Lab Instructor: Andrea Davis  
Email: u0612904@utah.edu  
Office: Building 72  
Office Hours: Wednesday 1:30 – 2:45 PM  
Thursday 10:30 AM – 12:15 PM  
(Otherwise by appointment)  
Lab Sections: 002: Tuesday 10:45 AM – 12:05 PM [FMAB 005]  
003: Tuesday 12:25 PM – 1:45 PM [FMAB 005]  
004: Thursday 12:25 PM – 1:45 PM [FMAB 005]  

Recommended Equipment:  
USB/Flash drive (8 GB or larger recommended, 4 GB next best)  

Lab Overview:  
Cartography is a mix of art and science. This lab will teach you the technical skills involved with map production and ESRI ArcGIS software. We will also focus on design principles for effective cartographic communication. This can be a challenging course. The work that you put into learning the techniques and the principles will make you a good candidate for a wide variety of jobs in GIS and mapping.  

Lab Objectives:  
Upon successful completion of this course, students will have the skills necessary to produce thematic maps that (1) effectively communicate geographic information, and (2) maintain the cartographic conventions discussed in lecture.  

Assignments:  
There will be 8 lab assignments over the course of this semester. Students have one week to complete each assignment. Students must submit two copies of each completed lab:  
1) An electronic copy uploaded to canvas by the start time of the subsequent week’s lab period.  
2) A physical black-and-white copy handed in at the start of the subsequent week’s lab period.  
So for example, students in Section 002 who are assigned a lab on August 30th will need to upload the completed lab to the appropriate assignment folder in Canvas by 10:45am on September 6th, and give me a black and white copy in class. The printers in the labs may be used by swiping your student ID and paying .08 cents/page from your U-card.  
Late penalties will be assessed against the Canvas upload time of the digital lab copy, not the physical copy. If the completed lab is uploaded to Canvas after the start time of class on the due date, the standard one-day late penalty will be assessed. If the physical copy is not handed in, a separate point deduction will be made. **The majority of these assignments will require time outside of class to complete. Plan accordingly.**  
Late assignments will be marked down 20% for each day they are late. If you have special circumstances that will lead to missing multiple due dates (e.g. military service, prolonged illness, jury duty, etc.) accommodations may be made, but you will be required to provide appropriate documentation.  
I will do my best to return graded labs within 2 weeks. Please take the time to read through any written comments. If you have questions, I encourage you to ask.
Grading – Cartography Lab Component:

- Lab Exercises: 20%
  - There are 9 lab exercises; 8 labs + 1 final project proposal
  - Each lab is worth approximately 10-20 points
- Final Map Project: 25%
- Quizzes and Map Gallery Participation: 5%
  - Map gallery participation is mandatory on the days indicated in the class schedule.

* There will be no extra credit opportunities.

Attendance:

Attendance is strongly encouraged. Students who regularly attend class tend to do better. You are responsible for all information covered during labs, and you are required to submit assignments by the required deadlines. Students absent during a quiz will not be permitted to make up the assessment unless appropriate documentation is provided for a pre-approved special circumstance.

If you need to attend a different lab because of a unique event (travel, illness, etc.), you are still expected to turn in assignments at the beginning of your assigned lab time (or earlier) to avoid losing points. If possible, notify me in advance if you will be attending a lab other than your assigned section. Without advance notice, I cannot allow you to make up a pop quiz.

Software:

You will be learning to use ESRI’s ArcGIS Desktop 10.4.1 (ArcInfo) software, which can be found on all Windows 7 workstations in the CSBS computing labs. I also encourage you to use the CSBS Virtual Lab, accessible at http://apps.csbs.utah.edu. Furthermore, you may also have a physical copy for your personal computer. The ESRI ArcGIS Desktop 10 (ArcInfo) software downloads are provided for academic use only.

The following labs are available for student use, but please be aware of posted class schedules so you do not interrupt classes in progress. Please note that food and drink are not allowed in the computer labs.

CSBS Computer Labs:
- BEHS 101: 41 Windows 7 workstations
- AEB 330: 32 Windows 7 workstations
- FMAB 005: 41 Windows 7 workstations

General Computer Guidelines:

All data necessary to complete the course and the lab itself will be available on Canvas. Students have the responsibility to save and keep track of their own work. Students can save their work on their personal CSBS network drive which is listed as your UNID in the download folder. This drive is only accessible on CSBS computers.

It is highly recommended that you back up your work on an external storage device in addition to saving your work on the network drive (this is a good practice for any class). Network drives have minimal available space and have failed in the past, resulting in lost data; such an occurrence will not be an acceptable excuse for turning work in late. Saving often and backing up is very important!

Keep in mind, when saving to your network drive, that CSBS computing has implemented data storage limits of 100 MB for student accounts. When you near your storage limit, you will receive a warning message. If you go over your limit, you may be locked out of the system. This will not be an acceptable excuse for turning work in late, so please be aware of your disk space! Some of you may be enrolled in several lab-based classes (i.e. GIS, remote sensing). If you find that you are continually running up against storage limits, you can request additional disk space. Questions about quotas can be addressed to the helpdesk through http://support.csbs.utah.edu.

Many different students use the CSBS computer labs. Please protect your accounts by making sure you log off every time you finish using the computer, and DO NOT share your CSBS account log-on information. Also, be aware that the CSBS computers will automatically log you out after approximately 15 minutes of idle time – keep this in mind if you decide to take a break.
Lab Format:

The cartography labs are an opportunity for you to apply the knowledge you gain through lectures and reading. The labs are designed to give you a practical, hands-on experience, thus lectures will be kept to a minimum. I will begin each lab section with a brief introduction to the new assignment and discussion of the skills necessary to complete the assignment. The rest of the lab time will be available to work on the current assignment. I will place a dry erase marker at the front of the room. If you need assistance, write your name on the board. This allows me to address questions in the order they arise.

You are encouraged to help your neighbors if they run into technical problems that you can address. However, each person is responsible for completing his own work. For example, you can tell someone how to get to a function within the program, but make sure you let him or her implement the solution (i.e. let them drive the mouse). **File sharing is not allowed.** Academic misconduct (see the University of Utah Academic Policies online) will be reported and pursued to the fullest extent of Departmental authority. If you have concerns about what constitutes legitimate help, please talk to me or Professor Wan.

If you feel that you need additional assistance, we can set up an appointment to work one on one. If I am in the computer lab with a student who has scheduled an appointment, that student has primary claim to my assistance. If I am in the computer lab outside of scheduled lab and office hours, I will generally be happy to answer questions. That said, I am not allowed to aid students with their lab assignments during the course lecture time slot. Please keep in mind that I am also a student and there will be times when I need to focus on my own work.

Geography Department Academic Misconduct Policy

Academic misconduct will not be tolerated. Penalties may include failure of an assignment, the entire course, and/or the filing of formal charges with appropriate university authorities. Academic misconduct includes, but is not limited to, cheating, misrepresenting one's work, and plagiarism:

- **Cheating** involves the unauthorized possession or use of information in an academic exercise, including unauthorized communication with another person during an exercise such as an examination.
- **Misrepresenting one’s work** includes, but is not limited to, representing material prepared by another as one’s own work or submitting the same work in more than one course without prior permission of all instructors.
- **Plagiarism** means the intentional unacknowledged use or incorporation of any other person’s work in one’s own work offered for academic consideration or public presentation.

Faculty and Student Responsibilities:

All students are expected to maintain professional behavior in the classroom setting, according to the Student Code, spelled out in the Student Handbook. Students have specific rights in the classroom as detailed in Article III of the Code. The Code also specifies proscribed conduct (Article XI) that involves cheating on tests, plagiarism, and/or collusion, as well as fraud, theft, etc. Students should read the Code carefully and know they are responsible for the content. According to Faculty Rules and Regulations, it is the faculty responsibility to enforce responsible classroom behaviors, beginning with verbal warnings and progressing to dismissal from class and a failing grade. Students have the right to appeal such action to the Student Behavior Committee.

Disability Services:

The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in this class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, 581-5020 (V/TDD. CDS will work with you and the instructor to make arrangements for accommodations. All information in this course can be made available in alternative format with prior notification to the Center for Disability Services.
<table>
<thead>
<tr>
<th><strong>LECTURE TOPICS</strong></th>
<th><strong>LAB TOPICS</strong></th>
<th><strong>LAB ASSIGNMENTS (DUE)</strong></th>
</tr>
</thead>
</table>
| **Week 1:** Chapter 1  
8/23: Syllabus/Introduction  
8/25: Current Cartography, History | Lab Guidelines, Accounts |  |
| **Week 2:** Chapter 2  
8/30: History, Eratosthenes  
9/1: Maps, Scale, Longitude | Library and Map Intro |  |
| **Week 3:** Chapter 12, 13 and 14  
9/6: Map Design-Map Elements, Composition  
9/8: Map Design-Typography, Color | Map Design I  
(Tools and Toolbars) | Lab 1: Library Intro |
| **Week 4:** Chapter 3  
9/13: Coordinate Systems, Datums, Route Selection  
9/15: Great Circle Route | Map Design II and Intro to ESRI's ArcGIS  
(Typography) | Lab 2: Tools and Toolbars |
| **Week 5:** Chapter 2  
9/20: Projections  
9/22: Projections | Final Project Requirements, Project Ideas  
(Projections) | Lab 3: Typography |
| **Week 6:** Chapters 4 and 5  
9/27: Levels of Measurement, Symbols  
9/29: Data Classification and Exercise, Generalization | Map Projections  
(Projections) | Continue working on Lab 4: Projections |
| **Week 7:**  
10/4: Catch-Up; Review, Guest Lecture  
10/6: **EXAM 1** | Geographic Data and the Internet  
(Accessing Data) |  |
|  
**Fall Break: 10/11 and 10/13** |  |  |
| **Week 8:** Chapter 6  
10/18: Choropleth Map  
10/20: Choropleth Map | Geographic Data in ArcGIS  
(Digitizing and Attribute Tables) | Lab 5: Accessing Data |
|  
Small Group Peer Review of Final Map Projects |  | Final Project Proposal Due |
| **Week 9:** Chapter 7  
10/25: Dot Maps  
10/27: Dot Maps | Map Design III – Choropleth Maps (Joining Tables and Choropleth Maps) | Lab 6: Digitizing and Attribute Tables |
| **Week 10:** Chapter 8  
11/1: Proportional Symbol Maps  
11/3: Proportional Symbol Maps | Mock Map Gallery of Draft 1 | Lab 7: Joining Tables and Choropleth Maps |
| **Week 11:** Chapters 9 and 10  
11/8: Isarithmic Maps  
11/10: Flow Maps, Cartograms | Map Design IV –  
(Proportional Symbols and Pie Charts) | Final Map Draft 1 |
| **Week 12: How to Lie with Maps**  
11/15: Map Design-Wrap-Up, Power of Maps  
11/17: Map Misuse, Map Animation | Mock Map Gallery of Draft 2  
*Attendance Mandatory | Lab 8: Proportional Symbols and Pie Charts |
<p>|  |  | Final Map Draft 2 |</p>
<table>
<thead>
<tr>
<th>Week 13: TBA</th>
<th>Open/Consultation Class</th>
<th>Open Lab</th>
<th>No Lab</th>
</tr>
</thead>
<tbody>
<tr>
<td>11/22</td>
<td>Open/Consultation Class</td>
<td>Open Lab</td>
<td>No Lab</td>
</tr>
<tr>
<td>11/24: Thanksgiving</td>
<td>Open/Consultation Class</td>
<td>Open Lab</td>
<td>No Lab</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 14: TBA</th>
<th>Mock Map Gallery of Draft 3</th>
<th>Final Map Draft 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>11/29</td>
<td>Aerial Photos, Remote Sensing and GIS</td>
<td>*Attendance Mandatory</td>
</tr>
<tr>
<td>12/1: Catch-Up, Review</td>
<td>Open Lab</td>
<td>Final Map Due Sunday, 12/4 by 11:59PM</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 15</th>
<th>Open Lab</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/6: Open/Consultation Class</td>
<td>Open Lab</td>
</tr>
<tr>
<td>12/8: EXAM II</td>
<td>Open Lab</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 16 Final Project and Peer Review</th>
<th>Wednesday 12/14 (8:00 – 10:00am)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>*Attendance Mandatory</td>
</tr>
</tbody>
</table>

ATTENTION: **Wednesday, December 14, 2015 (Final Exam period) 8:00-10:00AM**, meet to complete map review in hallways in BLDG 73, grade based on your participation and reviews of your peers’ maps! **Attendance is mandatory!**

Note: *This syllabus may be modified by the instructor when the student is given reasonable notice of the modification. The lab policies and procedures above are supplemental to, and in no way supersede, the syllabus provided by Professor Wan.*