

Lakeland

COMMUNITY COLLEGE

PROGRAM GUIDE

Applied Studies Division

Electronic Engineering Technology

- Associate of Applied Science Degree in Electronic Engineering Technology
- A+ Computer Maintenance and Repair Certificate
- Electronic Systems Fundamentals Certificate
- Advanced Electronics Technology Certificate
- Electro-Mechanical Engineering Technology Concentration
- Telecommunications Engineering Technology Concentration
- Computer Hardware Engineering Technology Concentration

 Opportunity
starts **HERE**

lakelandcc.edu



Electronic Engineering Technology



Electronics engineering technicians identify and resolve equipment malfunctions and then work with manufacturers to get replacement parts. They also calibrate and perform preventative maintenance on equipment and systems. Technicians do this by reading blueprints, schematic drawings, and engineering instructions for assembling electronic units. Depending on the project, they may also write reports and record data on testing techniques, laboratory equipment and specifications.

Electronic engineering technology program graduates typically help engineers design and develop computers, communications equipment, medical monitoring devices, navigational equipment, and other electrical and electronic equipment.

They often work in product evaluation and testing, using measuring and diagnostic devices to adjust, test and repair equipment or they may be involved in the manufacture and deployment of automation/manufacturing equipment.

Duties may include:

- Designing basic circuitry and draft sketches to clarify details of design documentation, under engineers' direction.
- Building prototypes from rough sketches or plans.
- Assembling, testing and maintaining circuitry or electronic components according to engineering instructions, technical manuals and knowledge of electronics.
- Adjusting and replacing defective circuitry and electronic components.
- Inspecting designs for quality control, reporting findings and making recommendations.
- Drawing diagrams and writing specifications to clarify design details of experimental electronics units.

Career Opportunities

The median annual wage for electronics engineering technicians was \$102,180 in May 2017. The median wage is the wage at which half the workers in an occupation earned more than that amount and half earned less. The lowest 10 percent earned less than \$64,030, and the highest 10 percent earned more than \$160,360 (Source: Bureau of Labor Statistics, U.S. Department of Labor).

Lakeland's Program

Lakeland's Electronic Engineering Technology program is accredited by the Engineering Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (ETAC/ABET). This accreditation ensures transfer students pursuing a four-year technology degree will receive maximum transfer credits to other colleges and universities due to ETAC/ABET's strict program requirements.



The Lakeland Advantage

- Lakeland is proud to offer a ETAC/ABET accredited Associate of Applied Science degree in Electronic Engineering Technology.
- Hands-on education is combined with state-of-the-art software and hardware applications.
- Multiple certificate programs are offered to help specialize and enhance your education.
- Electronic and electrical engineering technology positions comprise 43 percent of all engineering technician jobs nationwide.

Lakeland Community College Admission Requirements

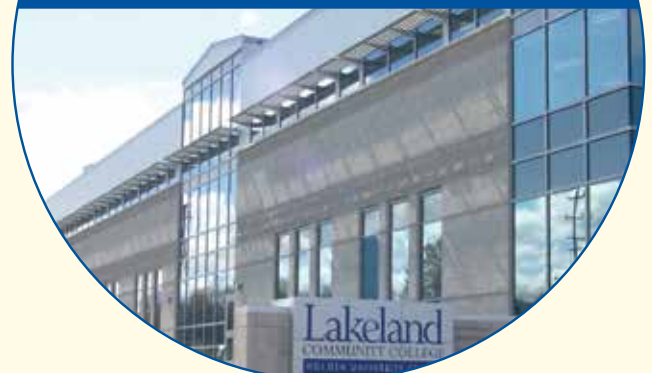
For admission into Lakeland, students must be a high school graduate or have obtained a high school diploma equivalency. Please consult Lakeland Community College's Enrollment Guide (available on Lakeland's website at lakelandcc.edu/enrollment) for specific admissions requirements and procedures.

For more information

Mike Garner, Program Coordinator
Electronic Engineering Technology
440.525.7521 • mgarner@lakelandcc.edu
lakelandcc.edu/web/about/electronic-engineering-technology-departments



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 to explore your options.



Electronic Engineering Technology

The Department of Electronic Engineering Technology's mission is to provide a quality learning environment within the Electronic Engineering Technology discipline. Its purpose is to prepare students to further their education at a four-year institution and/or gain employment within the field of engineering technology.

Program Educational Objectives: Graduates will be able to: (1) solve technical problems typical of those encountered in the electronic engineering technology discipline by using critical thinking skills, current technology, and principles of mathematics and applied science; (2) work and communicate effectively in multidisciplinary teams in both industrial and academic settings; and (3) understand current professional issues and the need to pursue lifelong learning.

Program Requirements: Students must have placed into MATH 1180 Technical Mathematics I and ENGL 1110 English Composition I (A) prior to registering for any ELEC courses. A minimum grade of "C" or higher is required for every ELEC, MATH and PHYS course listed within the program schedule.

Electronic Engineering Technology Program (9420) is accredited by the Engineering Technology Accreditation Commission (ETAC) of the Accreditation Board for Engineering and Technology, Inc. ETAC/ABET, 415 N. Charles St., Baltimore, MD 21201, phone: 410.347.7700, <http://www.abet.org>

Electronic Engineering Technology graduates are prepared with the skills necessary to enter careers in the design, application, installation, manufacturing, operation and/or maintenance of electrical/electronic(s) systems.

Currently, the Telecommunications Engineering Technology Concentration (9401), Electro-Mechanical Engineering Technology Concentration (9417), and Computer Hardware Engineering Technology Concentration (9418), are not ABET accredited.

Computer Hardware Engineering Technology graduates are prepared with the skills necessary to enter careers in the design, application, installation, operation, and/or maintenance of computer systems.

Electro-Mechanical Engineering Technology graduates are prepared with the technical skills necessary to enter careers in the building, installation, application, and operation and/or maintenance of electro-mechanical hardware and software systems.

Telecommunications Engineering Technology graduates are prepared with the skills necessary to enter careers in the design, application, installation, operation, and/or maintenance of telecommunication systems.

Certificates are also available.

Computer Hardware Engineering Technology Concentration (9418)

Computer Hardware Engineering Technology graduates are prepared with the skills necessary to enter careers in the design, application, installation, operation, and/or maintenance of computer systems.

Note: Students transferring to a four-year college are encouraged to take ENGL 1120 English Composition II in addition to the following requirements.

First Semester

| | | |
|--|--|------------------------|
| ELEC 1120 | Direct Current Circuit Analysis I | 2 |
| ENGL 1110 | English Composition I (A) ¹ | 3 |
| OR | | |
| ENGL 1111 | English Composition I (B) | 3 |
| ENGR 1000 | Introduction to Engineering Technology | 2 |
| FYEX 1000 | First Year Experience | 1 |
| MATH 1180 | Technical Mathematics I ² | 4 |
| Select course(s) from the Arts and Humanities Electives list | | 3 |
| | | Credit Hours 15 |

Second Semester

| | | |
|-----------|---|------------------------|
| CPET 1120 | C Programming for Engineering Technology | 3 |
| ELEC 1220 | Alternating Current Circuit Analysis I | 2 |
| ELEC 1260 | Direct Current and Alternating Current Laboratory I | 1 |
| ELEC 1330 | Digital Systems Fundamentals I | 2 |
| MATH 1280 | Technical Mathematics II ² | 4 |
| PHYS 1100 | Applied Physics Mechanics | 3 |
| | | Credit Hours 15 |

Third Semester


| | | |
|--|--|------------------------|
| CNET 1100 | Cisco Networking Technology I | 2 |
| CNET 1200 | Cisco Networking Technology II | 2 |
| ELEC 2120 | Linear and Switch-Mode Power Supplies I | 2 |
| ELEC 2420 | Microcontroller Applications I | 2 |
| ELEC 2460 | Digital Systems and Microcontroller Laboratory I | 1 |
| ITON 1011 | Comparative Analysis of Microcomputer Operating Systems I | 2 |
| PHYS 1200 | Applied Physics Heat and Thermodynamics | 3 |
| Select course(s) from the Social and Behavioral Electives list | | 3 |
| | | Credit Hours 17 |

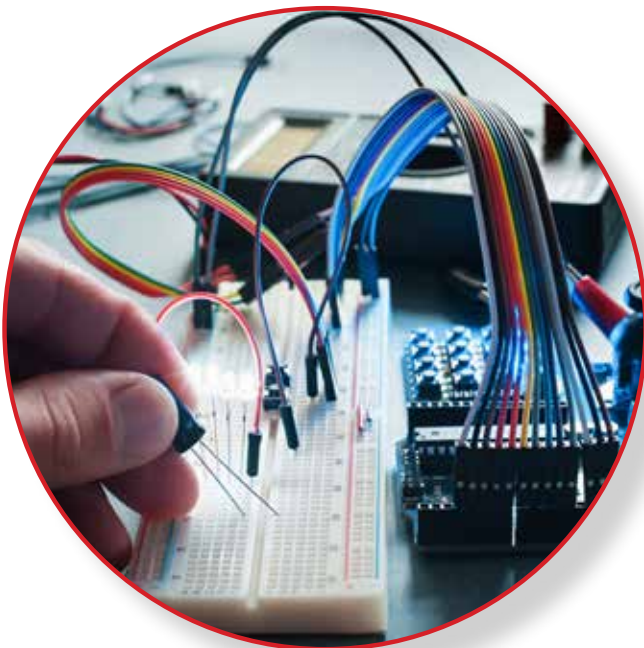
Fourth Semester

| | | |
|-----------|---|------------------------------|
| CNET 1300 | Cisco Networking Technology III | 2 |
| CNET 1400 | Cisco Networking Technology IV | 2 |
| COMM 1000 | Effective Public Speaking | 2 |
| OR | | |
| COMM 1100 | Effective Interpersonal Communications | 3 |
| CPET 1050 | Assembling, Upgrading and Repairing Personal Computers I | 2 |
| ELEC 2610 | Embedded Systems Project Lab I | 3 |
| ITIS 1025 | Managing and Optimizing Personal Computers I | 3 |
| ITON 1070 | Operating Systems: Skills and Techniques I | 1 |
| | | Credit Hours 16 |
| | | Total Credit Hours 63 |

¹ 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).

² Students planning to transfer to a four-year university should consider taking MATH 1650 College Algebra and MATH 1700 Trigonometry

 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.



Arts and Humanities Electives

| | | |
|----------------|---|---|
| ARTS 1120..... | Art Appreciation | 3 |
| ARTS 2220..... | Survey of Art I | 3 |
| ARTS 2230..... | Survey of Art II | 3 |
| ENGL 2250..... | Survey of American Literature I | 3 |
| ENGL 2260..... | Survey of American Literature II..... | 3 |
| ENGL 2280..... | Survey of British Literature I..... | 3 |
| ENGL 2290..... | Survey of British Literature II..... | 3 |
| HUMX 1100..... | Introduction to Humanities..... | 3 |
| HUMX 1200..... | The American Experience in the Arts..... | 3 |
| MUSC 1200..... | Music Appreciation..... | 3 |
| MUSC 1215..... | World Music..... | 3 |
| MUSC 1800..... | Popular Music: Rock, Jazz, Country, and Hip-Hop | 3 |
| MUSC 2200..... | Music History and Literature I..... | 3 |
| MUSC 2250..... | Music History and Literature II | 3 |
| PHIL 1500..... | Introduction to Philosophy | 3 |
| PHIL 2000..... | Comparative Religion | 3 |
| PHOT 1000..... | History of Photography..... | 3 |

Social and Behavioral Sciences Electives


| | | |
|----------------|---|---|
| ANTH 1160..... | Introduction to Cultural Anthropology..... | 3 |
| ECON 1150..... | Basic Economics..... | 3 |
| ECON 2500..... | Principles of Macroeconomics | 3 |
| ECON 2600..... | Principles of Microeconomics..... | 3 |
| GEOG 1500..... | Introduction to Geography | 3 |
| GEOG 1600..... | World Regional Geography..... | 3 |
| GEOG 2500..... | World Cultural Geography..... | 3 |
| HIST 1150..... | Western Civilization I: Antiquity Through the Reformation | 3 |
| HIST 1250..... | Western Civilization II: Age of Revolution Through the Present | 3 |
| HIST 2150..... | U.S. History: Colonization Through Reconstruction | 3 |
| HIST 2250..... | U.S. History: Reconstruction to the Present | 3 |
| POLS 1300..... | U.S. National Government | 3 |
| POLS 2500..... | Modern Political Ideologies..... | 3 |
| PSYC 1500..... | Introduction to Psychology..... | 3 |
| SOCY 1150..... | Principles of Sociology | 3 |

Electro-Mechanical Engineering Technology Concentration (9417)

Electro-Mechanical Engineering Technology graduates are prepared with the technical skills necessary to enter careers in the building, installation, application, and operation and/or maintenance of electro-mechanical hardware and software systems.





Note: Students transferring to a four-year college are encouraged to take ENGL 1120 English Composition II in addition to the following requirements.

First Semester

| | | |
|----------------|---|---|
| CIMN 1110..... | Machining Processes | 3 |
| ELEC 1120..... | Direct Current Circuit Analysis  | 2 |
| ENGL 1110..... | English Composition I (A) ¹ | |
| OR | | |
| ENGL 1111..... | English Composition I (B) | 3 |
| ENGR 1000..... | Introduction to Engineering Technology | 2 |
| FYEX 1000..... | First Year Experience | 1 |
| MATH 1180..... | Technical Mathematics I ² | 4 |

Credit Hours 15

Second Semester

| | | |
|----------------|---|---|
| CIMN 1210..... | Materials Processing  | 3 |
| ELEC 1220..... | Alternating Current Circuit Analysis  | 2 |
| ELEC 1260..... | Direct Current and Alternating Current Laboratory  | 1 |
| ELEC 1330..... | Digital Systems Fundamentals | 2 |
| MATH 1280..... | Technical Mathematics II ² | 4 |
| MECT 2110..... | Engineering Mechanics I  | 3 |
| PHYS 1100..... | Applied Physics Mechanics | 3 |





Credit Hours 18

Third Semester

| | | |
|--|--|---|
| ELEC 2821..... | Programmable Logic Controllers | 3 |
| MECT 2210..... | Engineering Mechanics II | 3 |
| MECT 2230..... | Strength of Materials | 3 |
| PHYS 1200..... | Applied Physics Heat and Thermodynamics..... | 3 |
| Select course(s) from the Arts and Humanities Electives list | | 3 |

Credit Hours 15

Fourth Semester


| | | |
|--|--|---|
| COMM 1000..... | Effective Public Speaking | |
| OR | | |
| COMM 1100..... | Effective Interpersonal Communications | 3 |
| ELEC 2300..... | Sensors, Actuators, and Control  | 3 |
| ELEC 2700..... | Motor Control and Servo Systems  | 3 |
| ELEC 2850..... | Advanced Programmable Logic Controller Applications  | 2 |
| Select course(s) from the Social and Behavioral Electives list | | 3 |
| Select course(s) from the Technical Electives list  | | 2 |

Credit Hours 16

Total Credit Hours 64

¹ 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).

² Students planning to transfer to a four-year university should consider taking MATH 1650 College Algebra and MATH 1700 Trigonometry

 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.



Technical Electives

| | | |
|-----------|----------------------------|---|
| CIMN 2390 | Fluid Power Technology | 3 |
| MECT 2600 | Design of Machine Elements | 2 |

Arts and Humanities Electives

| | | |
|-----------|---|---|
| ARTS 1120 | Art Appreciation | 3 |
| ARTS 2220 | Survey of Art I | 3 |
| ARTS 2230 | Survey of Art II | 3 |
| ENGL 2250 | Survey of American Literature I | 3 |
| ENGL 2260 | Survey of American Literature II | 3 |
| ENGL 2280 | Survey of British Literature I | 3 |
| ENGL 2290 | Survey of British Literature II | 3 |
| HUMX 1100 | Introduction to Humanities | 3 |
| HUMX 1200 | The American Experience in the Arts | 3 |
| MUSC 1200 | Music Appreciation | 3 |
| MUSC 1215 | World Music | 3 |
| MUSC 1800 | Popular Music: Rock, Jazz, Country, and Hip-Hop | 3 |
| MUSC 2200 | Music History and Literature I | 3 |
| MUSC 2250 | Music History and Literature II | 3 |
| PHIL 1500 | Introduction to Philosophy | 3 |
| PHIL 2000 | Comparative Religion | 3 |
| PHOT 1000 | History of Photography | 3 |

Social and Behavioral Sciences Electives

| | | |
|-----------|--|---|
| ANTH 1160 | Introduction to Cultural Anthropology | 3 |
| ECON 1150 | Basic Economics | 3 |
| ECON 2500 | Principles of Macroeconomics | 3 |
| ECON 2600 | Principles of Microeconomics | 3 |
| GEOG 1500 | Introduction to Geography | 3 |
| GEOG 1600 | World Regional Geography | 3 |
| GEOG 2500 | World Cultural Geography | 3 |
| HIST 1150 | Western Civilization I: Antiquity Through the Reformation | 3 |
| HIST 1250 | Western Civilization II: Age of Revolution Through the Present | 3 |
| HIST 2150 | U.S. History: Colonization Through Reconstruction | 3 |
| HIST 2250 | U.S. History: Reconstruction to the Present | 3 |
| POLS 1300 | U.S. National Government | 3 |
| POLS 2500 | Modern Political Ideologies | 3 |
| PSYC 1500 | Introduction to Psychology | 3 |
| SOCY 1150 | Principles of Sociology | 3 |

Electronic Engineering Technology (9420)

NOTE: Students transferring to a four-year college are encouraged to take ENGL 1120 English Composition II in addition to the following requirements.

First Semester

| | | |
|-----------|--|---|
| ELEC 1120 | Direct Current Circuit Analysis | 2 |
| ENGL 1110 | English Composition I (A) ¹ | |

OR

| | | |
|--|--|---|
| ENGL 1111 | English Composition I (B) | 3 |
| ENGR 1000 | Introduction to Engineering Technology | 2 |
| FYEX 1000 | First Year Experience | 1 |
| MATH 1180 | Technical Mathematics I ² | 4 |
| Select course(s) from the Arts and Humanities Electives list | | 3 |

Credit Hours 15

Second Semester

| | | |
|-----------|---|---|
| CPET 1120 | C Programming for Engineering Technology | 3 |
| ELEC 1220 | Alternating Current Circuit Analysis | 2 |
| ELEC 1260 | Direct Current and Alternating Current Laboratory | 1 |
| ELEC 1330 | Digital Systems Fundamentals | 2 |
| MATH 1280 | Technical Mathematics II ² | 4 |
| PHYS 1100 | Applied Physics Mechanics | 3 |

Credit Hours 15

Third Semester

| | | |
|---|--|---|
| ELEC 2120 | Linear and Switch-Mode Power Supplies | 2 |
| ELEC 2420 | Microcontroller Applications | 2 |
| ELEC 2460 | Digital Systems and Microcontroller Laboratory | 1 |
| ELEC 2821 | Programmable Logic Controllers | 3 |
| PHYS 1200 | Applied Physics Heat and Thermodynamics | 3 |
| Select course(s) from the Social and Behavioral Sciences list | | 3 |
| Select course(s) from the Technical Electives list | | 2 |

Credit Hours 16

Fourth Semester


| | | |
|-----------|---|---|
| COMM 1000 | Effective Public Speaking | |
| OR | | |
| COMM 1100 | Effective Interpersonal Communications | 3 |
| ELEC 2150 | Operational Amplifiers and Linear Integrated Circuits | 2 |
| ELEC 2170 | Power Supply and Integrated Circuits Laboratory | 1 |
| ELEC 2300 | Sensors, Actuators, and Control | 3 |
| ELEC 2610 | Embedded Systems Project Lab | 3 |
| ELEC 2700 | Motor Control and Servo Systems | 3 |

Credit Hours 15

Total Credit Hours 61

¹ 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).

² Students planning to transfer to a four-year university should consider taking MATH 1650 College Algebra and MATH 1700 Trigonometry

 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.



Technical Electives

| | | |
|-----------|---|---|
| CPET 1200 | Visual Basic for Engineering Technology I | 2 |
| ELEC 1400 | Stand-Alone Photovoltaic Systems | 2 |
| ELEC 2000 | Electronic Technology Field Experience | 2 |
| ELEC 2850 | Advanced Programmable Logic Controller Applications | 2 |

Arts and Humanities Electives

| | | |
|-----------|---|---|
| ARTS 1120 | Art Appreciation | 3 |
| ARTS 2220 | Survey of Art I | 3 |
| ARTS 2230 | Survey of Art II | 3 |
| ENGL 2250 | Survey of American Literature I | 3 |
| ENGL 2260 | Survey of American Literature II | 3 |
| ENGL 2280 | Survey of British Literature I | 3 |
| ENGL 2290 | Survey of British Literature II | 3 |
| HUMX 1100 | Introduction to Humanities | 3 |
| HUMX 1200 | The American Experience in the Arts | 3 |
| MUSC 1200 | Music Appreciation | 3 |
| MUSC 1215 | World Music | 3 |
| MUSC 1800 | Popular Music: Rock, Jazz, Country, and Hip-Hop | 3 |
| MUSC 2200 | Music History and Literature I | 3 |
| MUSC 2250 | Music History and Literature II | 3 |
| PHIL 1500 | Introduction to Philosophy | 3 |
| PHIL 2000 | Comparative Religion | 3 |
| PHOT 1000 | History of Photography | 3 |

Social and Behavioral Sciences Electives

| | | |
|-----------|--|---|
| ANTH 1160 | Introduction to Cultural Anthropology | 3 |
| ECON 1150 | Basic Economics | 3 |
| ECON 2500 | Principles of Macroeconomics | 3 |
| ECON 2600 | Principles of Microeconomics | 3 |
| GEOG 1500 | Introduction to Geography | 3 |
| GEOG 1600 | World Regional Geography | 3 |
| GEOG 2500 | World Cultural Geography | 3 |
| HIST 1150 | Western Civilization I: Antiquity Through the Reformation | 3 |
| HIST 1250 | Western Civilization II: Age of Revolution Through the Present | 3 |
| HIST 2150 | U.S. History: Colonization Through Reconstruction | 3 |
| HIST 2250 | U.S. History: Reconstruction to the Present | 3 |
| POLS 1300 | U.S. National Government | 3 |
| POLS 2500 | Modern Political Ideologies | 3 |
| PSYC 1500 | Introduction to Psychology | 3 |
| SOCY 1150 | Principles of Sociology | 3 |

Telecommunications Engineering Technology Concentration (9401)

Telecommunications Engineering Technology graduates are prepared with the skills necessary to enter careers in the design, application, installation, operation, and/or maintenance of telecommunication systems.

Note: Students transferring to a four-year college are encouraged to take ENGL 1120 English Composition II in addition to the following requirements.

First Semester

| | | |
|--|--|---|
| ELEC 1120 | Direct Current Circuit Analysis | 2 |
| ENGL 1110 | English Composition I (A) ¹ | |
| OR | | |
| ENGL 1111 | English Composition I (B) | 3 |
| ENGR 1000 | Introduction to Engineering Technology | 2 |
| FYEX 1000 | First Year Experience | 1 |
| MATH 1180 | Technical Mathematics I ² | 4 |
| Select course(s) from the Arts and Humanities Electives list | | |

Credit Hours 15

Second Semester

| | | |
|-----------|---|---|
| CPET 1120 | C Programming for Engineering Technology | 3 |
| ELEC 1220 | Alternating Current Circuit Analysis | 2 |
| ELEC 1260 | Direct Current and Alternating Current Laboratory | 1 |
| ELEC 1330 | Digital Systems Fundamentals | 2 |
| ITIS 1115 | Internet Technologies and Concepts | 2 |
| MATH 1280 | Technical Mathematics II ² | 4 |
| PHYS 1100 | Applied Physics Mechanics | 3 |

Credit Hours 17

Third Semester

| | | |
|--|--|---|
| CNET 1050 | Voice and Data Cabling | 2 |
| ELEC 2120 | Linear and Switch-Mode Power Supplies | 2 |
| ELEC 2420 | Microcontroller Applications | 2 |
| ELEC 2460 | Digital Systems and Microcontroller Laboratory | 1 |
| ITON 1205 | Network+ and Networking Essentials | 2 |
| PHYS 1200 | Applied Physics Heat and Thermodynamics | 3 |
| Select course(s) from the Social and Behavioral Electives list | | |

Credit Hours 15

Fourth Semester


| | | |
|-----------|---|---|
| COMM 1000 | Effective Public Speaking | |
| OR | | |
| COMM 1100 | Effective Interpersonal Communications | 3 |
| CPET 2560 | Introduction to Telecommunications Principles | 2 |
| ELEC 2150 | Operational Amplifiers and Linear Integrated Circuits | 2 |
| ELEC 2170 | Power Supply and Integrated Circuits Laboratory | 1 |
| ELEC 2610 | Embedded Systems Project Lab | 3 |
| ITON 1610 | Wireless Communications and Networking | 2 |
| ITON 1620 | Voice Communications and Networking | 2 |

Credit Hours 15

Total Credit Hours 62

¹ 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).

² Students planning to transfer to a four-year university should consider taking MATH 1650 College Algebra and MATH 1700 Trigonometry

 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.



Arts and Humanities Electives

| | | |
|----------------|--|---|
| ARTS 1120..... | Art Appreciation | 3 |
| ARTS 2220..... | Survey of Art I | 3 |
| ARTS 2230..... | Survey of Art II | 3 |
| ENGL 2250..... | Survey of American Literature I | 3 |
| ENGL 2260..... | Survey of American Literature II..... | 3 |
| ENGL 2280..... | Survey of British Literature I..... | 3 |
| ENGL 2290..... | Survey of British Literature II..... | 3 |
| HUMX 1100..... | Introduction to Humanities..... | 3 |
| HUMX 1200..... | The American Experience in the Arts..... | 3 |
| MUSC 1200..... | Music Appreciation..... | 3 |
| MUSC 1215..... | World Music..... | 3 |
| MUSC 1800..... | Popular Music: Rock, Jazz, Country, and Hip-Hop..... | 3 |
| MUSC 2200..... | Music History and Literature I..... | 3 |
| MUSC 2250..... | Music History and Literature II..... | 3 |
| PHIL 1500..... | Introduction to Philosophy..... | 3 |
| PHIL 2000..... | Comparative Religion..... | 3 |
| PHOT 1000..... | History of Photography..... | 3 |

Social and Behavioral Sciences Electives

| | | |
|----------------|--|---|
| ANTH 1160..... | Introduction to Cultural Anthropology..... | 3 |
| ECON 1150..... | Basic Economics..... | 3 |
| ECON 2500..... | Principles of Macroeconomics..... | 3 |
| ECON 2600..... | Principles of Microeconomics..... | 3 |
| GEOG 1500..... | Introduction to Geography..... | 3 |
| GEOG 1600..... | World Regional Geography..... | 3 |
| GEOG 2500..... | World Cultural Geography..... | 3 |
| HIST 1150..... | Western Civilization I: Antiquity Through the Reformation..... | 3 |
| HIST 1250..... | Western Civilization II: Age of Revolution Through the Present..... | 3 |
| HIST 2150..... | U.S. History: Colonization Through Reconstruction..... | 3 |
| HIST 2250..... | U.S. History: Reconstruction to the Present..... | 3 |
| POLS 1300..... | U.S. National Government..... | 3 |
| POLS 2500..... | Modern Political Ideologies..... | 3 |
| PSYC 1500..... | Introduction to Psychology..... | 3 |
| SOCY 1150..... | Principles of Sociology..... | 3 |

A+ Computer Maintenance and Repair Certificate (4252)

| | | |
|----------------|---|---|
| CPET 1050..... | Assembling, Upgrading and Repairing Personal Computers..... | 2 |
| CPET 2050..... | Advanced Assembly and Repair of Personal Computers..... | 2 |
| CPET 2060..... | Preparation for A+ Certification..... | 2 |

Total Credit Hours 6

Advanced Electronics Technology Certificate (4201)

| | | |
|--|--|---|
| Completion of the Electronic Systems Fundamentals Certificate..... | 20 | |
| ELEC 1400..... | Stand-Alone Photovoltaic Systems..... | 2 |
| ELEC 2150..... | Operational Amplifiers and Linear Integrated Circuits..... | 2 |
| ELEC 2170..... | Power Supply and Integrated Circuits Laboratory..... | 1 |
| ELEC 2420..... | Microcontroller Applications..... | 2 |
| ELEC 2460..... | Digital Systems and Microcontroller Laboratory..... | 1 |
| ELEC 2610..... | Embedded Systems Project Lab..... | 3 |

Total Credit Hours 31

Electronic Systems Fundamentals Certificate (4220)

| | | |
|----------------|--|---|
| CPET 1120..... | C Programming for Engineering Technology..... | 3 |
| ELEC 1120..... | Direct Current Circuit Analysis..... | 2 |
| ELEC 1220..... | Alternating Current Circuit Analysis..... | 2 |
| ELEC 1260..... | Direct Current and Alternating Current Laboratory..... | 1 |
| ELEC 1330..... | Digital Systems Fundamentals..... | 2 |
| ELEC 2120..... | Linear and Switch-Mode Power Supplies..... | 2 |
| MATH 1180..... | Technical Mathematics I..... | 4 |
| MATH 1280..... | Technical Mathematics II..... | 4 |

Total Credit Hours 20



Electronic Engineering Technology



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.

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.

Lakeland
COMMUNITY COLLEGE