

# GEO 471

## Cartography & Computer-Assisted Mapping

Fall 2007

**Instructor:** Dr. Jin-Kyu Jung

**Office:** 158 O'Kelly-Ireland Hall, Department of Geography

**Office Hours:** T TH 3:00-4:30 PM (and by appointment)

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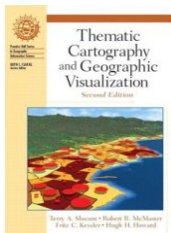
**Course Meetings:** Tuesday and Thursday 2:00-2:50 PM, O'Kelly 157

**Lab Meetings:** Tuesday and Thursday 3:00-3:50 PM, O'Kelly 116

### I. Course Overview

In this course, we study the art, science, politics, and technologies of cartography, to understand how maps are created and used to represent and communicate spatial phenomena and their relationships. Course lectures, readings, discussions and lab activities will introduce you to the concepts, techniques, hardware, and software uses for computer-aided cartography, with special emphasis on thematic maps produced using GIS software. The data representation and analysis techniques you learn in this course will be useful for later work with GIS. Over the course, we will focus on *how* to use different thematic mapping techniques accurately and appropriately to represent spatial phenomena, and *how* to design maps for effective communication. But our activities will also hone your ability to be a critical producer and consumer of maps. All maps use the principles of cartography to tell a story for a particular perspective, purpose, or audiences, and usually obscures or leaves out other stories. Thus, part of our effort in the class will be devoted to understanding how maps function as a communicative (and sometimes contested) visual media.

### II. Course Materials



**(Required)**

**Thematic Cartography and Geographic Visualization**

Slocum, Terry A, R.B. McMaster, F.C. Kessler, and H.H. Howard.

2005. 2<sup>nd</sup> Ed.

ISBN: 0-13-035123-7

PLEASE NOTE: It is my expectation that everyone will have access to a required textbook as soon as possible.

### III. Evaluation

You will be evaluated through the following requirements, each contributing to your final grade in the following proportions:

Mid-Term Exam (10/11, TR)	30%
Final Exam (12/11, T)	30 %
Final Group Project & Presentation	30%
Class Participation & Attendance	10 %

### IV. Grading

Below is a table listing the percentages of student's grades used to assign a letter grade for this course. All numerical grades will be rounded up to the nearest integer.

Cumulative Percentage Range (%)	Equivalent University Letter Grade
89 – 100	A
85 – 88	A-
81 – 84	B+
77 – 80	B
73 – 76	B-
69 – 72	C+
65 – 68	C
61 – 64	C-
57 – 60	D+
53 – 56	D
0 – 52	F

### V. Class Expectations

1. Be prepared that this course will be very intensive! It will be very challenging to master the principles of Cartography & Visualization within one semester.
2. Read the related class materials before/after each class! This course is loosely organized according to the structure of the textbook. Also, pay attention to lecture slides.
3. Attending and participating class is highly encouraged! It is also part of grade!
4. Manage your time for lab, exams and final group project!
5. Think about how you will use this course for your own study! Each person has a unique reason to study Cartography.
6. Use me as much as you can! The lecture is targeted to the average level students. If you want to learn more advanced level or if you cannot follow the level of class, come and talk to me.

## **VI. IMPORTANT NOTICES !!!**

### **Class Ethics**

No surprises here: Each of us bears responsibility for creating a positive learning environment in our class. Please, arrive to class on time, leaving only upon dismissal. Treat one another with respect in your spoken remarks, writings, and other communication. Turn off your cell phones, beepers, and other personal communication devices. Listen carefully to one another. Threatening behavior of any kind will not be tolerated and will be handled according to the university's *Student Conduct Code*: <http://sos.und.edu/csl/>

### **Late Work / Incompletes**

To be fair to your classmates who do their work in a timely fashion, unless a documented medical or personal emergency arises, any work turned in late will be penalized 10% of the total score per day that it is late. That is, 10% for 1 day late, 20% for 2 days, and so on. To be considered "on time" work must be turned in during class time, not later in the day. Extensions on papers or incompletes will not be granted unless exceptional circumstances require it and prior arrangements have been made. See me in extreme cases of medical or personal difficulties.

### **Exam Procedures**

Everyone is expected to take the exams during class time on the day they are scheduled. You will only be allowed to schedule a make-up exam if you have contacted me before the scheduled exam time and have a documented medical or family emergency.

### **Students with special needs**

All of us learn in different ways. If you know of any factors in your life that may hinder your ability to learn up to your potential in this course, please let me know. If these factors are recognized disabilities under the ADA, please inform me as soon as possible so we can develop a plan to accommodate your needs. You can also contact UND Disability Support Services (DSS) office, 190 McCannel Hall: Phone: 777-3425; or <http://www.und.edu/dept/dss/>

### **Academic honesty**

Academic honesty and integrity is expected at all times. Academic dishonesty, including but not limited to plagiarism, cheating, or submitting academic work that has previously been submitted (without citation or previous permission of instruction) will be penalized: <http://www.law.und.edu/Policy/misconduct.php> If you have questions about what might constitute a violation of the policy, please see me or review UND materials available online.

### **Writing Resources**

This is not a writing intensive course, please be aware the UND offers many resources to assist students in improving their writing. UND Writing Center offers tutoring by appointment, and it also offers drop-in assistance. For more information contact: [writing.center@und.nodak.edu](mailto:writing.center@und.nodak.edu) (e-mail) or 777-2795 (phone).

## VII. Course Schedule

Date	Topics	Reading/Assign.	Lab
8/21 (T)	Course Introduction		
8/23 (TH)	Introduction to Visualization	Ch.1	
8/28 (T)	Thematic Maps	Ch.1	Lab#1 Representing Geographic Concepts
8/30 (TH)	Introducing Arc GIS		
9/4 (T)	Coordinate System	Ch.7	
9/6 (TH)	Map Projections	Ch.8	Lab#2 Introducing GIS
9/11 (T)	Dot Mapping	Ch.17	
9/13 (TH)	Dot Mapping	Ch.17	
9/18 (T)	Data Classification	Ch.5	Lab#3 Dot Density Mapping
9/20 (TH)	Data Classification	Ch.5	
9/25 (T)	Choropleth Mapping	Ch.13	
9/27 (TH)	Choropleth Mapping	Ch. 13	Lab#4 Choropleth Mapping
10/2 (T)	Different Symbolization Approach	Ch.4	
10/4 (TH)	Different Symbolization Approach	Ch.4	
10/9 (T)	Lecture Catch-Up/Exam Review		
10/11 (TH)	<b>Mid-Term EXAM</b>		
10/16 (T)	Proportional Symbol Maps	Ch.16	Lab#5 Graduate Symbol Maps
10/18 (TH)	Proportional Symbol Maps	Ch.16	
10/23 (T)	Principle of Color	Ch.10	
10/25 (TH)	Flow Maps	Ch.19	Lab#6 Flow Maps
10/30 (T)	Elements of Cartographic Design	Ch.11	
11/1 (TH)	Elements of Cartographic Design	Ch.11	
11/6 (T)	Isarithmic Mapping	Ch.14	Lab#7 Representing Surface <b>Project Idea Due</b>
11/8 (TH)	Surface/Topography	Ch.15	
11/13 (T)	Geographic Visualization	Ch.20	
11/15 (TH)	Geographic Visualization	Ch.21	Final Project Help
11/20 (T)	Virtual Environment	Ch.24	
11/22 (TH)	<b>No Class (Thanksgiving Break)</b>		
11/27 (T)	Grassroots Cartography		Final Project Help
11/29 (TH)	Group Project Presentation		
12/4 (T)	Group Project Presentation		
12/6 (TH)	Class Review/Exam Review		
12/11 (T)	<b>FINAL EXAM</b>		

\* The contents of course can be modified by the instructor during the semester !