Fall 2024 Dr. Lauren Stachowiak

GEOS 323/523 Office: SCI 126H

Intro to GIS for EnvSci lstachowiak@ewu.edu

M/W 1:00-3:20pm, SCI GIS Lab Drop-In Hours: by appt

**Course Description and Course Learning Objectives (CLOs)**

Introduction to Geographic Information Systems (GIS) with an emphasis on its applications in the environmental sciences. Upon completion of this course students will have gained expertise in the following learning objectives:

1. Demonstrate various tools commonly used in GIS analyses related to environmental applications.
2. Understand basic workflow design and geoprocessing methodology

**Required Software Usage**

This term the GIS software of focus will be ArcGIS Pro and you will be accessing the software to complete course materials from the primary GIS computer lab on the first floor of Science Hall. While it is possible to install the software on personal laptops, that will not be how we access the software this term.

**Accessing Course Materials and Contacting Your Professor**

All data for the course will be provided to you, either via Canvas for download or direct links. All GIS labs should be completed in the software specified for each lab or exercise, and maps or deliverables submitted via Canvas.

I will regularly communicate with you throughout the term via Canvas and email, so be sure to check your inbox for updates frequently and look for announcements or messages when they arrive. To contact me at any time, please email me via EWU email [lstachowiak@ewu.edu](mailto:lstachowiak@ewu.edu). I check my email daily and you will receive an email response from me within 72 hours of receipt, but usually within 24 hours.

**Grading Policies and Course Breakdown**

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| --- | --- | --- |
| **Grade** | **Percent Range** | **Final Grade Point** |
| A | 90.0 and above | A |
| B | 80.0 – 89.9 | B |
| C | 70.0 – 79.9 | C |
| D | 50.0 – 69.9 | D |
| F | 49.9 and below | F |

|  |  |
| --- | --- |
| **Item** | **Point Value** |
| GIS Labs (10 @ 20 pts each) | 200 |
| Practical Exams (2 @ 100 each) | 200 |
| **TOTAL POINTS POSSIBLE** | 400 |

\*523 Students will need to also complete the grad project

**Attendance Policy**

Attendance in lecture and lab is expected in this course. Additionally, you should also expect to put in approximately 2-3 hours of outside work for every in-person hour. You will not do well in this course if you fall too far behind.

**Academic Integrity**

Academic Integrity is the cornerstone of the university. Any student who attempts to gain an unfair advantage over other students by violating the Academic Integrity policy may be reported to the university and may receive a sanction up to and including XF for the course, suspension, or expulsion from the university. This policy is on the EWU web site.[https://inside.ewu.edu/policies/knowledge-base/wac-172-90-student-academic-integrity-3/](https://inside.ewu.edu/policies/policies-and-procedures/wac-172-90-student-academic-integrity-3/)

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**Affirmative Action Statement**

Eastern Washington University adheres to affirmative action policies to increase the number and retention of students and employees from historically underrepresented groups.

**ADA Statement**

Eastern Washington University is committed to providing support for students with disabilities. If you are a student with physical, learning, emotional, or psychological disabilities needing an accommodation, you are encouraged to stop by Disability Support Services (DSS), TAW 124 or call 509-359-6871.

**Holidays & Religious Accommodations**

Please refer to the following link for specifics on the holiday and religious accommodations per EWU policy 403-1: <https://inside.ewu.edu/policies/knowledge-base/ewu-403-01-holidays/>

**TERM SCHEDULE**

This is a project-based introductory course with a focus on demonstrations and hands-on weekly labs. Each week you will have a lab to complete and there are two practical exams for a midterm and final exam. Details of each week are listed below.

**Week 1**

*Topics –* Opening the program, setting up the map frame, and loading data

**Week 2**

*Topics –* Reading and storing metadata, exploring discrete vs continuous data, utilizing the attribute table

**Week 3**

*Topics –* Collecting spatial data in the field (part I)

**Week 4**

*Topics –* Collecting spatial data in the field (part II)

**Week 5**

Midterm Practical Exam covers materials from Weeks 1-4.

**Week 6**

*Topics --* Geoprocessing in the Analysis Toolbox – Extract, Overlay, and Proximity toolsets

**Week 7**

*Topics --* Geoprocessing in the Spatial Analyst Toolbox. – Map algebra, Overlay, and Reclass toolsets

**Week 8**

*Topics --* Geoprocessing in the Spatial Analyst Toolbox – Surface and Hydrology toolsets

**Week 9**

*Topics –* ArcGIS Online (at home, no class meeting)

**Week 10**

Final Practical Exam covers topics from the entire term.