

TITLE: GIS Programming

NUMBER: NRM 638

CREDITS: 3

PREREQUISITES: Basic ArcGIS experience

LOCATION: Distance Delivery from Fairbanks campus

MEETING TIME: Spring Semester 2019

INSTRUCTOR: Dr. David Verbyla

OFFICE LOCATION: ONEILL 368

OFFICE HOURS: most any day by email appointment, we can connect, and screen share remotely via Google Hangouts or I will answer your questions via email

(I try to return emails within 24 hours of receiving them)

TELEPHONE: 907-474-5553

EMAIL ADDRESS: d1verbyla@alaska.edu

COURSE DESCRIPTION

This course is primarily for graduate students and GIS professionals who want to learn Python scripting applications in natural resource management using ArcGIS.

The class will be taught using a sequence of weekly video sessions through the UA blackboard website <https://classes.alaska.edu>.

After each video session, you will take a blackboard quiz assessing your

INSTRUCTIONAL METHODS

Each week will be a series of video sessions with each session leading the student in a hands-on Python scripting exercise. The student must successfully answer a blackboard question after each video session in order to access the next video session.

COURSE SCHEDULE

Week1: Python basics

Week2: Using the ArcGIS field calculator with Python scripts

Week 3: Getting GIS point, line, polygon, and table information

Week 4: Creating GIS tables and point, multipoint, polyline, polygon feature classes

Week 5: Updating and querying GIS tables and feature classes

Week 6: Creating random locations and random selections

Week 7: Arcpy Feature Class Geoprocessing

Week 8: Arcpy Raster Geoprocessing

Week 9: Working with Arcmap Map Documents

Week 10: Basic ArcGIS Python Script Tools

Week 11: Advanced ArcGIS Python Script Tools

Week 12: ArcGIS Python Toolbox

Week 13: ArcGIS Python Addins

COURSE POLICIES

Participation

You will use ArcGIS and follow along as I teach you new concepts in each video session. After each video session, I will assess your understanding using a question posted through the class blackboard website. Your understanding will also be assessed using a weekly quiz posted through the class blackboard website.

You should post any sources of confusion and solutions through the class Google+ site to share learning among class participants.

Late Work Policy

Late work will not be accepted, since some weekly sessions assume you have mastered previous weekly sessions.

Academic Integrity

As described by UAF, scholastic dishonesty constitutes a violation of the university rules and regulations and is punishable according to the procedures outlined by UAF.

Scholastic dishonesty includes, but is not limited to, cheating on an exam, plagiarism, and collusion. Cheating includes providing answers to or taking answers from another

attribution. Collusion includes unauthorized collaboration with another person in

EVALUATION POLICIES

Course grade will be based on total points earned based on weekly scripting assignments (@10 points each Python script). Late submissions will not be accepted.

Total Points Grade:

| | |
|-----------------|----------|
| >=93% | A |
| 85-93% | B |
| 75-85% | C |
| 65-75% | D |
| <65% | F |

EFFORT AND STUDENT INVOLVEMENT

SUPPORT SERVICES

UAF eLearning Student Services
