

Lakeland

COMMUNITY COLLEGE

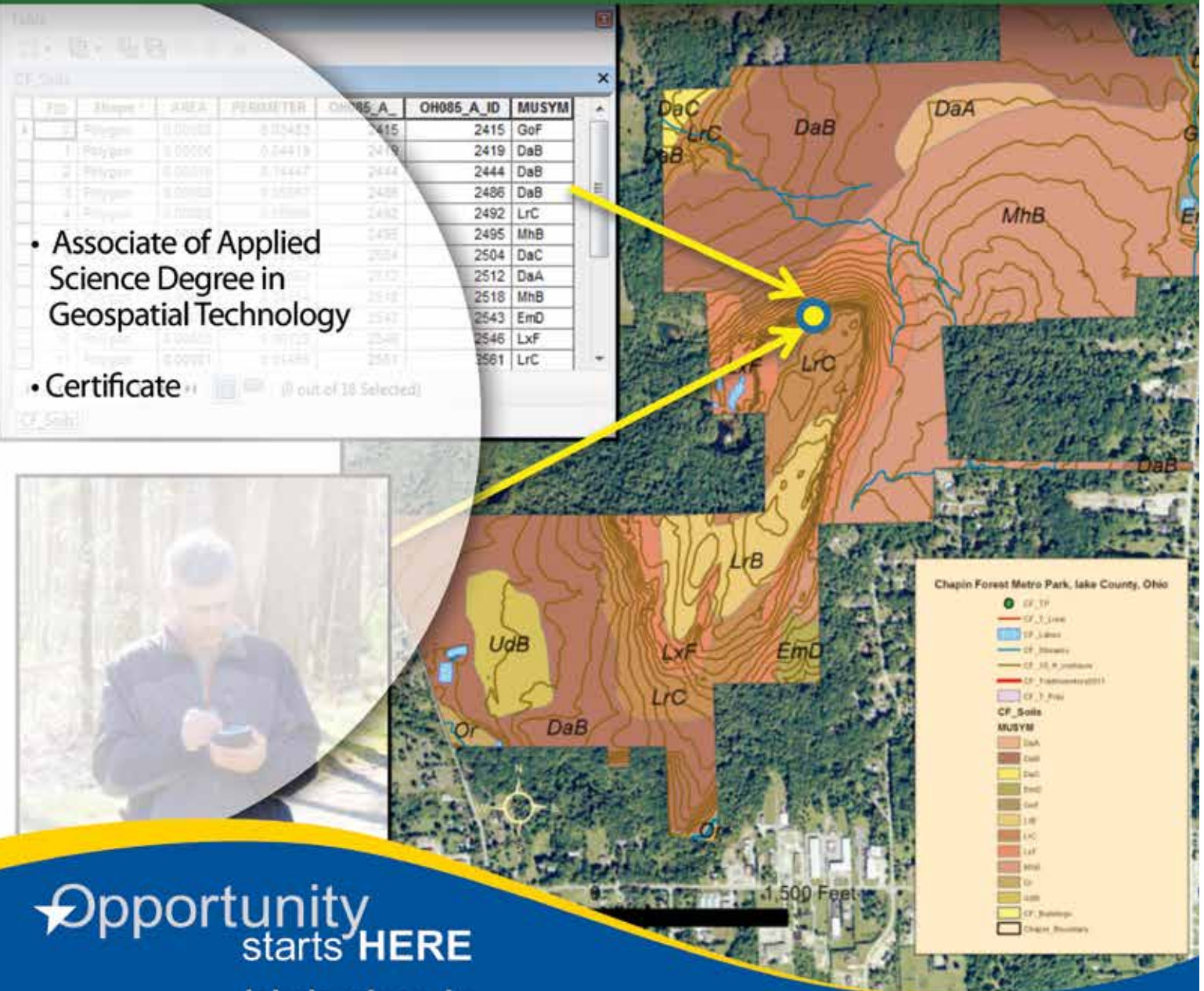
PROGRAM GUIDE

Arts and Sciences Division

Geospatial Technology

- Associate of Applied Science Degree in Geospatial Technology

- Certificate



Opportunity starts **HERE**
lakelandcc.edu

Geospatial Technology



Geospatial technology includes everything in the world of mapping, location information, and imagery of the earth's surface. The three main technologies in this field are Geographic Information Systems (GIS), remote sensing (imagery), and Global Positioning Systems (GPS) location analysis. People use these geospatial technologies to help answer questions and solve problems by looking at data in a way that is quickly understood and easily shared in many different career fields.

Geospatial technology is utilized to meet the needs to acquire, store, manage, interpret, analyze, and visualize location data. The advancing technologies and applications create excellent job opportunities for people with a variety of educational and technical backgrounds.

Career Opportunities

Geospatial technology is recognized by the U.S. Department of Labor as a high growth career field. Geospatial technology can be found in a wide range of industries and service sectors throughout the country, such as:

- Public Health
- Environmental Management
- Urban Planning
- Government
- Transportation
- Logistics
- Construction
- Marketing

With support of the Fenn Fund of the Cleveland Foundation and the Dominion Higher Education Fund, Lakeland has undertaken the Geospatial Pathways Project that has developed academic and career pathways to help students start a career in the geospatial field. All students complete experiential education and an internship. GIS courses in the program are infused with career service outcomes leading to a 100 hour internship.



Lakeland's Program

Lakeland's program was developed in 2011 to serve the needs of the growing geospatial industry, and is the first program in Ohio to be aligned with the U.S. Department of Labor's Geospatial Technology Competency Model (GTCM). This standard was created by the geospatial industry to create a workforce for the future.

Students may earn the Associates of Applied Science degree in order to become a geospatial professional; earn the certificate to apply the skills in almost any field as an "add-on" to an existing two-year, four-year or graduate degree; or as an "add-on" program for a current Lakeland student with another major.

The program prepares students to work with the essential applications in geospatial technology. In addition, the department of geography and geospatial technology includes a full range of geography transfer courses. Students are able to fulfill transfer and general education requirements while learning about the advanced technologies that are shaping new visions of the earth, its people and its systems.

The Lakeland Advantage

- Both degree and certificate options are available.
- Courses are offered in traditional, hybrid and online formats.
- There are a wide range of career opportunities available in this field, and geospatial technology will continue to expand as practitioners make a significant impact in many areas of the economy.
- Lakeland's program offers state-of-the-art technology in a dedicated Geospatial Technology Lab.



The Geospatial Technology Associate of Applied Science degree and certificate programs are designed to prepare students for careers in geospatial technology. This includes positions in government and private industry in the fields of geographic information systems (GIS), remote sensing, location positioning, geospatial intelligence, mapping, and related areas. Geospatial technology is recognized by the U.S. Department of Labor as a high-growth career field, and this program will prepare students to enter the geospatial industry.

First Semester:

ENGL 1110*	English Composition I (A)	3
OR		
ENGL 1111	English Composition I (B)	
FYEX 1000	First Year Experience	1
GEOG 1500	Introduction to Geography	3
GEOG 1550	Physical and Environmental Geography	3
OR		
PSCI 1300	Earth Science	
GEOG 1700	Geographic Information Science I	3
ITIS 1005	Computers and Information Processing	3
		16

Second Semester:

ENGL 1120	English Composition II	3
OR		
ENGL 1121	English Composition II-Technical Focus	
GEOG 1600	World Regional Geography	3
GEOG 2700	Geographic Information Science II	3
ITCS 1010	Programming Logic	3
MATH 1550	Statistics	4
		16

Third Semester:

COMM 1000	Effective Public Speaking	3
OR		
COMM 1100	Effective Interpersonal Communication	
OR		
MECT 1150	Technical Communications	
GEOG 2710	Spatial Data Acquisition and Management	3
GEOG 2750	Spatial Analysis and Modeling	3
POLS 1300	U.S. National Government	3
OR		
POLS 2100	State and Local Government	
Choose course(s) from the Technical Electives list.		3
		15

Fourth Semester:

GEOG 2730	Remote Sensing	3
GEOG 2760	Project Management in Geospatial Technology	3
GEOG 2780	Geospatial Technology in Internship/Seminar	2
Choose course(s) from the Arts and Humanities Electives list.		3
Choose course(s) from the Technical Electives list.		4
		15

Program Total: 62

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



Technical Electives: minimum 7 credits

CADT 1100	Introduction to AutoCAD	3
CADT 1500	Advanced AutoCAD	3
CIVT 2111	Surveying I	2
GEOG 2720	Web Mapping and Programming for GIS	
GRDS 1375	Computer Graphics AI, ID, and PS	
ITCS 1105	Web Programming I	3
ITCS 1820	Java Programming I	
ITCS 1870	Python Programming I	3
ITDB 1400	Introduction to SQL	
ITDB 1405	Oracle PL/SQL Programming	2
ITIS 1100	Internet: Services, Tools and Web Page Creation	2
ITIS 1130	Introduction to Web Design	
ITON 1070	Operating System Skills and Techniques	
ITON 1205	Network+ and Networking Essentials	2
ITON 1610	Wireless Communications and Networking	2
PHOT 1105	Basic Photography – Digital	3

Arts and Humanities Electives: minimum 3 credits

ARTS 1120, 2220, 2230; ENGL 2250, 2260, 2280, 2290; HUMX 1100, 1200; MUSC 1200, 1215, 1800, 2200, 2250; PHIL 1500, 2000; PHOT 1000

Geospatial Technology Certificate (6801)

Students must meet specific admission requirements for this program and are advised to meet with a counselor or the program director. All prerequisite courses or their equivalent must be completed prior to acceptance in the Geospatial Technology certificate program.

Provisional admission may be granted to students currently enrolled in the prerequisite courses, as long as all courses are completed before enrollment in first semester of the certificate program. Coursework in this certificate includes prerequisites that are not included in the certificate. Students with equivalent courses, knowledge and experience may request to have prerequisites waived prior to admission to the program.

Students must complete the following courses prior to program admission:

A minimum of 30 credit hours of for-credit college-level work with GPA of at least 2.0, including all of the following courses or their equivalents (with a grade of C or better): ENGL 1110 English Composition I or ENGL 1111 English Composition I, ITIS 1005 Computers and Information Processing, and one college-level mathematics course.

First Semester:

GEOG 1700	Geographic Information Science I	3
		3

Second Semester:

GEOG 2700	Geographic Information Science II	3
GEOG 2730	Remote Sensing	3
		6

Third Semester:

GEOG 2710	Spatial Data Acquisition and Management	3
GEOG 2750	Spatial Analysis and Modeling	3
		6

Fourth Semester:

GEOG 2760	Project Management in Geospatial Technology	3
GEOG 2780	Geospatial Technology in Internship/Seminar	2
		5

Certificate Total: 20

For more information about our graduation rates, the median debt of students who completed the program, and other important information, please visit lkn.lakelandcc.edu/go/ge/?g=6801.

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

1.800.589.8520 • lakelandcc.edu

Professor Mark Guizlo
Department Chair, Geography and Geospatial Technology
440.525.7251 • mguizlo@lakelandcc.edu

link to the Geography and Geospatial Technology webpage:
lakelandcc.edu/geography

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.



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, www.hlcommission.org.