

GEOGRAPHIC INFORMATION SYSTEMS - ACADEMIC CERTIFICATE (AC)*

Explore More About This Program: <https://cwi.edu/program/geographic-information-systems>

Certificate Quick Facts

- **Instructional School:** Social Sciences and Public Affairs
- **Department:** Culture, History, and Politics
- **Program Code:** GIS.AC
- **Program Type:** Academic Transfer
- **Available Fully Online:** Yes
- **Eligible for Federal Financial Aid:** Yes

NOTE: Courses required for this program *may* have an additional fee; more information can be found on the [Special Course Fees](#) web page.

Certificate Requirements

Course	Course Title	Min Credits
Major Requirements		
GIS 120	Web GIS	3
GIS 126	Fundamentals of GIS	3
GIS 225	Cartography	4
GIS 226	Spatial Analysis With GIS	3
GIS 230	Remote Sensing/GIS Integration	3
<i>Optional Elective Course:</i> ¹		
GIS 240	Python Scripting for GIS	3
Minimum Credit Hours Required		16-19

¹ GIS 240 Python Scripting for GIS is an optional elective course for students completing the GIS Academic Certificate. While not required, students may find the course beneficial for future careers in the GIS field.

*All requirements for this degree or certificate may be completed fully online.

Certificate Plan: Fall Start

The course sequence listed below is strongly recommended in order to complete your program requirements. Please register for each semester as shown using the Student Planning tool in myCWI. Plans may be modified to fit the needs of part-time students by adding additional semesters. Consult your advisor for any questions regarding this course sequence plan.

First Year

Fall		Credit Hours
GIS 120	Web GIS	3
GIS 126	Fundamentals of GIS	3
Total Semester Credit Hours		6
Spring		Credit Hours
GIS 225	Cartography	4
GIS 226	Spatial Analysis With GIS	3
GIS 230	Remote Sensing/GIS Integration	3
Total Semester Credit Hours		10
Minimum Credit Hours Required		16

ADVISING NOTES:

- Students majoring in [Geography](#) can earn the Geographic Information Systems (GIS) Academic Certificate (AC) as part of their Associate of Arts degree while staying within the minimum 60 credits required for their AA if they use their elective credits towards the completion of the courses required for a GIS AC.

- Students may elect to complete GIS 240 Python Scripting for GIS during an optional third semester. While not required to earn the GIS AC, students may find this course beneficial for future careers in the GIS field.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Demonstrate proficiency in the use of geographic information systems (GIS) software.
- Employ the analytical skills necessary to apply GIS to a variety of geospatial problems and/or research questions.
- Integrate the skills and expertise necessary to design and implement an independent geospatial research project.
- Create and present professional-quality graphic representations of social, environmental, and economic conditions.

Related Degree Plan: Geographic Information Systems Academic Certificate and Geographic Associate of Arts Degree

The course sequence listed below is strongly recommended in order to complete all of the requirements for multiple programs. Please register for each semester as shown using the Student Planning tool in myCWI. Consult your advisor for any questions regarding this course sequence plan.

The courses listed below are strongly recommended to facilitate the completion of requirements for both an Academic Certificate (AC) in Geographic Information Systems **and** an Associate of Arts (AA) degree in Geography. If students complete the courses listed below, they will be eligible to graduate with **both** an AC in Geographic Information Systems **and** an AA degree in Geography.

NOTE: If you would like to earn the Geography AA **without** the AC, please visit the [Geography AA](#) catalog page for a detailed list of requirements.

Course	Title	Credit Hours
First Year		
Fall		
CWI 101	Connecting With Ideas	3
ENGL 101	Writing and Rhetoric I (GEM 1)	3
GEOG 100	Physical Geography (GEM 4)	3
GEOG 100L	Physical Geography Lab (GEM 4)	1
GIS 120	Web GIS	3
GIS 126	Fundamentals of GIS	3
Total Semester Credit Hours		16
Spring		
ENGL 102	Writing and Rhetoric II (GEM 1)	3
Select one of the following options (GEM 4):		4
Option 1:		
ENVI 100	Environmental Science	
ENVI 100L	Environmental Science Lab	
Option 2:		
GEOL 101	Physical Geology	
GEOL 101L	Physical Geology Lab	
GIS 226	Spatial Analysis With GIS	3
GIS 230	Remote Sensing/GIS Integration	3
MATH 153	Statistical Reasoning (GEM 3) ¹	3
Total Semester Credit Hours		16
Second Year		
Fall		
COMM 101	Fundamentals of Oral Communication (GEM 2)	3
GEOG 270	Global Climate Change	3
GEOG 102	Cultural Geography (GEM 6)	3
PHIL 101 or PHIL 103	Introduction to Philosophy (GEM 5) ² or Introduction to Ethics	3

GEM 6 - Social & Behavioral Ways of Knowing course ³		3
Total Semester Credit Hours		15
Spring		
GEOG 200	World Regional Geography (Global Perspectives)	3
GIS 225	Cartography	4
GEM 5 - Humanistic & Artistic Ways of Knowing course ³		3
Elective	Select elective credits to bring the total credits earned to 60	1-3
Total Semester Credit Hours		13
Minimum Credit Hours Required		60

¹ Geography majors are encouraged to take the Math Diagnostic for math placement upon acceptance to CWI if they did not submit ACT or SAT scores for math placement. The Math Diagnostic will inform the student if a review course such as MATH 097 is needed prior to enrolling in MATH 153.

² PHIL 101 Introduction to Philosophy or PHIL 103 Introduction to Ethics will fulfill the Ethical Reasoning requirement for an associate degree from CWI.

³ Course must come from a different discipline.