# -- GEOG 310 --
## Introduction to Computer Mapping and GIS
### CRNs 20376 and 20416 -- 4 credits -- Fort Lewis College
### Fall Semester 2019

## Course Information

Time & Location:  Lecture:  M W F 11:15 am - 12:10 pm, SFH 711; Lab: Tu 8:00-11:00 am or 2:30-5:30 pm, SFH 2771

Instructor:  Scott White, PhD (white_s@fortlewis.edu or 247-7475)

office:  SFH 2794 (hours: M W, 12:30-2:00 pm, Tu 11:30 am - 2:30 pm, or by appointment)

Class and lab information and documents are available through Canvas at https://courses.fortlewis.edu.

## Textbooks

REQUIRED:  *Essentials of Geographic Information Systems* (version 2.1), by Shin, Campbell, and Burkhart, ©2017 FlatWorld  (ISBN 978-1-45339-080-1).  I recommend you buy the e-

# GEOG 310 and Fort Lewis College
## Information and Policies

The Lectures

Make-up exams or lab assignments will only be permitted if you have (in my opinion) a valid excuse.  Whenever possible, talk to me before you miss a class or a lab session.  Make-up exams may be different from those given to the other students, and may consist totally of short answer and/or essay questions.  Individual exam grades _are not curved_, but final course grades may be adjusted at the end of the semester.  Exam #2, held during finals week, is _not_ comprehensive.

No extra credit assignments will be offered, although extra credit points may appear on some exams.

If English is not your primary language, you may use a dictionary during the exams.  Discuss this with me first.

The Labs and ArcGIS Software

Officially, the GIS lab runs from 8:00-

# GEOG 310  Lecture and Lab Schedule

[This schedule is subject to change.]
[Required Textbook Readings:  *EGIS = Essentials of Geographic Information Systems*]
[Optional Textbook Readings:  *MU = Map Use*]

| Dates | M-W-F Lecture Topics, *Tu Lab Topics* | Textbook Readings |
|---|---|---|
| Sept. 2-4-6 | Introduction to Maps, GIS, and Geographic Information; Map Types and Functions<br>*Lab 1 - Exploring Maps and Atlases - Paper and Digital (Reed Library Maps)* | *EGIS* pp. 5-21; *MU* pp. 3-21 |
| Sept. 9-11-13 | Geographic Data: Types, Files, Metadata; Attributes and Measurement Levels<br>*Lab 2 - Working with Geographic Data in ArcGIS Desktop 10.7* | *EGIS* pp. 23-30, 81-83 |
| Sept. 16-18-20 | Map Scale; Data Abstraction and Map Generalization; Georeferencing; Map Datums<br>*Lab 3 - Map Data Prep, Map Design, and Map Layout* | *EGIS* pp. 37-57 |
| Sept. 23-25-27 | Spherical and Grid Coordinate Systems; Map Projections<br>*Lab 4 - Working with Digital Vector and Raster Data Sets* | *MU* pp. 41-82 |
| Sept. 30  Oct. 02-04 | Map Design Fundamentals; Colors, Typography, and Labels; Historical Cartography<br>*Lab 5 - Exploring Map Projections and Coordinate Systems in ArcGIS Pro 2.4* | *EGIS* pp.59-67, 71-75<br>*MU* pp. 120-146 |
| Oct. 07-09-11 | Data Capture; Global Navigation Satellite Systems (GPS, etc.)<br>*Lab 6 - Navigation and Mapping with GPS and Google Maps* | *EGIS* pp. 83-85 |
| Oct. 14-16-18 | Global Navigation Satellite Systems (cont.); EXAM #1: Friday, 11:15 am-12:10 pm<br>*Lab 7   Datg Collection and Mapping with GPS and the Collector for ArcGIS App* | *MU* pp. 353-355 |
| Oct. 21-23-25 | Land Partitioning; Topographic Mapping and the USGS; Relief Portrayal<br>*Lab 8 - Map Analysis Using Paper and Digital USGS Topographic Maps* | *MU* pp. 102-119; 215-244 |
| Oct. 28-30  Nov. 01 | Geospatial Data from the USGS; Data Quality; Accuracy and Precision; Map Errors<br>*Lab 9 - 2-D and 3-D Terrain and Image Mapping* | *EGIS* pp. 86-89 |
| Nov. 04-06-08 | Geospatial File Formats; Remote Sensing: Aerl496g/F6 9.96 Tf1 0 0 1 27 541.3 Tm0 G[(S)13(e)16(p)7(t)10(.)11( )] TETQq0.0 | |