

Soils/NATRS 468 ArcGIS and Geospatial Analysis

Instructor:

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Text: GIS Tutorial. Workbook for ArcView 9, **2nd Edition** by Wilpen L. Gorr & Kristen S, Kurland. ESRI Press, Redlands, CA. Online reading will also be assigned.

Objectives of the course

- Learn how to find, create, and manage spatial data.
- Learn spatial analysis techniques
- Learn how to produce well-designed maps
- Learn how to use ArcGIS to accomplish the above

Grading

Soils/NATRS 468

Lecture exams (each exam 12.5%) 25%

Lab exercises, quizzes 55%

Map project 20%

Schedule

Week	Topic	Lab Exercises
Aug 26 - 29	Introduction to GIS	Tutorial 1 – Introduction Tutorial 2 – Map Design
Sept. 2 - 5	Map components	Tutorial 3 – GIS Outputs
Sept. 9 - 12	Geospatial data formats, Remote sensing imagery in GIS	Tutorial 4 - Geodatabases
Sept. 16 - 19	Projections	Tutorial 5 – Importing Spatial and Attribute Data

Sept. 23 - 26	Metadata, Analyzing Spatial Data	Tutorial 6 - Digitizing
Sept. 30 – Oct. 3	Global positioning systems, More spatial analysis	Tutorial 7 - Geocoding
Oct. 7 - 10	Database basics Exam (Oct. 4)	Tutorial 8 – Spatial Data Processing
Oct. 14 - 17	Spatial modeling Spatial modeling of surfaces	Tutorial 9 – Spatial Data Analysis
Oct. 21 - 24	Hydrologic Modeling 3-D GIS	GPS exercise Spatial Analyst Tutorial
Oct. 28 - 31	Raster interpolation Labels and annotation	3-D Analyst Tutorial Grizzly Bear Recovery Zones
Nov. 4 - 7	Relationship classes Working with tabular data	Greater Yellowstone Ecosystem Analysis
Nov. 11 – 12	Veterans' Day (no class on Tues., Wed.)	
Nov. 13 - 14	Editing Topology ArcGIS extensions & scripts	Greater Yellowstone Continued
Nov. 18 - 21	GIS management Managing error in GIS	Projects
Dec. 2 - 5	Linear referencing, Geocoding	Projects
Dec. 9 - 12	Other GIS software	Projects due 5 pm Dec. 12
Dec. 17, 10 am	Exam	

468 Final Mapping Project

1. Assemble four or more data layers into a coherent map. You will be responsible for choosing the layers, acquiring the data, performing any geoprocessing and assembling them into a map (13" x 19") which will be printed and turned in.
2. Turn in a one page description of the map. Include the sources of the data layer and a brief description of any geoprocessing.
3. All data layers in your map will be stored in a folder called "final_project" within your data folder on the server. The data layers should have metadata using the Washington basic metadata subset (<http://wagic.wa.gov/techstds2/bsubset.htm>) where appropriate.
4. Projects are due by 5 pm Friday, December 12.

Notes:

- Take a look at the ESRI Map Books in lab or online at <http://www.esri.com/mapmuseum/index.html> for map ideas.
- Feel free to discuss your ideas or ask for help.
- Please make liberal use of the “print preview” function in ArcMap. The paper and ink for this project are more expensive and the printers tend to be more finicky than the printer we have been using. There will not be a penalty for printing multiple times, but please try to avoid unnecessary prints.

Students with Disabilities: Reasonable accommodations are available for students with a documented disability. If you have a disability and may need accommodations to fully participate in this class, please visit the Disability Resource Center (DRC). All accommodations MUST be approved through the DRC (Admin Annex Bldg, Room 205). Please stop by or call 509-335-3417 to make an appointment with a disability specialist.