suite 7-500, Chicago, IL 60604-1413, phone: 800.621.7440, [hlcommission.org](http://hlcommission.org).

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