



## Alignment of Degree Programs

**CIP Code & Title:** 03.0104 Environmental Science

**Level:** Master's

**Area of Strategic Emphasis:** STEM

### PROGRAM DESCRIPTION:

The Master of Science in Environmental Science and Policy is designed to provide students the discipline-specific knowledge and transferable skills to understand the socio-cultural and political context in which environmental problems are created and ameliorated, as well as the scientific expertise to explore and analyze the consequences of ongoing environmental change. Students can specialize in wetlands and water, natural environments, climate and hazards, geographic information systems, or human-environment interaction. The program offers both thesis and professional tracks as courses of study.

### CURRICULUM:

#### A. Student Learning Outcomes:

##### Goal 1: Discipline Specific Content

##### Thesis-Track

- 1a. Outcome: The School of Geosciences M.S. in Environmental Science and Policy thesis track graduates will demonstrate an ability to use modern research methods to conduct an in-depth study of a current issue in their chosen area and an ability to present the results of their research in a formal academic setting.
- 1b. Outcome: Each master's student has a graduate committee composed of at least 3 faculty members in the student's disciplines and related disciplines. After the master's student completes and defends her/his thesis, the committee will use a scoring rubric to assess the quality of research within the student's Thesis with a focus on identifying strengths and weaknesses. Candidates will be scored in five areas, using a 5 (highest) to 1 (lowest) scale. The student's total score will be 25 on the rubric. The scoring criteria include a) general and discipline specific knowledge, b) problem solving, c) understanding methodology, d) organization/communication, and e) support/background. The committee members must agree that the student has demonstrated the appropriate understanding of the discipline.

##### Non-Thesis-Track

- The School of Geosciences ESP M.S. professional track graduates will demonstrate a deep understanding of the general environmental science history and current issues and other two specific areas of the discipline.

- The School of Geosciences M.S. professional track graduates will pass a six and half hour essay comprehensive written exam. The comprehensive written exam is administered during the semester they plan to graduate. The student will have three examining committee members. The Graduate Director who acts as the chair of the committee will ask the open ended generic question which was developed by looking at the program requirements and outcome benefits to the students. The rubric was developed by selecting the different elements that would show a deep understanding of the subject matter. We look at the background information, purpose statement, understanding of the topic, logical and coherent pattern of organization, enough evidence to support the hypothesis, and provided examples. Candidates will be scored in four areas, using a 5 (highest) to 1 (lowest) scale. The student's total score will be 20 on the rubric. Scoring criteria include a) general and discipline knowledge, b) problem solving, c) organization, and d) support/background. The committee will evaluate the written exam. As a graduation requirement, each M.S. professional candidate must address three questions associated with the general environmental science history and current issues and other two specific areas of the discipline. Each student's response will be evaluated by an examining committee of three reviewers selected by the Graduate Director of the Department. The committee members must agree that the student has demonstrated the appropriate understanding of the disciplines. If the answers to any question is determined to be incorrect or incomplete, the student may be required to retake that portion of the exam in the form of oral exam that is open to the committee. Students are encouraged to complete the oral exam in the same semester they complete the written exam.

## **B. Admission Standards for the Program:**

### **B1. Program Admission Requirements:**

1. Personal statement describing career goals, degree track (thesis or professional), and interest in the graduate program. Thesis track students should clearly identify both research interests and preferred major professor(s).
2. Writing sample (a substantial term paper or other evidence of academic or professional writing ability).
3. Three letters of recommendation from people qualified to assess the applicant's potential for graduate study.
4. Applicants must submit current scores from the Graduate Record Examination (GRE).
5. Graduate Assistant application form, if applying for an assistantship.

### **B2. University Admissions:**

Admission to the University is based on the University's Graduate Admission Requirements that may be found by clicking on the following url:

- **Graduate:** <https://www.usf.edu/admissions/graduate/admission-information/requirements-deadlines.aspx>

## **C. Graduation Requirements for the Program:**

- Minimum GPA of 3.0
- Successful completion of the following:

- All degree requirements and the required minimum degree program credit hours;
- Completion of the requirements associated with the thesis or non-thesis requirement.

#### **D. Curricular Framework:**

##### **D1. Required Courses:** (16 credit hours)

###### **D1a. Major Core Courses:** 4 courses; 10 credit hours

- GEO 6116 Perspectives on Environmental Thought (3)
- GEO 6970 Research Methods in Geography (3)
- EVR 6922 ESP Capstone Seminar (3)
- EVR 6930 Research Colloquium in Environmental Science and Policy (1)

###### **D1b. Other Required Courses:** 2 courses; 6 credit hours

Choose one Methods and Techniques course from the following list:

- GEO 6166 Multivariate Statistical Analysis (3)
- GIS 5049 GIS for Non-majors (3)
- GIS 6100 Geographic Information Systems (3)

Choose one Seminar course from the following list:

- EVR 6934 Seminar in Environmental Science (3)
- EVR 6937 Seminar in Environmental Science and Policy (3)

##### **D2. Major (Restricted) Elective Courses:** (12 credit hours)

Students must complete 12 credit hours of graduate level (5000 or higher) elective courses with EVR, GEO, GIS, or GLY prefixes, of which at least 6 credit hours must be EVR-prefixed courses. Courses are selected in consultation with their major professor. Courses from outside programs require approval by the Environmental Science and Policy Graduate Director. No more than 3 credit hours of EVR 6908 Independent Study may be applied to the major.

##### **D3. Thesis/Non-Thesis Options:** (8 credit hours)

###### **D4a. Thesis Option**

The thesis track consists of 8 credit hours. Thesis track students complete a master's thesis that constitutes an original scholarly contribution and is conducted under the direction of a major professor and a three-member Faculty Supervisory Committee. Students complete a Thesis Proposal, subject to approval of the Faculty Supervisory Committee, typically during their second semester while enrolled in 2 credit hours of EVR 6908 Independent Study. Students defend their thesis in an oral presentation and submit the written thesis for the approval of the Faculty Supervisory Committee, which is then submitted to the University as a requirement for earning the degree. Students must complete 6 thesis hours (EVR 6971 Thesis: Mater's) while working on their thesis.

###### **D4b. Non-Thesis Option**

In lieu of a thesis, professional track students complete an additional 8 credit hours of coursework. This includes six hours of elective coursework (courses with EVR, GEO, GIS, or GLY prefixes) and 2 credit hours of EVR 6908 Independent Study, in which the student

completes an additional professional track requirement of completing a comprehensive examination. At the discretion of the student's examining committee, an internship or special project may be substituted for the non-thesis exam.

**NOTES:**

- Do not anticipate any significant increase in students and the student to faculty ratio post consolidation is expected to be stable.