Geology 4200/5200
Intro. to GIS in Geology
Spring 2018

Instructor:	**Bob Howell**
Office:	Geology Rm. 222
Telephone:	307-314-5149
E-mail:	rhowell@uwyo.edu
Office Hours:	Monday 2:10 – 3:00 PM Wednesday 11:00 – 11:50 AM Friday 11:00 – 11:50 AM Other times by appointment. You can also just stop by, and if I'm in and free I'll be happy to talk with you.

Class web site: <http://geofaculty.uwyo.edu/rhowell/classes/gis_intro/>

Format: Friday 3:10-5:00 lecture/lab
with reading/computer exercises assigned each week.
The last exercise will probably be an extended two-week project.
No final exam.

Grading: 2 Credits, Pass/Fail

Text: There is an extensive list of on-line references available via the "Reference Material and Links page on the class website. There isn't a formal required or even recommended text for the class, although you may find the following two useful.

Law and Collins Getting to Know ArcGIS for Desktop 4th ed.
ISBN 978-1589483828 $45.14 at Amazon.
We'll only cover a small fraction of the topics in this book, but if you want a (180 day, limited time) copy of ArcGIS for your own computer, this is a relatively cheap way to get one -- but read the note below about authorization codes.
The book contains a DVD with data for its own (not our) exercises and on the last page is an authorization code to download a 6-month evaluation license for ArcGIS (assuming you have a new, not a used book.)

Graser Learning QGIS 2.0 3nd edition $34.99 at Amazon
This is a short (~250 page) and basic introduction to QGIS. We'll actually cover many more topics than are in this book but it can provide a simple introduction to GIS.

Topics to be covered: As a two credit course, this cannot be a complete introduction to all the capabilities of Geographic Information Systems, but will instead cover fundamental principles, and their applicability to geological mapping.

We will start by using the free and open-source QGIS (formerly Quantum GIS) software, which is available for Windows, Mac, and Linux via links on the class site. Later in the course we'll use the more sophisticated (but more complicated and expensive) ArcGIS 10.3 software. Both are installed on the ESB 1006 lab computers.

A tentative list of topics includes:

GIS Data Types: raster and vector (shapefile) data
Map projections, datums, Coordinate Reference Systems (CRS)
Controlling the display of the above data types
Methods of storing GIS data: shapefiles, geospatial databases
USGS "NCGMP09" standard for digital geological maps
Simple analysis of GIS data
Python scripts in QGIS and ArcGIS

Statements required by the College

Academic Honesty: I encouraged you to work together in understanding the projects assigned. However the summary and final data submitted for each project must be the work of the individual student.

Academic dishonesty is defined in University Regulation 802, Revision 2, as "an act attempted or performed which misrepresents one's involvement in an academic task in any way, or permits another student to misrepresent the latter's involvement in an academic task by assisting the misrepresentation." The University has procedures to judge possible violations, and can impose serious penalties.

A&S - Students and Teachers Working Together: A 5-page document with guidelines for instructors and students is available at: <http://www.uwyo.edu/as/current-students/> .

Disabilities: If you have a physical, learning, or psychological disability and require accommodations, please let the instructor know immediately. You will need to register with, and provide documentation of your disability to, University Disability Support Services (UDSS) in SEO, room 109 Knight Hall, 766-3073, TTY: 766-3073.