# Geospatial Science Technician A.A.S.

Career Community:  Computer Technology and Networking
Curriculum Code: 0224
Effective: Fall 2023 – Summer 2028

## Description

Geospatial Science combines computer technology, mapping technologies, aerial photography, and satellite imagery with the most current environmental resource management and environmental analysis software. Geographic Information Systems (GIS) technicians work with computer drafting, design, database management, graphic design, and computer analysis. Environmental technology requirements include a working knowledge of natural systems and related regulations and their assessment, planning, restoration, and management. GIS technicians are employed with engineering and design firms, state and federal agencies, environmental firms, parks and recreation departments, and with municipalities and local government units. Students completing this curriculum may also be eligible to apply for the Certificate of Achievement in Geospatial Science (0834).  Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

## Milestone

In addition to the required General Education courses in Math and English, completion of GSCI 110 with a 2.0 or higher is a key component for success in completing this program.  Knowledge obtained in these courses is the foundation for learning in other required courses.  Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

## Additional Information

Students beginning this pathway in Spring Semester may want to start with the Semester II courses as many Semester I courses are only offered in Fall Semester.

## Contact Information

For further information, including career options, course substitutions and waivers, etc., contact the Geospatial Science Program, West Campus Building, Room M103, telephone number 517-267-6406 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

## General Education - Applied Degrees, Recommended Courses

(For the full list of options, see General Education)

- English Composition or Applied English – *Select one*
  ENGL 121, Composition I, 4 credits / 4 billing hours

- English Composition (second course)/Communication or Applied Communication – *Select one*
  COMM 110, Communication in the Workplace, 3 credits / 3 billing hours

- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*
  GEOG 200, World Regional Geography, 4 credits / 4 billing hours

- Mathematics or Applied Mathematics – *Select one*
  MATH 115, Technical Math II, 4 credits / 4 billing hours

- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*
  GEOL 230, Environmental Geology, 4 credits / 6 billing hours

## Program of Study Required Courses

| Course Code | Course Title | Credit / Billing Hours |
| --- | --- | --- |
| CITA 133 | Microsoft Access Database | 3 / 3 |
| CITP 110 | Intro to Programming-Python | 4 / 4 |
| GSCI 100 | Intro to Geospatial Tech | 3 / 3 |
| GSCI 110 | Beginning ArcGIS | 3 / 5 |
| GSCI 120 | Advanced ArcGIS | 3 / 5 |
| GSCI 210 | Global Positioning Systems | 3 / 4 |
| GSCI 240 | Cartography in GIS | 3 / 4 |
| GSCI 241 | Remote Sens/AirPhoto Interpret | 3 / 4 |
| GSCI 260 | Automating Workflows in GIS | 3 / 4 |
| GSCI 264 | Web GIS | 3 / 4 |
| GSCI 271 | Parcel Mapping | 3 / 5 |
| GSCI 275 | GIS Proj Mgmt & Implementation | 3 / 4 |

## Program of Study Required Courses, Limited Choice – *Select three courses*

| Course Code | Course Title | Credit / Billing Hours |
| --- | --- | --- |
| AVAU 100 | UAS Exam – Flight Orientation | 2 / 2.5 |
| AVAU 150 | Unmanned Aircraft Sys. Maint. | 2 / 3 |
| AVAU 200 | Advance UAS Flight – Capstone | 2 / 3 |
| CITA 126 | Microsoft Excel | 3 / 3 |
| CITP 130 | Intro to Mobile App Devel | 3 / 3 |
| CITP 190 | Intro to Programming in JAVA | 4 / 4 |
| CITW 160 | Web Development HTML & CSS | 3 / 3 |
| CITW 165 | Web Development JavaScript | 3 / 3 |
| GSCI 150 | UAS Flight for Industry | 3 / 4 |
| GSCI 250 | UAS Map Analysis | 3 / 4 |

## Minimum Total Credit Hours

65 credits / 79 billing hours

## Recommended Course Sequence

| Semester I |
| --- |
| Gen Ed – English Composition or Applied English |
| Gen Ed – Mathematics or Applied Mathematics |
| CITA 133 |
| GSCI 100 |
| GSCI 210 |

| Semester II |
| --- |
| Gen Ed – English Composition (second course)/ Communication or Applied Communication |
| Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences |
| GSCI 110 – Milestone course |
| GSCI 240 |
| Limited Choice |

| Semester III |
| --- |
| Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab |
| CITP 110 |
| GSCI 120 |
| GSCI 260 |
| GSCI 271 |

| Semester IV |
| --- |
| GSCI 241 |
| GSCI 264 |
| GSCI 275 |
| Limited Choice |
| Limited Choice |

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*