GEO 426  Thematic Cartography

Syllabus

Lecture time:  MW 12:40-2:00 pm  Room 126 Geog Bldg
Lab time: W 3:00-4:50 pm  Room 201 Geog Bldg

Instructor:  Prof. Judy Olson  211 Geog Bldg, phone 353-8757
Mailbox: inside 116 Geog Bldg.
olsonj@msu.edu
Office hours: Monday and Thursday 2:45-3:45 pm and by appointment
Also, feel free to catch me immediately after class

Lab Aide:  Julia Cameron
camero48@msu.edu


Additional texts available in Room 102 Geog Bldg (observe rules of use, please):

Course objectives:  In this course you should develop your knowledge of how to represent thematic data (numbers, facts,...) to bring out the information (meaningful patterns, relationships) that they contain.  In the lab you should bolster your skills for carrying out a variety of representations.  Emphasis will be on electronic display although you will produce paper maps as well.  At the end of the course you should have examples of several thematic maps to begin, or add to, both a paper and electronic portfolio.  At least as important, you should be able to provide knowledgeable consultation to people with thematic mapping needs (not necessarily "tell them what to do" but provide useful suggestions).

Attendance:  Because lecture materials will not always be covered in readings and because participation in discussions is considered an important component of the course, attendance at lectures is expected, will be recorded, and will count in the final grade.  Because lab equipment and time are limited, and because you can learn from each other, you are also expected to attend lab during the scheduled time.

Grades: Grades are based on lab exercises, three in-class exams, attendance and class participation, and a consulting exercise.  Contributions to the grades will be approximately:
30% Lab exercises (lateness is detrimental to grade)
12% Final consulting exercise (in lieu of final exam)
8% Attendance and participation
50% In-class exams (14% Exam 1, 16% Exam 2, 20% Exam 3)

Storage needs:  You will need a 250 mb zip disk or similar-capacity USB memory stick soon.  You will be responsible for obtaining it and for having suitable backup storage available to you at all times.  AFS can be used for backup, but your limit is 52 mb and you will likely need to remove things from time to time.  Please PUT YOUR FULL NAME and "Geo 426" on your zipdisk or memory stick; should you inadvertently leave it in the lab, it is much more likely to come back to you if clearly labeled.  Keep your media clean and stored in a suitable case so they are always protected.  PLEASE do not put any damaged media into the computers; see instructor, lab aide, or computer support person (Wilson Ndovie) for help.

Food and beverages, caps:  Please eat lunch before coming to class.  You may bring a beverage to lecture so long as you are careful where you set it, especially if we have maps circulating.  Food and beverages are NOT
permitted in the lab (where foreign materials and greasy fingers can damage equipment, manuals, etc.); if you need a snack break, go to the lounge (Room 129) or the hallway or stairwell landing. You are kindly requested not to wear caps in the lecture sessions; you are welcome to wear them in lab if you wish.

**Lab Assignments:** Exercises will be handed out in class, and due dates will be indicated. A substantial amount of the work should be accomplishable during lab hours but you will need to spend additional time in the lab as necessary. Here is a tentative list of lab assignments (some will have multiple parts):

- Basics of ArcMap
- Basics of MapViewer
- Construction of a thematic map
- Designing thematic maps with ArcMap
- Producing a coordinated collaborative map series
- Animated thematic representation
- Landform representations

**Readings:** Text reading assignments are listed in the schedule below. A designation such as "Slocum 1:all" means Slocum et al., Chapter 1, all of it; "Slocum 1: 3-6" would mean Slocum et al., Chapter 1, pp. 3-6. An asterisk (*) means a reading is optional. Up to 10 or so additional non-text readings may be assigned in separate handouts. Non-text items (see, for example 1/24 and 2/14) are available in the Reading Room, 102 Geog Bldg.

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**TENTATIVE COURSE SCHEDULE**

<table>
<thead>
<tr>
<th>Session</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1/ 9</td>
<td>Introduction to course. Intro to thematic mapping</td>
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<tr>
<td>1/11</td>
<td>Important concepts</td>
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<td></td>
<td>Slocum 1:all; Harley &quot;Deconstructing..&quot; Cartographica 26:2 (sum '89),</td>
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<td></td>
<td>*Robinson 25:475-478; *Dent 1:all; *Dent 5:all</td>
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<tr>
<td>1/16</td>
<td>MLKing Day; no class</td>
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<tr>
<td>1/18</td>
<td>Design and Symbolization</td>
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<td>Slocum 4:all (at least some will be review); *Robinson 18:all; *Dent 13: all</td>
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<tr>
<td>1/23</td>
<td>Statistics and graphics</td>
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<td></td>
<td>Slocum 3:all</td>
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<tr>
<td>1/25</td>
<td>Statistics and graphics, cont.</td>
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<tr>
<td>1/30</td>
<td>Proportional symbol mapping</td>
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<td>Slocum 16:all, *Robinson 25:478-end; *Dent 9:all</td>
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<tr>
<td>2/1</td>
<td>Dot and dasymetric mapping</td>
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<td>Slocum 17:all; *Robinson 26:493-501, 519-525</td>
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<td>2/6</td>
<td>Discussion: bring map examples. Brief review for exam if needed.</td>
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<td>2/8</td>
<td>EXAM 1</td>
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<td>2/13</td>
<td>Series mapping</td>
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<td>Brewer &quot;Reflections..&quot; CaGIS 28:4 (Oct'01)</td>
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<td>2/15</td>
<td>Choropleth mapping, the workhorse of thematic mapping methods</td>
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<td>Slocum 13:all; *Dent 7:all; *Robinson 26:515-519</td>
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<tr>
<td>2/20</td>
<td>Choropleth / dasymetric / legends and classing</td>
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<td></td>
<td>Slocum 5:all</td>
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<td>2/22</td>
<td>Isarithmic maps (and related)</td>
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2/27 Isarithmic maps (and related)
   Slocum 15:all; *Robinson 27:all
3/ 1 Cartograms
   Dent 11:207-215; Slocum 19:360-364

3/6 Spring Break
3/8 Spring Break

3/13 Multivariate maps
   Slocum 18:all; *Robinson 28:all
3/15 Discussion

3/20 Catchup and review
3/22 EXAM 2

3/27 Animated thematic maps: examples
   Slocum 20:all
3/29 Animated thematic maps: principles

4/3 Data exploration; handling data sets discussion
   Slocum 21:all
4/5 No class

4/10 Projections for Thematic Maps
   Slocum 8:all (should be review); Slocum9:all; *Robinson 5:60-68[to Quant. Meas.; skip Box 5A Tissot's Indicatrix], 78[Eq-Area Projections]-80; *Dent 3:all
4/12 Projections for Thematic Maps, cont.

4/17 Discussion: handling data sets
4/19 EXAM 3

4/24 Exam review; elements of map consulting
4/26 Final prep for consulting experience

Final Exam Time: Wednesday, May 3, 3:00-5:00 p.m.
(Consultation Services Session)
Regular classroom unless otherwise announced