GEOG 5200 – Elements of Cartography – Autumn 2014

Instructor

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Teaching Assistant

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Course Description

"*Show me a geographer who does not need them [maps] constantly and want them about him, and I shall have my doubts as to whether he has made the right choice in life."* Carl O. Sauer (1889-1975)

This is an introduction to the art, craft, and science of cartography. We will emphasize important aspects of cartographic communication, including: map purpose, geographic phenomena and their measurement, data collection and creation, data manipulation such as classification and generalization, and various map design issues such as color choice, typography, and layout.

Course goal and objectives

The overall goal of this course is that you will learn basic principles of cartographic communication. The scope therefore includes both how to produce maps and how to consume maps. In more detail the course objectives are:

How to produce maps:

- Know about elements of cartographic communication
- How and when to use different types of maps
- Make informed decisions about map design in a given situation

How to consume maps:

- Be able to read and understand different types of maps
- Critically evaluate maps and be able to articulate why it is good or bad

"*Learning map craft is like learning to ride a bicycle. You cannot learn from a book. You take a bicycle, with an experienced friend to guide, encourage, and assist you, and you try...*" British War Office Information Handbook, ca 1945.

Much emphasis is put on hands-on experience for you to learn to apply visual and cartographic techniques to spatial information.

Schedule

The most up to date schedule will always be posted on Carmen under Course info. Any significant changes to the schedule will be announced well in advance.

updated 8/27-14	**Geography 5200 - Fall 2014 schedule**	
week starts	**Monday**	**Wednesday**
25 Aug	**No class**	**Course introduction**
1 Sep	**No class**	**Thematic mapping** [Ch. 1, 2]
	Labor Day	PE 1 - Getting started with ArcMap
8 Sep	**Symbolization** [Ch. 5]	**Earth coordinates** [Ch. 7]
	PE 1 cont.	PE 1 cont.
15 Sep	**Map projections** [Ch. 8]	**Selecting projections** [Ch. 9]
	PE 2 - Projections	PE 2 cont. **Quiz 1 (Ch. 1,2,5)**
22 Sep	**Statistical Foundations** [Ch. 3 pp. 34-41]	**Data & generalization** [Ch. 6]
	PE 2 cont.	PE 2 cont.
29 Sep	***The Thompson Library map room*** *(meet there)*	**Choropleth mapping** [Ch.14]
	PE 3 - Map varieties and reading	PE 4 - Choropleth mapping **Quiz 2 (Ch. 7,8,9)**
6 Oct	**Data Classification** [Ch. 4]	PE 3 & 4 cont.
	PE 3 & 4 cont.	
13 oct	**Color & design** [Ch. 10]	**Map elements & typography** [Ch. 11]
	PE 5 - Map design	PE 5 cont. **Quiz 3 (Ch. 3,4,6,14)**

20 Oct	**Cartographic design** [Ch. 12]		**Map reproduction** [Ch. 13]
	PE 5 - cont.		PE 5 cont.
27 Oct	**Proportional symbol maps** [Ch. 17]		**Dot maps** [Ch. 17]
	PE 6 - Dot density and prop.symbol mapping.		PE 6 cont. **Quiz 4 (Ch. 10,11,12,13)**
3 Nov	**Project proposal**		**Map data sources** [Kimerling et al.]
	PE 6 cont.		PE 7 - Base map compilation
10 Nov	**Effective graphing** [Dent, Ch.18]		**Project & Ethics**
	PE 7 cont.		PE 7 cont. **Quiz 5 (Ch. 13,17, Dent 18)**
17 Nov	**Project data reporting**		**Project work**
	PE 7 cont.		
24 Nov	**Project work**		**No class**
			Thanksgiving break
1 Dec	**Project work**		**Project work**
8 Dec	**Project work**		**No class**
			Finals week
28 Apr	**No class**	**Tuesday 10 - 11:45 AM**	**No class**
	Finals week	**Final presentations**	Finals week

Lectures & exercises

Mondays and Wednesdays 11:10 AM — 12:30 PM in 0140 Derby Hall.

Class material such as lecture notes, worksheets, handouts will be made available through Carmen under the heading Lectures.

During lectures we will often spend some time to work with sample problems and discuss practical applications. These activities are meant to build a deeper understanding of the subject matter but it also relies heavily on your active participation. You will also sometimes have work to prepare before classes or other types of homework assignments.

Texts

Required:

Slocum T. et al., 2009, Thematic cartography and geovisualization, 3rd ed., Pearson Prentice Hall, 561p.

Lectures will cover the most of the book topics but in a different fashion so the text serves as a true complement to enrich the lectures, and provide more detail. (The 2nd edition is also OK but the new text is significantly re-organized and updated)

Goodes's World Atlas, 22nd Ed., Rand McNally.

The atlas is used for illustration and for class exercises. It is also a valuable source for good design practice, one of the few things where I encourage copying work of others.

There is a bundle of these two items, ISBN-10: 0321784162 , that should save you about $20 off the total list price.

Access to the New York Times

I recommend either one of the digital subscriptions that you can get through this link: www.nytimes.com/collegerate

You can start the course without a subscription and buy access when the free version is too restrictive.

Recommended:

Brewer, C.A., 2008, Designed Maps: A Sourcebook for GIS Users, Esri Press

Monmonier, M., 1992/1996, How to Lie With Maps, University Of Chicago Press

MacEachren, A.M., 1995, How Maps Work: Representation, Visualization, and Design, The Guilford Press

Grading Policy

Overall credits for the course are given approximately as follows:

Practical Exercises	~350 points (or ~45%)
In-class work & other homework	~90 points (or ~10%)
Term project and related work	~200 points (or ~25%)
Quizzes	~160 points (or ~20%)

The credits given to each course component reflects my notion that I can only facilitate for you to acquire theoretical and practical knowledge. *Only you can learn* what we want you to. Consequently, assessments relate mainly to your own learning, such as demonstrating practical use of the covered topic matter in class, homework and an individual project.

Final letter grades will be assigned based on how many percent of total points available you have earned.

93.0 <= A
90.0 <= A- < 92.9
87.0 <= B+ < 89.9
83.0 <= B < 86.9
80.0 <= B- < 82.9
77.0 <= C+ < 79.9
73.0 <= C < 76.9
70.0 <= C < 72.9
67.0 <= D+ < 69.9
60.0 <= D < 66.9
F < 60.0

Attendance, Timeliness & Examination Policy

Lecture, in-class work & homework: You are expected to attend lectures twice a week on basic cartographic principles and map design. Most classes have time allotted for discussions, in-class work and other activities. Your contribution in these and in class generally, will be noted, and used to determine part of your final grade, just showing up won't count a whole lot toward this component! Obviously, you will receive no credit for in-class work if you are not present.

During the quarter, there will be several homework assignments. The main purpose of the homework is to provide an opportunity to learn how to apply and reflect upon the things we cover in class. If you are having difficulty with assignments you should ask for assistance, whether from fellow students, from the course TA, or from me. Whatever you do, ask someone but please note the academic integrity policy!

Quizzes: You will complete readings on cartography and map design principles each week, most from the textbook. To ensure that the reading assignments are completed, you will assigned to complete five online quizzes. These are essentially take-home, open-book exams administered through Carmen.

Practical Exercises: There will be 7 graded Practical Exercises. Details of the assignments will be posted on the course web site.

You are welcome to discuss the exercises amongst yourselves, in fact this is encouraged, but the final product you hand in *must be your own work* (see Academic Integrity Policy below).

Attending class is important since these times provide you with access to the instructors and to other students. Keep in mind that some assignments may not be possible to finish in the allotted class time. You will be expected to complete assignments outside of class if needed. Access to the lab is provided during posted computer room hours.

Term project : In lieu of a final exam you will complete a final mapping project. In this project you will go through the entire map-making process; from ideation, through data

collection and design, to a final product. You will typically produce some form of map product, e.g. poster-size maps and/or brochures.

Further details of the individual project will be posted on Carmen

Grading: Given that this class has no pre-requisites, we understand that many of the concepts and techniques discussed early in the course will be new. Recognizing this, the first few assignments will contain more detailed instructions.

All course work (practical exercises, homework, individual project work) are expected by the due date. A late penalty of at least 10 percentage units will be taken off each day after the due date.

If you have a genuine reason (known medical condition, a pile-up of due assignments on other courses, ROTC, athletics teams, job interview, religious obligations etc.) for being unable to complete work on time, then some flexibility is possible. However, if in my judgment you could reasonably have let me know *beforehand* that there would likely be a delay, then a late penalty will still be imposed if I don't hear from you until *after* the deadline has passed. For unforeseeable problems, I can be more flexible.

If there are ongoing medical, personal, or other issues that are likely to affect your work all semester, then please arrange to see me to discuss the situation.

There will be no make-up exams except for circumstances like those above.

Academic Integrity Policy

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the University's *Code of Student Conduct*, and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the University's*Code of Student Conduct* and this syllabus may constitute "Academic Misconduct."

The Ohio State University's *Code of Student Conduct* (Section 3335-23-04) defines academic misconduct as: "Any activity that tends to compromise the academic integrity of the University, or subvert the educational process." Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University's *Code of Student Conduct* is never considered an "excuse" for academic misconduct, so I recommend that you review the Code of Student Conduct and, specifically, the sections dealing with academic misconduct.

What this really means is: If I suspect that a student has committed academic misconduct in this course, *I am obligated* by University Rules to report my suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the University's *Code of Student Conduct* (i.e., committed academic misconduct), the

sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University. Please do not put yourself in that situation.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

Other sources of information on academic misconduct (integrity) can be found on the Committee on Academic Misconduct web pages (oaa.osu.edu/coam/home.html)

Disability Services

Students with disabilities that have been certified by the Office for Disability Services will be appropriately accommodated, and should inform the instructor as soon as possible of their needs. The Office for Disability Services is located in 150 Pomerene Hall, 1760 Neil Avenue; telephone 292-3307, TDD 292-0901; http://www.ods.ohio-state.edu/.