Geography 370
Introduction to Cartography

Instructor:
Robert Roth, PhD | reroth@wisc.edu
Office: 375 Science Hall
Office Hours: Tuesday/Thursday 4:00-5:00p, or by appointment

Teaching Assistants:
Brian Davidson | bdavidson2@wisc.edu
Chelsea Nestel | nestel@wisc.edu
Office Hours: TBD, held in Science Hall M376

Lecture (1351 Chemistry):
Tuesday/Thursday 11:00a-12:15p

Labs (380 Science Hall):
Section 301: Wednesday 10:00-11:45a (Brian)
Section 302: Tuesday 9:00-10:45a (Chelsea)
Section 303: Thursday 9:00-10:45a (Chelsea)
Section 304: Tuesday 12:30-2:15p (Brian)

Course Overview

Geography 370 (G370) provides a general introduction to Cartography, broadly defined as the art, science, and ethics of mapmaking and map use. G370—and the UW Cartography curriculum generally—focuses upon the design of maps, drawing from research and practice on graphic design, information visualization, and semiotics, perspectives that you are unlikely to receive in other GIS courses. Specifically, G370 emphasizes mapmaking over map use (compared to G170) and print mapping over web-based or interactive mapping (compared to G572 and G575, respectively). G370 is divided into two components: lectures and labs.

Lecture Overview:
The lecture component of the course covers the cartographic theories, best practices, and success stories that are essential for thinking critically about map design. Lecture material is presented as a series of cartographic guidelines—developed through both scientific inquiry and time-tested convention—and
associated examples illustrating the range of potential design solutions. Lectures are
discriminated by topics that traditionally fall under reference mapping (Weeks #1-5) and topics that traditionally fall under thematic mapping (Weeks #6-12),
although, as you will see, this is an imperfect distinction. As an introductory course,
you are tested on your knowledge of and conformance to the cartographic
guidelines discussed in lecture; however, by the end of the course, you will have an
understanding about when these rules should be followed directly and when you
can bend (or even break) these rules to improve your map.

Lab Overview:
The laboratory component of the course emphasizes the practical skills needed to
make maps. Each lab assignment requires you to grapple with a topic previously
discussed in lecture, with the final map deliverable representing your critical
understanding about the topic. The labs leverage the ArcGIS and Adobe Illustrator
software packages; by the end of the course, it is expected that you will have
operational-to-proficient knowledge of both packages, as applied for map design,
and that you can indicate such on a résumé. Following the series of lab assignments,
you are required to design a final project map on a topic of your choosing.
Creativity and ingenuity are strongly encouraged in the conceptualization and
execution of the final project. The final project is submitted as the closing entry in a
larger map portfolio, which also contains your labs, revised according to our
feedback; the overarching goal of the map portfolio is to assist in securing
employment following your university studies.

*UW-Madison encourages persons with disabilities to participate in its programs and
activities; contact Rob at the outset of the course if you need any type of accommodation.

Course Requirements

G370 assumes no prior knowledge of or experience in Cartography or related fields; there
are no course prerequisites (sophomore standing is required). Readings from the Slocum
text are not required, but are highly recommended for students that are pursuing a career
in Cartography. The reading excerpts associated with each lecture are noted in the
composite schedule and posted lecture notes.

Recommended Textbook:
Thematic Cartography and Geographic Visualization, Third Edition (2009) by Terry A. Slocum, Robert B.
McMaster, Fritz C. Kessler, and Hugh H. Howard. (on course reserve in the Geography Library)

Recommended Software:
Adobe Illustrator CS6 (available through DoIT at a discount)
Evaluation

Grade Weighting:
Each evaluated item represents a percentage of the total course weight; final grades are assigned according the composite grade distribution of the course.

<table>
<thead>
<tr>
<th>Item</th>
<th>Weight</th>
<th>Description</th>
<th>Date(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lecture</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exam #1</td>
<td>15%</td>
<td>75-minute midterm (true/false &amp; multiple choice questions)</td>
<td>10/10</td>
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<tr>
<td>Exam #2</td>
<td>15%</td>
<td>75-minute final (true/false &amp; multiple choice questions)</td>
<td>11/26</td>
</tr>
<tr>
<td>Quizzes</td>
<td>10%</td>
<td>8-10 in-class quizzes covering topics from the previous lecture</td>
<td>throughout</td>
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<tr>
<td><strong>Labs</strong></td>
<td></td>
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<tr>
<td>Lab Assignments</td>
<td>30%</td>
<td>Five mapping assignments</td>
<td>throughout</td>
</tr>
<tr>
<td>Final Project</td>
<td>20%</td>
<td>Individual mapping project (no group projects allowed)</td>
<td>12/17 (noon)</td>
</tr>
<tr>
<td>Map Portfolio</td>
<td>10%</td>
<td>Compilation of lab assignments and final project</td>
<td>12/17 (noon)</td>
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Exams (30% total; 15% per exam) and Quizzes (10%)

Your understanding of the lecture material is evaluated through administration of a pair of exams and a series of quizzes. Exams constitute the majority of the lecture points and include a combination of true/false and multiple choice questions. The exams are closed book/closed notes and must be completed within 75 minutes. The exams are not cumulative. While group studying is encouraged, cheating during the exam is not tolerated and results in a zero for the exam and disclosure of the impropriety to the Department and University. Make-up exams require a doctor’s note or, in the event of planned travel, must be rescheduled 4 weeks in advance. Make-up exams are in an essay format.

In non-exam weeks, quizzes will be proctored at the beginning of lecture covering material from the prior lecture. In-class quizzes are designed to promote active learning and attentive note-taking, as well as class attendance. Quizzes are open book/open notes and must be completed within 5 minutes. Make-up quizzes require a doctor’s note or, in the event of planned travel, must be rescheduled 4 weeks in advance; you may not complete
the quiz following class if you arrive late. Lecture notes for the week will be posted only after the weekly quiz is administered.

**Important Dates for Exams and Quizzes:**
- **October 10th:** Exam #1 (in Chemistry 1351)
- **November 26th:** Exam #2 (in Chemistry 1351)

**Lab Assignments (30%)**

Your ability to apply the mapping principles learned in lecture is evaluated through a series of five lab assignments. Each assignment represents a mapping 'challenge', in which you need to design a map for a specific mapping purpose. Each lab assignment builds on the last, meaning that you are responsible for properly applying previously learned mapping principles (therefore, the lab assignments are cumulative); a rubric is provided for each lab assignment to indicate how it is marked. All lab assignments must be printed and placed in either Brian’s or Chelsea’s mailbox one hour prior to the lab period meeting on the due date; mailboxes are found on the 3rd floor of Science Hall, near the State Cartographer’s Office.

The penalty for a late lab assignment is **10%** of the total score per day late; submission of an assignment the day it is due, but after the deadline (e.g., following your lab that day), counts as one day late. Extensions for labs must be arranged **4 weeks** in advance. Technical complications (e.g., disk errors, printing problems) are not reason for extension; be sure to back up copies of all of your work and version meticulously, as forgetting to save (or improperly saving over) your map is the easiest way to lose your work and subsequently fall behind in the course. Plagiarism is not tolerated; each lab assignment has an 'easter egg' in it to ensure you are not using work from prior semesters. As with other evaluated items, any offense results in a zero for the lab assignment and disclosure of the impropriety to the Department and University. Requests for grade changes must be submitted in writing (via email) within **24 hours** of receiving your feedback.

**Important Dates for Lab Assignments:**
- **September 24th-26th:** Lab #1 Due (Projection/Generalization Challenge)
- **October 15th-17th:** Lab #2 Due (Typography Challenge)
- **October 29th-31st:** Lab #3 Due (Choropleth Challenge)
- **November 12th-14th:** Lab #4 Due (Proportional Symbol Challenge)
- **November 19th-21st:** Lab #5 Due (Isoline Challenge)

**Final Project (20%)**

The final project is the cornerstone of G370, affording you the opportunity to apply the theoretical and practical knowledge acquired throughout the course on a mapping project of your choosing. It is never too early to begin thinking about your final project topic, and,
once selected, to begin assembling the needed geographic information. It is recommended to choose a topic that aligns closely with your area of study (particularly if you work in one of the other sub-disciplines of Geography) or a personal interest; your enthusiasm for the mapped topic is sure to shine through to the final map product. The best final projects from G370 often are competitive in national and international student mapping competitions, including the CaGIS Map Design Competition, the NACIS Student Poster Competition, and the National Geographic Award in Mapping; you are encouraged to look at past winners of these competitions (particularly those from your UW colleagues), as they are excellent examples of ‘A+’ final projects.

Late final projects will not be accepted; you must submit the current state of your project/portfolio (however complete it is) at the deadline to avoid a zero for the deliverables. Group projects are not allowed. Plagiarism is not tolerated; final project topics are researched to ensure you did not directly copy an existing map. As with other evaluated items, any offense results in a zero for that activity and disclosure of the impropriety to the Department and University.

**Important Dates for the Final Project:**
- **November 8th:** 2-page proposal uploaded to Learn@UW dropbox; details about proposal requirements given after first exam (10% of your final project grade).
- **December 10th-12th:** 2-3 minute in-class presentation of a draft version of your final project map (10% of your final project grade).
- **December 17th:** Final project due; submit a print for the 3rd floor wall to Brian’s or Chelsea’s mailbox and upload as a PDF to a Learn@UW dropbox by Noon.

**Map Portfolio (10%)**

The sum product of G370 is your map portfolio. A diverse and well-organized map portfolio illustrating your abilities as a cartographic designer is essential for securing employment in Cartography specifically, and is becoming increasingly impactful for gaining employment in GIS domains broadly. The submitted map portfolio must include seven pages: a 1-page résumé or vita, a revised version of all five of your lab assignments, and your final project; you are encouraged to include additional maps that you have made for other courses (we will provide feedback to you on these, but will not grade them). The portfolio is evaluated based on the revisions made to your initial lab assignments in response to our feedback; thus, some students may have more work to do than others, depending on the quality of your initial assignments. As with the final project, late map portfolios are not accepted. The map portfolio is a document to which you should continue to contribute over the course of your career.

**Important Dates for the Map Portfolio:**
- **December 17th:** Map portfolio due; submit a print for evaluation to Brian’s or Chelsea’s mailbox and upload a PDF to a Learn@UW dropbox by Noon.