Fall 2012

Course title: Cartographic Theory and Design

Department: Department of Geography and Environmental Studies

Course number: GEOM 3007

Instructor: Glenn Brauen

- **office**: Social Sciences Research Building (SSRB) 204
- **email**: glenn_brauen@carleton.ca (Best means of contacting me)
- **phone**: 613-520-2600 x8165 (always leave a message)
- **office hours**: 9:30-11:30 Tuesdays (or other times as arranged through email)

Teaching Assistant: TBD

Lecture: Wednesdays 9:35 a.m. to 11:25am, Loeb A410 (Sept. 12 – Dec. 3)

Lab: Section A1: Wednesdays 11:35 a.m. to 1:25 p.m. *(Location TBD)*

Course description (from Calendar)

Principles of cartography, cartographic communication and map design; practical work designed to provide experience in solving problems of cartographic representation using geospatial databases. Precludes additional credit for GEOG 3007.

Prerequisite(s): GEOM 2004 or GEOG 2004, or permission of the Department.

Lectures and laboratory four hours a week.

Summary/Objectives

This course will introduce students to cartography, including theoretical and practical considerations for making maps and theoretical discussions of maps as communicative resources, models, analytical tools, and documents within discursive contexts. By working on cartographic projects, students will learn to identify, analyze, and demonstrate cartographic processes beginning with data and developing spatial information into map form. Students will demonstrate capabilities in Geographic Information Science (GIS) and will use a variety of tools to create maps including geospatial databases, visualization tools, spatial data editors, and map layout and design editors. Students will demonstrate understanding of cartographic concepts including the appropriate uses of map types in relation to types of data, implications of scale, and characteristics of cartographic projection types.

Required Text (available at Carleton Bookstore)

A copy of this book is available for reading at the Maps, Data, & Government Information (MADGIC) section of the library (Floor 2), Call# GA105.3 .D46 2009

Additional course readings are listed in the references and the detailed lecture schedule and will be made available through the library as electronic downloads or as papers put on reserve.

**Assessment**
- Lecture participation and in-class exercises: 10%
- Laboratory Assignments (4): 30%
- Multivariate Map Assignment and Presentation/Discussion: 20%
- Midterm Exam: 10%
- Final Exam: 30%

A portion of the assessment in this course is based on participation during the lectures. This will consist of participation during discussions and in-class exercises, as appropriate. In-class exercises may include submission of individual work completed during the class.

The Multivariate Map assignment includes a brief informal in-class presentation and discussion of the approach and methods used in the production of each student’s map. This will allow each of you to share the ideas you develop while working on the biggest assignment for the course and will allow the rest of the class to benefit from a quick survey of all the types of mapping processes used to complete this assignment.

For all submitted documents, please be sure to clearly indicate:
- Course Number: GEOM 3007
- Instructor: Glenn Brauen
- Teaching Assistant: TBA
- Lab Assignment Number and Title: (Proper Title)
- Date of Submission: (the date upon which you submitted your assignment).

All assignments must be submitted as hard copies. No electronic submissions will be accepted. A separate title page is not necessary.

It is your responsibility to retain both hard copies and computer files of your assignments. This will ensure that your work does not get lost. In addition, please take care to back-up your computer files for in-progress work to ensure that your in-progress assignments do not need to be redone or restarted.

Late assignments are not accepted except in the event of documented illness. In this case, please arrange to provide a doctor’s note in advance of the assignment due date for which you need an extension. In all other cases, no extension will be granted – please hand in what you have done by the due date.

The midterm and final exams will cover topics and work that have been discussed during the term. The assigned readings provide a foundation for these discussions and you are expected to complete readings before class in the weeks they are assigned to be ready for the discussions.

**Academic Integrity**

“The International Center for Academic Integrity defines academic integrity as a commitment, even in the face of adversity, to five fundamental values: **honesty, trust, fairness, respect, and responsibility**. From these values flow principles of behavior that enable academic communities to translate ideals to action.”

([http://www.academicintegrity.org/icai/resources-2.php](http://www.academicintegrity.org/icai/resources-2.php))
While you may collaborate with others in understanding and working through the process required to complete assignments for this course, each assignment submitted by you must be your own work (i.e., your map-making and your writing), clearly demonstrating your understanding, interpretation and analysis of the assignment.

In your scholarly work, develop the practice of acknowledging the ideas of others when you use them. If you summarize the work of others, cite your sources. When you use their words, use quotations and citations. To do otherwise is to risk being accused of plagiarism. If you are uncertain about whether or not something constitutes an academic offence, please ask your instructor or TA.

You are responsible for understanding Carleton's academic offence policy:
http://www1.carleton.ca/studentaffairs/academic-integrity/
http://www1.carleton.ca/senate/ccms/wp-content/ccms-files/Academic-Integrity-Policy.pdf

**Academic Accommodations for Students with Disabilities**

The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or pmc@carleton.ca for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send me your Letter of Accommodation at the beginning of the term, and no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with me to ensure accommodation arrangements are made. Please consult the PMC website for the deadline to request accommodations for the formally-scheduled exam (if applicable).

**Religious Observance**

Students requesting academic accommodation on the basis of religious observance should make a formal, written request to their instructors for alternate dates and/or means of satisfying academic requirements. Such request should be made during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist, but no later than two weeks before the compulsory academic event. Accommodation is to be worked out directly and on an individual basis between the student and the instructor(s) involved. Students who have questions or wish to confirm accommodation eligibility of a religious event or practice may refer to the Equity Services website for a list of holy days and Carleton’s Academic Accommodation policies, or may contact an Equity Services Advisor in the ES Department.

**Pregnancy**

Pregnant students requiring academic accommodation are encouraged to contact and Equity Advisor in Equity Services to complete a letter of accommodation. The student must then make an appointment to discuss her needs with the instructor at least two weeks prior to the first academic event in which it is anticipated the accommodation will be required.

**Other Important Locations on Campus**

Writing Tutorial Service (215 Paterson Hall)
Student Life Services (510 University Centre)
Student Academic Success Centre (302 Tory Building)
References
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<thead>
<tr>
<th>Date</th>
<th>Topics</th>
<th>Readings</th>
<th>Lab work and Assignments</th>
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<tbody>
<tr>
<td>1 Sep 12</td>
<td>Overview: course objectives; discussion of maps (range of types, uses); examples.</td>
<td></td>
<td>Lab 1: orientation; ArcGIS refresher; map layouts</td>
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<tr>
<td>2 Sep 19</td>
<td>Uses of maps; politics of mapping; the process of mapping: abstraction and generalization.</td>
<td>Perkins 2007; Krygier and Wood 2009; Dent Ch. 1</td>
<td>Lab 2a: ArcGIS simplification algorithms.</td>
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<td>3 Sep 26</td>
<td>Datums and Projections.</td>
<td>Dent Ch. 2, 3</td>
<td>Lab 2b: Projections; more layouts</td>
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<td>4 Oct 3</td>
<td>Text Placement.</td>
<td>Imhof 1975; UNGEGN 2012</td>
<td>Lab 3a: Text Placement (manual)</td>
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<td>5 Oct 10</td>
<td>Data measurement and classification; relation to thematic map types; Colour.</td>
<td>Dent Ch. 4, 14</td>
<td>Lab 3b: Text Placement (automation tools)</td>
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<tr>
<td>6 Oct 17</td>
<td>Descriptive Statistics; Data Classification.</td>
<td>Dent Ch. 5, 6</td>
<td>Lab 4a: Choropleth.</td>
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<td>7 Oct 24</td>
<td>Midterm Multivariate map thematic proposal due.</td>
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<td>No lab.</td>
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<tr>
<td>8 Oct 31</td>
<td>Multivariate map thematic proposal due.</td>
<td>Dent Ch. 7; Turnbull and Watson 1993</td>
<td>Lab 4b: Dot Density.</td>
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<td>9 Nov 7</td>
<td>Thematic types: Proportional Symbol, Isarithmic.</td>
<td>Dent Ch. 8, 9</td>
<td>Multivariate map assignment (student theme)</td>
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<tr>
<td>10 Nov 14</td>
<td>Thematic types: Cartograms; Flow maps.</td>
<td>Dent Ch. 10, 11</td>
<td>Multivariate map work (cont’d)</td>
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<td>11 Nov 21</td>
<td>Multivariate map presentations and discussion.</td>
<td></td>
<td>Multivariate map due during lab period.</td>
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<td>12 Nov 28</td>
<td>Course review.</td>
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