

GRADUATE CERTIFICATE IN WATERSHED MANAGEMENT

(11 - 12 HOUR CERTIFICATE)

Watershed Management (1 course / 2 - 3 credits)

- **Online**
 - NR 5264: Watershed Stewardship (3-Hours, Fall)
- **In-Person**
 - WATR 5614: Advanced Watershed Assessment, Management, and Policy (2-hours, Spring)

Foundations in Watershed Science (1 course / 3 credits)

- **Online**
 - BSE 5404: Agricultural Nonpoint Source Pollution (3-Hours, Fall)
 - CEE 5390: Advanced Urban Water Sustainability (3-Hours, Spring)
 - CSES 5314: Water Quality for Professionals (3-Hours, Fall)
 - CSES 5864: Advanced Wetland Soils and Mitigation (3-Hours, Summer-III)
 - NR 5214: Urban Water Systems (3-Hours, Summer-III)
- **In-Person**
 - BSE 5364: Stream Restoration (3-Hours, Spring)
 - CSES/FREC 5144: Watershed Hydrology (3-Hours, Spring)
 - GEOS 5804G: Advanced Groundwater Hydrology (3-Hours, Spring)

Quantitative Watershed Analysis (1 course / 3 credits)

- **Online**
 - BSE 5344G: Applied GIS (3-Hours, Spring)
 - CEE 5390: Advanced Urban Water Sustainability (3-Hours, Spring)
 - GEOG 5064: Elements of GIS (3-Hours, Summer-I)
 - GEOG / GEOS 5354G: Advanced Remote Sensing (3-Hours, Summer-I)
- **In-Person**
 - BSE 5224G: Advanced Field Methods in Hydrology (3-Hours, Fall)
 - BSE 5304: Advanced Watershed Modeling (3-Hours, Spring)
 - GEOG 5084G: Advanced Modeling with GIS (3-Hours, Fall)
 - WATR 5244G: Advanced Hydroinformatics (3-Hours, Spring)



Watershed Policy (1 course / 3 credits)

- **Online**
 - NR 5204: Water Conflict & Management (3-Hours, Fall)
- **In-Person**
 - UAP 5134G: Advanced Land Use & Environment: Planning and Policy (3-Hours, Fall)
 - UAP 5304: Land Use Planning (3-Hours, Spring)
 - UAP 5554: Land Use Law & Planning (3-Hours, Spring)
 - WATR / FREC 5464G: Advanced Water Resources Policy and Economics (3-Hours, Fall)

Management of water resources is a critical issue facing citizens, governmental agencies, and the private sector. Watershed Management Certificate courses in natural science, technical assessment, economics, planning, and policy develop the interdisciplinary skills effective professionals need.

Students can choose between three paths to completion of the the certificate:

- Online (asynchronous)
- In-person (Blacksburg)
- Hybrid (in-person and online)

