The combined master of arts in environmental resource policy (ENRP) degree and graduate certificate in geographical information systems (GIS) program offers a multidisciplinary approach to environmental and sustainability studies, blending theory and practical experience with a curriculum that includes environmental economics, environmental law, public policy, research methods, and environmental science. Elective courses can be taken in almost any department at the University, including, but not limited to, biology, chemistry, geography, international affairs, public policy, economics, political science, engineering management and systems engineering, business administration, and public health. Students graduate prepared to enter environmental policy careers in government, nonprofit organizations, the private sector, and environmental advocacy groups. The GIS certificate curriculum guides students through all aspects of GIS theory and practice, from the science of cartography to analyzing geographical statistics to database design and geospatial modeling. Students are equipped with a solid grounding in geospatial theory and techniques as well as its practical applications.

**REQUIREMENTS**

The MA in Environmental Resource Policy requires 36 credits of appropriate graduate-level course work. Course work usually takes four semesters to complete on a full-time basis, and six to eight semesters on a part-time basis. Course work is divided into 24 credits of core requirements (eight courses) and 12 credits of electives (typically four courses).

**REQUIRED COURSES:**

- ENRP 6101  Environmental Science I - Physical Sciences (Year 1, Fall)
- ENRP 6102  Environmental Science II - Life Sciences (Year 1, Spring)
- ENRP 6140  Introduction to Environmental Law (Year 1, Spring)
- PPPA 6017  Introductory Microeconomics for Public Policy (Year 1, Spring)
- ECON 6237  Economics of the Environment and Natural Resources (Year 2, Fall)
- PPPA 6006  Policy Analysis (Year 1, Fall, Spring, or Summer)

**ELECTIVES:**

Electives are usually selected either to broaden familiarity with several environmental policy issues or to specialize in a particular environmental or resource issue. They offer students the chance to tailor the ENRP program to their specific needs and interests. Elective courses can be taken in almost any department at The George Washington University, including, but not limited to, biology, chemistry, geography, international affairs, public policy, economics, political science, engineering management and systems engineering, business administration, and public health, as well as at Consortium Schools. Students enrolled in the dual program would take GIS courses as their electives.

**GIS CERTIFICATE PROGRAM REQUIREMENTS**

The Certificate program requires the completion of 12 graduate credits (typical). Students will take 2 required courses (GEOG 6304 (GIS 1), GEOG 6305 (Geospatial Statistics), and 2 elective classes.

**REQUIRED COURSES:**

- GEOG 6304: GIS I (Fall, Spring, Summer)
- GEOG 6305: Spatial Statistics (Fall, Spring)

**ELECTIVES**

- GEOG 6306: Advanced Geospatial Analysis (Spring) (Prerequisite: GEOG 6304)
- GEOG 6307: Digital Image Processing (Spring) (Prerequisite: GEOG 6303, GEOG 6304 & GEOG 6305)
- GEOG 6308: Programming for Geographic Applications (Fall) (Prerequisite: GEOG 6304 & GEOG 6305)
- GEOG 6309: GIS for Emergency Management (Fall) (Prerequisite: GEOG 6304)
- GEOG 6310: Geo-Visualization & Cartography (Fall) (Prerequisite: GEOG 6304)
- GEOG 6311: Open Source GIS (Spring) (Prerequisite: GEOG 6304)