

GEOG 323/505 Cartography and Graphics I Course Syllabus – Fall 2008

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Phone: (410) 704-4665	Office Hours: Tu/Th 10:00 – 11:00 am
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Lecture & Lab: Wednesday 3:30 – 6:15 pm, Linthicum room 8

Course Description:

This course is designed as an introduction to modern cartographic theory and conventions, but also provides significant introductory hands-on experience in map design and map production using computer software. The course is intended to cover the basic principles of cartography as well as modern techniques which have influenced map design, presentation, and interpretation processes. Students will develop a series of hard copy maps, charts, and graphics as well as design materials for presentation through digital mediums. By the end of this course the students will learn both technical and intellectual skills that should enhance their abilities to recognize good map design, create well-designed and well-executed maps.

This course consists of a lecture component and a laboratory component. The lectures prepare students with the theories and principles of cartographic design and geographic data considerations. The weekly lab exercises provide opportunities for students to develop a hands-on understanding of desktop graphic design and mapping packages (e.g., Adobe Illustrator, MapViewer, ArcGIS, etc.) and the implications of different map choices for cartographic communication.

Course Objectives:

The primary objective of this course is to provide students with broad grasp of the history, conventional practices, data manipulation, data analysis, design considerations, construction methods, technological innovations, and contemporary theory associated with modern cartography. Other objectives of the course are for the student to be able to:

- Understand the basic cartographic concepts of scale, projections, generalization, classification and symbolization.
- Understand and apply principles of graphic design to cartographic design and production.
- Employ ethics in cartographic design.
- Have the skills and knowledge to design and critique thematic maps.
- Select appropriate map types for the task in hand.
- Prepare presentation materials (e.g., maps, graphs, tables, etc.) of good quality cartographic standards.
- Provide hands-on practical experience with a leading desktop graphic design and mapping packages.
- Provide an overview of current cartographic issues that play a vital role in modern development and geopolitics.

Course Goals:

This is an introductory cartography course focusing on fundamentals of map making and map use (interpretation and evaluation). Upon completion of this course, students are expected to be able to:

- (1) Gain an understanding of thematic map design principles, techniques, and data considerations.
- (2) Process geographic data and produce high quality cartographic displays.
- (3) Be able to provide educated critiques on published cartographic pieces.
- (4) Discern good maps from bad maps, and an answer to the question: “how do maps work?”.
- (5) Be familiar with desktop graphics and mapping software for cartographic design.

Course Prerequisites:

It is strongly recommended that students take this course after having completed GEOG 221: Interpretation of Maps, or GEOG 230: Understanding and Communicating through Maps, or GEOG 232: Intro to geographic Information Sciences, or its equivalent. If you have never taken a ‘geographic techniques’ course, you will need to be especially diligent with the readings and homework.

Textbook:

Dent, B. D., Torguson, J. S., and T. W. Hodler (2008) *Cartography: Thematic Map Design* (6th ed.). Boston: McGraw-Hill.

Materials:

- An account on ‘Tiger,’ the student server. You will need to use this space to store your work. Go to <http://tiger.towson.edu> for more information on how to get an account.
- Each student should purchase a Flash Drive (memory stick) for data storage and transportation. This media can be purchased at any office supply store.

Course Requirements:

This course meets twice a week for lectures in class. Students are required to go over the reading materials before attending each class. Lecture material will not necessarily duplicate material presented in the textbook, so if you miss a lecture, you may completely miss out on important information.

Each student will develop his/her mapping skill through a series of laboratory exercises. These exercises are a major part of the course and provide the opportunity for students to acquaint themselves with the many practical cartographic design issues. The laboratory portion of this course is held in the Geography Computer Laboratory (LI 1). This room is reserved for our class use during the fall semester on Wednesday from 4:45-6:15 pm. It is also available daily, when not otherwise scheduled for instructional use. This lab is also utilized by a number of other Geography classes during the semester – please be courteous to the need of other lab users.

Please note that there is no separate lab session; operations of particular graphics software packages might not be completely taught during the lectures, and instead will be explored by students outside of scheduled class time. This course covers a lot of material and requires that students make time to do the work. In order to succeed, it is absolutely necessary that students plan to spend a considerable amount of time outside of the class honoring their mapping skills on lab exercises.

At the end of the semester, students will apply the learned techniques and developed skills to complete the final mapping project. This project will require each student to produce a sequence of maps relating to a theme of their choice. Details will be discussed in class after the mid point of the semester. Graduate students taking credit for GEOG 505 will need to complete a research paper in addition to the other requirements.

Evaluation:

Undergraduates (GEOG 323)		Graduates (GEOG 505)	
Exams	25%	Exams	25%
Lab exercises	40%	Lab exercises	40%
Portfolio & poster	15%	Portfolio & poster	15%
Final project	20%	Final project	20%
		Research paper	20%

I reserve the right to raise or lower each grade slightly, depending on circumstances such as extraordinary progress made in the course or other mitigating circumstances. Undergraduate grades will be assigned as follows:

A	93% - 100%	C+	77% - 80%
A-	90% - 93%	C	70% - 77%
B+	87% - 90%	D+	67% - 70%
B	83% - 87%	D	60% - 67%
B-	80% - 83%	F	Below 60%

Graduate grades will be assigned as follows:

A	90 – 100%	C	70% - 80%
B	80 – 90%	F	Below 70%

Grade disputes / complaints *must be lodged within two weeks* of grades being released on Blackboard. In the case of a missing grade, you must provide evidence of having done the work. In the case of clear errors in grading, I will correct your grade on Blackboard. Failure to contact me within two weeks of grades being completed for any given assignment or test means that you forfeit the chance for a review of the grade.

Make-up Policy:

Make-up exams will be given only in the event of illness or other verifiable emergency. You will have 24 hours after a missed exam to contact me or leave a message. The secretary in the department (410-704-2973) will gladly take a message. If you know in advance that you must be absent on the day of a scheduled exam, please let me know so that we can schedule a make-up time. Make-up exams will be scheduled at the instructor's discretion and may not be of the exact same format. Unexcused absences from exams will result in a zero for the exam.

Absences may be excused if they are verifiable documents. Acceptable reasons for absences include but are not limited to personal or family illness or emergency, religious holidays, etc. per Towson University Attendance Policies. Oversleeping, missing the bus, etc. are not excusable excuses. You may be required to provide written documentation in order to receive an excused absence. If your absence is excused, you may have the opportunity to make up your work.

Contact Policy:

I try to be available as often as possible during the day. Feel free to contact me via email or by phone, particularly for immediate problems. Please do not let operational problems linger -- e-mail or come by my office or call me when you are *stuck*.* I can also be available in the office for personal consultation by appointment.

**Stuck Rule: Try to figure out the problem and resolution for 10 minutes. Back up to the first, reread the book, reread the assignment, etc. Then resort to the Help menu for another 10 minutes. Ponder for 5 minutes. If still stumped, please contact me.*

Attendance Policy:

Attendance is the easiest way to do well in any class, therefore students are expected to attend lectures and labs. In the event you happen to miss a lecture, do what you need to do; then see the syllabus and get notes from your classmates to find out what you missed in class. Students are responsible for material missed during any class session. Any notes from a peer for the material covered in class should be obtained.

If there is a chance that you will not be able to attend as many as four classes, please consider dropping the course and registering a semester when you are better able to make a commitment. If you know that you will be late, please let me know ahead of time so that I can brief you on what you will miss.

Help!

All of us learn in different ways and with varying degrees of success. If you know of any factors in your life that may hinder your ability to learn up to your potential in this course, please notify me at once. If you are having difficulty with the course material, please visit me right away. Coming to see me just before a test is being given is a poor strategy for success. Like any of your other courses, the material in this course will build upon earlier concepts and information; if you fall behind, it will become harder and harder to catch up. This is what office hours are for!

Due Date Policy:

Lab exercises must be turned in **no later than one week** from when started. Submission of an assignment after the due date will be accepted with a penalty of 10% for each day they are late.

Academic Honesty:

Academic honesty and integrity is expected at all times. Students are responsible for the Scholastic Dishonesty Code, which can be found in Appendix F of the Towson University Catalog under the "Student Academic Integrity Policy" section. Scholastic dishonest includes but is not limited to: copying others' work, using notes during tests, and sabotaging others' work. Dishonesty in this class will not be tolerated. Cheating and/or plagiarism will result in an automatic failing grade for this course. Cases of academic dishonesty will be handled according to University guidelines.

Student with Disabilities:

This course is in compliance with Towson University policies for students with disabilities. Students with disabilities are encouraged to register with Disability Support Services (DSS) 7720 York Road, Suite 232, (410) 704-2638. Students who suspect that they have a disability but do not have documentation are encouraged to contact DSS for advice on how to obtain appropriate evaluation. A memo from DSS authorizing your accommodation is needed before any accommodation can be made.

Lecture and Reading Schedule:

The lecture schedule indicates the intended scope and timing of materials presented in the course. If unanticipated events occur, the lecture schedule will be modified accordingly.

Week	Date	Topic	Readings
1	Sep 3	Introduction to Cartography and Thematic Mapping Coordinate systems; map projection Account setup	Ch. 1 Ch. 2 & 3
2	Sep 10	Map projection (cont.); the nature of geographic data and the selection of thematic map symbols Lab 1: Comparing world projections <i>Wednesday September 10: Add/drop deadline</i>	Ch. 3 & 4
3	Sep 17	Map design processes; elements of map composition Exam #1: Ch. 1-4 Lab 2: Introduction to Adobe Illustrator	Ch. 12
4	Sep 24	Map design (cont.); visual hierarchy; Gestalt psychology Lab 3: Line weight & visual hierarchy	Ch. 12
5	Oct 1	Typography Lab 4: Lettering	Ch. 13
6	Oct 8	Color in maps Exam #2: Ch. 12-13	Ch. 14
7	Oct 15	Color in maps (cont.) Data classification & choropleth mapping Lab 5: Mapping in Color	Ch. 14 Ch. 5 & 6
8	Oct 22	Data classification & choropleth mapping (cont.) Dot density mapping Lab 6: Data classification & choropleth mapping	Ch. 5 & 6 Ch. 7
9	Oct 29	Exam #3: Ch. 5, 6 & 14 Project - discussion & planning Lab 7: Dot density map	
10	Nov 5	Proportional symbol mapping Project - data collection Lab 8: Proportional symbol map	Ch. 8
11	Nov 12	Cartogram; flow maps Data collection <i>Wednesday November 12: Last day to change to P/F or withdraw</i>	Ch. 10 & 11
12	Nov 19	Project update #1 - data collection report Exam #4: Ch. 7 & 8 Lab 9: Cartogram / flow map	
13	Nov 26	Thanksgiving - No class	
14	Dec 3	Graphing; Work on project Project update #2 - work progress report Exam #5: Ch. 10 & 11	Ch. 17
15	Dec 10	Work on project	
16	Dec 19	Portfolio, poster, and project submission by 3:00 pm.	

Supplemental Readings

- Abrams, J., and Hall, P. (eds.). (2006) *Else/Where: Mapping New Cartographies of Networks and Territories*. Minnesota: University of Minnesota Design Institute.
- Arnheim, R. (1974) *Art and Visual Perception: A Psychology of the Creative Eye*. Berkeley, CA: University of California Press.
- Brewer, C. A. (2005) *Designing Better Maps: A Guide for GIS Users*. Redlands, CA: ESRI Press.
- Dorling, D., and Fairbairn, D. (1997) *Mapping: Ways of Representing the World*. London: Pearson Education Limited.
- Harwood, J. (2006) *To the Ends of the Earth: 100 maps that Changed the World*. Cincinnati, OH: F+W Publications Inc.
- Krygier, J., and Wood, D. (2005) *Making Maps: A Visual Guide to Map Design for GIS*. New York: Guilford Press.
- MacEachren, A M. (1995) *How Maps Work*. New York: Guilford Press.
- Robinson, A. H., Morrison, J. L., Muehrcke, P. C., Kimerling, A. J., and Guptill, S. C. (1995) *Elements of Cartography* (6th ed.). New York: John Wiley & Sons, Inc.
- Rose, G. (2005) *Visual Methodologies*. London: SAGE Publications Ltd.
- Slocum, T. A., McMaster, R. B., Kessler, F. C., and Hoge, H. H. (2005) *Thematic Cartography and Geographic Visualization* (2nd ed.). Upper Saddle River, NJ: Prentice Hall.
- Tufte, E. R. (1990) *Envisioning Information*. Cheshire, CT: Graphics Press.
- (1997) *Visual Explanations*. Cheshire, CT: Graphics Press.
- (2001) *The Visual Display of Quantitative Information* (2nd ed.). Cheshire, CT: Graphics Press.
- (2006) *Beautiful Evidence*. Cheshire, CT: Graphics Press.
- Williams, R. (1994) *The Non-designer's Design Book*. Berkeley, CA: Peachpit Press.
- Wood, D. (1992) *The Power of Maps*. New York: Guilford Press.