GEOG 313 INTRODUCTORY CARTOGRAPHY  FALL 2013
SECTION 01: Butte Hall 501; TTH 2:00 – 3:15

Instructor: Steve Stewart  
Instructor's Office: Butte Hall 508, 898-6089, sstewart1@csuchico.edu  
Office Hours: MW 12:00 – 1:00 and TTH 11:00 - 12:00

Course Prerequisites: Network literacy via CSCI 100, SOSC 210, or GEOG 219

Course Description: This course provides an overview of fundamental elements of cartographic design and introduces maps as communication devices. Lectures focus on overarching design issues and frameworks, base maps and compilation, color and typography, the design of various maps types (choropleth, dot, isoline, etc.), and printing and digital output issues. Lab work will lead the student through the research, compilation, design and production of map projects. An emphasis will be placed on the use of graphic software: Illustrator for graphic production and Photoshop for image manipulation. While there will be discussion of historical cartography the emphasis is placed on the present technology of mapping, particularly computer mapping.

“Cartography is a specialized form of graphic communication that requires training, practice, and a sense of style” (Madej 2000).

Objectives:  
1) To acquire cartographic/visualization design skills in a supportive environment  
2) To demonstrate “good practice” in cartographic design (processing, compilation, representation and communication of spatial information)  
3) To demonstrate a mastery of skills in the use of computer cartographic techniques.

Design is choice. The theory of the visual display of quantitative information consists of principles that generate design options and that guide choices among options. The principles should not be applied rigidly or in a peevish spirit; they are not logically or mathematically certain.; and it is better to violate any principle than to place graceless or inelegant mark on paper. Most principles of design should be greeted with some skepticism, for word authority can dominate our vision, and we may come to see only through the lenses of word authority rather than with our own eyes.

Course Fee: There is a $20 fee for this course. These funds are used to provide students with lab supplies used in the production of maps.

What is to be sought in designs for the display of information is the clear portrayal of complexity. Not that complication of the simple; rather the task of the designer is to give visual access to the subtle and the difficult -- that is, the revelation of the complex
Illustrator CS6 Visual Quick Start Guide by Elaine Weinmann & Peter Lourekas, Peachpit Press  
The Island of Lost Maps (2000) Miles Harvey, Broadway Books  
Various Electronic Readings posted on the departments server Classes/313  

**Additional Materials:**  
Technical Pens – Staedtler Pigment Liner in .05mm, .3mm, .7mm widths  

**Student Responsibilities:**  
The lab is a classroom for activity-based learning that includes asking questions, seeking answers, and sharing opinions and experiences. Respect for your colleagues and instructor is paramount to creating this supportive learning environment. Behavior that is contrary to this will not be tolerated.  

Attendance and punctuality are mandatory. Being late to class is not only rude, it is disruptive. The beginning of class is set aside for explaining assignments, answering questions about ongoing assignment, and announcing any changes in assignments. This exchange of information is invaluable and missing any part of it could result in unnecessary work or confusion for the tardy student. Unless there is an excusable reason for the tardiness, it is not the instructor’s responsibility to repeat the information.  

Map assignments need to be completed on time as they are often reviewed in class before being submitted to the instructor. In addition to the digital turn in, two paper copies of each map assignment need to be submitted at the beginning of class. Your colleagues are counting on you to be ready to participate in this co-operative learning activity.  

Students are expected to work on their assignments outside of class time during posted open lab hours or at home. The University standard is two hours of work outside of class per hour in class, therefore, students should expect to spend at least six hours per week doing outside readings and map assignments.  

Students are asked to keep their work areas clean and to respect the rules of the lab. Equipment that is broken or stolen cannot be replaced easily. Printing is a privilege and should not be misused. All discarded paper should be placed in the appropriate bin in the room.  

**Instructor Responsibilities:**  
To be knowledgeable about the principles of cartographic design and to explain these concepts as fully as possible so that students can achieve the course objectives.  

To be available to students outside of class for five hours a week during designated office hours or by appointment and to post alternative arrangements if designated office hours can not be held. Make an appointment if your need is urgent.  

To maintain a supportive student-centered learning environment, however, this does not include fixing problems with the lab equipment. This is the lab manager’s expertise and responsibility. I will, however, ensure that technical issues that impact students’ coursework in the lab are resolved as quickly as possible.  

To clearly define and apply evaluation criterion in a fair and uniform manner.
**Student Evaluation:** Your grade is calculated as the total number of points earned out of 580 points. The points are earned in the following manner. The instructor, however, reserves the right to institute an attendance or a late assignment policy if necessary that would result in points being deducted from the earned total. The assignments can be accessed via the classes/313 Directory. Please read or print out copies of these assignments at your earliest convenience.

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Point Value</th>
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<tbody>
<tr>
<td>Photo Flashcard</td>
<td>5 points</td>
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<tr>
<td>Quiz 1</td>
<td>25 points</td>
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<tr>
<td>Quiz 2</td>
<td>25 points</td>
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<td>Quiz 3</td>
<td>25 points</td>
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<tr>
<td>Quiz 4</td>
<td>25 points</td>
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<tr>
<td>Quiz 5</td>
<td>25 points</td>
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<tr>
<td>Illustrator Ex #1-5</td>
<td>50 points</td>
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<tr>
<td>Map Deconstruction Exs</td>
<td>20 points</td>
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<tr>
<td>Penelope Cartouche Map</td>
<td>100 points</td>
</tr>
<tr>
<td>Isoline Map</td>
<td>100 points</td>
</tr>
<tr>
<td>Isoline evaluation</td>
<td>10 points</td>
</tr>
<tr>
<td>Choropleth Map &amp; Paper</td>
<td>100 points</td>
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<tr>
<td>Journey Map</td>
<td>100 points</td>
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<tr>
<td>Journey Map evaluation</td>
<td>10 points</td>
</tr>
<tr>
<td>Total Approximately</td>
<td>610 points</td>
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</table>

**Grade Scale:** To compute the final letter grade, students need to determine what percentage of points they received relative to the total possible amount of points.

- 100-94% = A
- 93-90% = A-
- 89-87% = B+
- 86-84% = B
- 83-80% = B-
- 79-77% = C+
- 76-74% = C
- 73-70% = C-
- 69-60% = D

59% and below earns the student a “F.”

**The Mulligan:** Sometimes, despite your best efforts, your map just does not turn out the way you ideally envisioned. It can be frustrating figuring out how to make maps, especially those that align with your professors high expectations. To that end, everyone gets one ‘mulligan’. The mulligan allows you to redo your map within one week of receiving it back from your professor AND type a short response that outlines how you addressed and modified the previous map based upon the feedback you received. The mulligan allows you to recoup half of the points you lost. You need to turn in:

- The original map and comment sheet
- The new map
- A typed response that outlines what you changed and why.
<table>
<thead>
<tr>
<th>WEEK</th>
<th>Assignments</th>
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</table>
| **WEEK ONE** | Introduction  
Map Deconstruction – USA Maps  
Island of Lost Maps |
| **WEEK TWO** | Penelope Cartouche Map |
| **WEEK THREE** | Penelope Cartouche Map  
**Penelope Cartouche Draft Map Due Tuesday – At the beginning of class**  
**Quiz #1 – Island of lost maps Thursday** |
| **WEEK FOUR** | Map Deconstruction – World Maps  
Illustrator Ex. #1  
Isoline Map  
**Penelope Cartouche Map Due Tuesday – At the beginning of class** |
| **WEEK FIVE** | Isoline Map  
Illustrator Ex. #2  
**Illustrator Ex. #1 Due Thursday** |
| **WEEK SIX** | Isoline Map  
**Illustrator Ex. #2 Due Thursday** |
| **WEEK SEVEN** | Isoline Map  
**Quiz #2 Tuesday**  
Isoline Evaluation Ex. Thursday  
**Isoline Map Due Thursday at the beginning of Class** |
| **WEEK EIGHT** | Choropleth Map |
| **WEEK NINE - NACIS** | Choropleth Map  
Exercise #3  
**Quiz #3 Tuesday** |
| **WEEK TEN** | Choropleth Map  
**Quiz #4 Thursday** |
| **WEEK ELEVEN** | Choropleth Map |
| **WEEK TWELVE** | Journey Map  
Illustrator Ex #4  
**Choropleth Map Due Tuesday at the beginning of Class** |
| **WEEK THIRTEEN** | Journey Map  
**Illustrator Ex #4. Due Thursday** |
<table>
<thead>
<tr>
<th>Week</th>
<th>Events</th>
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<tbody>
<tr>
<td>Week Fourteen</td>
<td>Thanksgiving Holiday</td>
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<tr>
<td>Week Fifteen</td>
<td>Journey Map</td>
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<tr>
<td>Week Sixteen</td>
<td>Journey Map</td>
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<td></td>
<td>Journey Map Draft Due Tuesday</td>
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<td></td>
<td>Evaluation Exercise Tuesday</td>
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<td></td>
<td>Journey Map Due Thursday</td>
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<tr>
<td>Week Seventeen</td>
<td>Final Quiz</td>
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<td>Finals Week</td>
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**Reading Schedule:** The readings in *italics* can be accessed in the Clases/313 folder in the Computer lab. The *underlined readings* can be accessed by selecting the links from the web based reading list on the following page. On occasion these Internet sites are offline or the address is altered. Please inform the instructor if this should happen. The readings in italics can be accessed via the Classes/313/Readings folder.

**Academic Readings**

<table>
<thead>
<tr>
<th>Section 01</th>
<th>Reading Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week One</td>
<td>Monmonier Chapter 1, <em>Island of Lost Maps</em></td>
</tr>
<tr>
<td>Week Two</td>
<td>Island of Lost Maps, <em>Explaining the Landscape: Erwin Raisz</em></td>
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<tr>
<td>Week Three</td>
<td>Island of Lost Maps, <em>Thief Case Rattles Sedate World of Rare Maps, Quiz 1</em></td>
</tr>
<tr>
<td>Week Four</td>
<td>Monmonier Chapter 2</td>
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<tr>
<td>Week Five</td>
<td>Monmonier Chapters 7 &amp; 8</td>
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<td>Week Six</td>
<td>Cartographic Depiction of Terrain</td>
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<td>Cartographic Communication 1-4, <em>Bigfoot</em></td>
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<tr>
<td>Week Seven</td>
<td><em>Quiz 2 Symbolizing Quantitative Data</em></td>
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<td>Cartographic Communication 5-6, Monmonier 3 &amp; 9</td>
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<tr>
<td>Week Eight</td>
<td>Monmonier Chapters 4 &amp; 6</td>
</tr>
<tr>
<td>Week Nine</td>
<td><em>Quiz 3</em> Monmonier Chapter 10</td>
</tr>
<tr>
<td>Week Ten</td>
<td><em>Quiz 4</em> Making Maps Easier to Read</td>
</tr>
<tr>
<td>Week Eleven</td>
<td>Monmonier Chapter 5</td>
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<tr>
<td>Week Twelve</td>
<td>Cartographic and GIS Dictionary, <em>History of Cartography and GIS</em></td>
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<tr>
<td>Week Thirteen</td>
<td>Monmonier Chapter 11 &amp; 12, Cartographic Communication 8</td>
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<td></td>
<td><em>Making Maps Chapter 11- Color on Maps</em></td>
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<tr>
<td>Week Fourteen</td>
<td>Holiday</td>
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<tr>
<td>Week Fifteen</td>
<td><em>The Whole Earth, Cataloged, Map Quest</em></td>
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<tr>
<td>Week Sixteen</td>
<td><em>The Revenge of Geography, What if GPS Fails, This is Your Brain on GPS</em></td>
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<tr>
<td>Week Seventeen</td>
<td><em>Quiz 5</em></td>
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**Technical Readings**

Your Illustrator CS6 Visual Quick Start Guide is an invaluable reference for gaining proficiency with the software. The instructor will make suggestions as to which chapters are particularly helpful for a given assignment. Students are strongly encouraged to be proactive in learning the software for this course.
Classes/313 Technical Readings
Numerous tutorials on valuable cartographic techniques have been produced by Advanced Cartography students. The best of these are in the Classes/313 folder. While some of them will be assigned as exercises, why reinvent the wheel? The proactive student will review these resources.

Web Based Readings
How to use a compass:
http://www.learn-orienteering.org/old/
Cartographic Communication:
http://www.colorado.edu/geography/gcraft/notes/cartocom/cartocom_f.html
Cartographic depiction of Terrain:
http://www.geo.hunter.cuny.edu/terrain/ter_hist.html#2.0
Making Maps Easier to Read
www.richardphillips.org.uk/maps
Cartographic and GIS Dictionary
http://www.lib.berkeley.edu/EART/abbrev.html

Additional Resources:
Cartographic Links:
History of cartography and GIS:
http://www.gisdevelopment.net/history/pre200ad.htm
David Rumsey Map Collection
http://www.davidrumsey.com/cartographica.html
http://www.theatlanticcities.com/design/2012/08/maps-day-33000-them-your-disposal/3070/
National Atlas Home Page
http://nationalatlas.gov/
Zillow Real Estate Appraiser
http://www.zillow.com/
EPA Enviro-Facts Pages
http://www.epa.gov/enviro/

Data Links:
California Spatial Data Library
http://www.gis.ca.gov/
USGS Home Page
http://www.usgs.gov/
USGS Data Center
http://eros.usgs.gov/
GIS Data Depot
http://data.geocomm.com/
USGS 1km World Data
USGS NED data
http://seamless.usgs.gov/
Climate Data
http://www.worldclimate.com/
Links of Links:
http://www.cgerer.uiowa.edu/servers/servers_references.html#interact
Useful links
Type Brewer
http://www.typebrewer.org/
Color Brewer
http://colorbrewer2.org/
How well do you see color?

Interesting Links
Mind the Map
http://www.domusweb.it/en/design/2012/08/24/mind-the-map.html
Pintrest maps
http://pinterest.com/gletham/awesome-maps/

Interactive Map Links
Map of Metal
http://www.mapofmetal.com/#/home
The Devils Highway
http://devil.ucdavis.edu/
Political Maps
http://www.bbc.co.uk/news/world-us-canada-17306282#Battleground states
Axis Maps
http://www.axismaps.com/portfolio.php#ww1
Traffic visualizations