

# 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.



### First Semester:

|            |  |           |
|------------|--|-----------|
| ENGL 1110* | English Composition I(A)               | 3         |
| <b>OR</b>  |  |           |
| ENGL 1111  | English Composition I(B)               |           |
| FYEX 1000  | First Year Experience                  | 1         |
| MATH 1101  | Technical Mathematics I                | 4         |
| NUET 1000  | Nuclear Industry Fundamentals Concepts | 3         |
| NUET 1100  | Radiation Detection and Protection     | 3         |
| PHYS 1100  | Applied Physics I                      | 3         |
|            |  | <b>17</b> |

### Second Semester:

|             |  |           |
|-------------|--|-----------|
| CHEM 1100** | Elementary Chemistry                   | 4         |
| <b>OR</b>   |  |           |
| CHEM 1500   | General Chemistry I                    |           |
| ELEC 1120   | Direct Current Circuit Analysis        | 2         |
| ENGR 1000   | Introduction to Engineering Technology | 2         |
| MATH 1201   | Technical Mathematics II               | 4         |
| NUET 1200   | Plant Drawings                         | 3         |
| NUET 1300   | Power Plant Components                 | 3         |
|             |  | <b>18</b> |

### Third Semester:

|           |   |           |
|-----------|---|-----------|
| COMM 1000 | Effective Public Speaking                         | 3         |
| <b>OR</b> |   |           |
| COMM 1100 | Effective Interpersonal Communication             |           |
| 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 II                                | 3         |
|           |   | <b>15</b> |

### Fourth Semester:

|           |   |                          |
|-----------|---|--------------------------|
| ECON 1150 | Basic Economics   | 3                        |
| <b>OR</b> |   |                          |
| ECON 2500 | Principles of Macroeconomics                                |                          |
| <b>OR</b> |   |                          |
| ECON 2600 | Principles of Microeconomics                                |                          |
| 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                        |
|           |   | <b>15</b>                |
|           |   | <b>Program Total: 65</b> |

\*English course selection is based on placement test results (ENGL 1111 is 4 credits, only 3 credits apply to the degree).

\*\*Chemistry course selection is based on prior chemistry experience.

To further your education, Lakeland's Holden University Center offers a variety of bachelor's degree programs from a number of four-year colleges and universities offering you the opportunity to *stay here and go far!* Visit [lakelandcc.edu/uc](http://lakelandcc.edu/uc) to explore your options.



Lakeland NUET program graduates work at FirstEnergy's Perry Nuclear Power Plant. Pictured left to right are: Nealon Ulle (non-licensed operator class); Matthew Marple (non-licensed operator class); Cameron Adkins (non-licensed operator class); Samantha Navarro (reactor operator license class); and Shaun Kozlowski (senior reactor operator license class).

## Lakeland Community College Admission Requirements

For admission into Lakeland, students must be a high school graduate or have obtained a high school diploma equivalency. Please consult Lakeland Community College's Enrollment Guide (available on Lakeland's website at [lakelandcc.edu/enrollment](http://lakelandcc.edu/enrollment)) for specific admissions requirements and procedures.

## 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](http://lakelandcc.edu)

[lakelandcc.edu/nuclear](http://lakelandcc.edu/nuclear)

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Curriculum and program requirements are subject to change. Find the most up-to-date information in the college catalog, available on the website at [lakelandcc.edu](http://lakelandcc.edu).



### Quality Education

Lakeland prepares you for a high-demand career or for transfer to a four-year college or university. Professors at Lakeland are experts in their fields with real-world experience. Small class sizes allow for personalized attention.



### Affordable Tuition

Save thousands on your college education. Lakeland's tuition is about one-third the cost of most four-year schools. Financial assistance is available, including federal and state grants, scholarships, loans, and work study employment.



### Convenience

Lakeland offers convenient day, evening and weekend class times, and a growing number of online courses. The main campus in Kirtland is only 20 miles northeast of Cleveland. Classes are also offered in Madison.



### Focus on Students

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

### 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).