

Class Schedule : Spring 2010 (CRN 35413, 35428)

GEOS 458/658: Geoscience Applications of GPS and GIS

Department of Geology and Geophysics, University of Alaska Fairbanks

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(Lecs: W/F 1300 - 1400 at Reichardt 233; Labs: W 1415 - 1715pm at Reichardt 316)

Fri	Jan 22	Lec 1: What is a GIS?; Data Types and Representations
Wed	Jan 27	Lec 2: Data Formats
Wed	Jan 27	Lab 1: Online resources
Fri	Jan 29	Lec 3: Applied GIS and Project Ideas
Wed	Feb 3	Lec 4: Beyond MSEXcel
Wed	Feb 3	Lab 2: Parsing with Python
Fri	Feb 5	Lec 5: Intro to Arc GIS and Internet based map servers
Wed	Feb 10	Lec 6: Databases and MS Access
Wed	Feb 10	Lab 3: From text to GIS via MSEXcel and MSAccess
Fri	Feb 12	Lec 7: Map Projection
Wed	Feb 17	Lec 8: Datum transformations and AK specific issues
Wed	Feb 17	Lab 4: Introduction to ArcGIS: plotting points on map
Fri	Feb 19	Lec 9: Georeferencing: Importing Legacy Data
Wed	Feb 24	Lec 10: GIS Analysis: Spatial Analysis
Wed	Feb 24	Lab 5: Arc GIS: Creating files; on-screen digitizing; spatial analysis
Fri	Feb 26	Lec 11: DEMs, Hill shade, Slope, Aspect and other geoscience data
Wed	Mar 3	Lec 12: Gridding, Contouring, Geologic Symbols (Homework #1)
Wed	Mar 3	Industry Visit (Alaska Biological Research)
Fri	Mar 5	Lec 13: Revision, Project discussion
Wed	Mar 10	Spring Break
Wed	Mar 10	Spring Break
Fri	Mar 12	Spring Break
Wed	Mar 17	Lec 14: GPS 1
Wed	Mar 17	Lab 6: GPS with Garmins
Fri	Mar 19	Lec 15: GPS 2
Wed	Mar 24	Lec 16: GPS Accuracy, reliability - old topo maps etc.
Wed	Mar 24	Lab 7: GPS with Juno and Differential corrections
Fri	Mar 26	Lec 17: Google Earth and other Visualization Environments

Wed	Mar 31	Lec 18: Discussions + homework analysis
Wed	Mar 31	Lab 8: 3D drape and flythrough with Arc Scene
Fri	Apr 2	Lec 19: GIS application in Circum Arctic North
Wed	Apr 7	Lec 20: Geodatabase
Wed	Apr 7	Lab 09: Project Work
Fri	Apr 9	Lec 21: Cartographic principles
Wed	Apr 14	Lec 22: Effective Map Presentation
Wed	Apr 14	Lab 11: Map Composition, labeling + GIS Google synergy
Fri	Apr 16	Lec 23: Other graphic GIS software packages
Wed	Apr 21	Lec 24: Field Workflow, Mobile GIS
Wed	Apr 21	Lab 12 Direct Data Capture
Fri	Apr 23	Case Day – No Classes
Wed	Apr 28	Lec 25: Project report and writing: Past Success Stories
Wed	Apr 28	Lab 13: Exporting GIS to Presentations and Reports: Images & Video
Fri	Apr 30	Lec 26: Revisiting GPS
Wed	May 5	Lec 27: Final Project
Wed	May 5	Controlling GPS Error Budget
Fri	May 7	Final Project Presentations (3 slots)
Wed	May 12	Final Project Presentations (9 slots)