Geographic Information Systems (GIS) Track (4 modules, 3 weeks each)

In response to the growing need to offer online curriculum to expand skillsets in key areas, the Geographic Information Systems (GIS) Program has designed four modules that will provide students an understanding of the key theories, techniques, and applications of GIS; effective data visualization techniques; GIS database management best practices; and applying what they have learned through a real-world application in common fields of study. Each module is designed to be part of a self-paced online program with both synchronous and asynchronous instruction provided by experienced faculty at Washington College. The modules include access to instructional material, data, software, and one-on-one mentoring. Access will be provided to Esri’s full suite of software, extensions, and documentation.

Completing the GIS modules will position students to sit for the Esri ArcGIS Desktop Entry certification, which validates skills learned in a classroom environment to potential employers. Esri-certified students will be able to showcase their achievements through digital badging. To learn more about the certification, click here. If you desire formal Esri certification, they will charge a fee. This is nice to have, but by completing our modules, you will have the same level of knowledge and competence required for formal certification.

Module D-1: Introduction to Geographic Information Science/Systems
Guides: Erica McMaster, GIS Program Director; S. Lynn, L. Machado, and G. Sine, GIS Program
Schedule: Two sessions offered:
- one from August 10–28, meetings Tues/Thurs. 4:30 pm – 6:00 pm
- one from September 7–25, meetings Tues/Thurs. 2:30 pm – 4:00 pm
Cost: $250 (discounted to $100 for Class of 2020; for all others, 20% for 5 or more modules)
- Foundational knowledge in the theory, research, techniques, and applications of GIS (science & systems)
- A tiered approach to learning GIS data collection, manipulation, analysis, output, and presentation techniques

Module D-2: GIS Data Visualization (prerequisite: Intro to GIS or equivalent)
Guides: Erica McMaster, GIS Program Director; S. Lynn, L. Machado, and G. Sine, GIS Program
Schedule: September 7-25, meetings Tues/Thurs. 4:30 pm – 6:00 pm
Cost: $250 (discounted to $100 for Class of 2020; for all others, 20% for 5 or more modules)
- Foundational knowledge in the theory and applications of cartographic design and map making
- Students will learn effective visualization methods based on available data, problem to be addressed, and the audience
- Students will explore infographics, web maps, and applications, Story Maps, and dashboards

Module D-3: GIS Database Management (prerequisite: Intro to GIS or equivalent)
Guides: Erica McMaster, GIS Program Director; S. Lynn, L. Machado, and G. Sine, GIS Program
Schedule: October 5-23, meetings Tues/Thurs. 4:30 pm – 6:00 pm
Cost: $250 (discounted to $100 for Class of 2020; for all others, 20% for 5 or more modules)

- Foundational knowledge about managing spatial data and information systems
- Students will explore best practices, system design, and data modeling through practical applications of database theory and methods

**Module D-4: Applying GIS to Real-World Problems** (prerequisite: Intro to GIS or equivalent)

Guides: Erica McMaster, GIS Program Director; S. Lynn, L. Machado, and G. Sine, GIS Program

Schedule: **November 2-20, meetings Tues/Thurs. 4:30 pm – 6:00 pm**

Cost: $250 (discounted to $100 for Class of 2020; for all others, 20% for 5 or more modules)

- Using the skills learned in Modules 1-3, students will choose from a list of problem areas (ex. crime, environment, business) and will complete a project from start to finish

- Students can also supply their own data to solve a real-world problem they may be working on in other courses or in their professional career