

# **GEOG 473: Digital Cartography and Map Design**

## **(Fall 2015)**

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Lecture: Tuesday and Thursday, 12:30PM-1:50PM, 338 Davenport Hall

Instructor: Dr. Shakil Bin Kashem (kashem1@illinois.edu)

Office: 254 Computer Application Building, 605 East Springfield Avenue Champaign, IL 61820

Office hours: Thursday, 3:00PM-5:00PM

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### **Course Description**

This course is designed to teach students the fundamentals of digital cartography. The focus is on developing publication quality maps that are specifically designed to convey specific information to map reader.

### **Course Objectives**

This course has the following objectives:

1. Students will learn advanced concepts in projections and coordinate systems.
2. Students will learn how to create high-quality publication-ready maps using commercial software packages.
3. Students will learn to design a map specifically to convey a certain kind of information.
4. Students will learn to design maps to publication standards for print media and for the web.
5. Students will practice presenting information through an oral presentation that is augmented by maps.

### **Prerequisites**

GEOG 379 - Introduction to Geographic Information Systems

### **Textbook**

Dent, Borden. D., Jeffery S. Torguson, and Thomas W. Hodler. *Cartography: Thematic Map Design*. 6th edition. McGraw Hill.

**Note:** Obtaining the latest version of this textbook is not necessary. If you are able to find an earlier version of this text online or through other channels, it will present no problems for this course.

### **Materials Other Than Textbooks**

A portable USB flash drive to save your work during the laboratory and continue to work on your projects outside of class. Access to the computer lab used for teaching the class will not be available outside of class hours, so you will have to work in another location to complete the labs and projects.

We will be making extensive use of Adobe Illustrator and the Avenza MAPublisher extension. You can download the entire Adobe Creative Cloud software suite through the UIUC webstore for a yearly subscription of only \$5.00. This is a bargain you should take advantage of. Adobe Creative Cloud is available for both the PC and Mac. You are free to use either for the purposes of this course.

Avenza allows users to download their Map Publisher extension and use it free for a brief trial period through their website. Although not guaranteed, I have had students tell me that in the past Avenza has honored requests to extend the trial period until the end of the course. Although all maps for this course must be produced in Adobe Illustrator, it may also be useful from time to time to have access to ESRI's ArcGIS. The university has a site license for this software and it can be downloaded for free through the UIUC webstore for installation on your personal computer. Of course, it is only available for Windows.

You can also access ArcGIS and Adobe Illustrator through the Virtual Machines made available by ATLAS for this course. Please look at the 'Accessing Virtual Machines' page for detail instructions. Please note that the Virtual Machines are not equipped with Avenza Map Publisher.

### **Moodle and University Email**

The University's Moodle (<https://learn.illinois.edu/>) system will be used to distribute course materials, assignments, and to keep students informed of their grades. You are responsible for checking it regularly, as this is an official method for communication between the instructors and students for this course. Additionally, please check your university email account daily. University email is also an official course communication method (as it, obviously, class announcements during the lectures or the laboratories).

Please use your university email address when emailing your instructors. It is the university's official channel for university-related communications, but moreover, it is far more efficient if your instructors have access to your university email address when communicating with you because it is easy to look up email address on Moodle or the university registration system in order to fix problem. Emailing the instructors from third-party email addresses while using nickname and not identifying which course you are in almost guarantees that it will take multiple emails to solve your problems.

### **Grading Summary**

<b>Item</b>	<b>Points Possible</b>	<b>Percent</b>	<b>Notes</b>
<b>Midterm Exam</b>	200	20%	
<b>Final Exam</b>	200	20%	
<b>Labs</b>	250	20%	Five Labs at 50 Points Each
<b>Briefing</b>	150	20%	Points Divided Across Project Stages
<b>Wikipedia Map Project</b>	200	20%	Points Divided between Draft and Final

**Exams:** Exams will primarily cover the assigned text and the lecture material and be concerned with cartographic theory. Just because something was not mentioned in class does not mean it is not eligible to be a test question – being in the assigned reading is enough. Likewise, just because something was not in the reading does not disqualify it from being on the test if it was discussed in class. Class lectures will proceed with the assumption that students have read the assigned material. While the formats of the exams are still to be determined, it is likely they will be a combination of multiple choice and/or short answer.

**Labs:** There will be five laboratory assignments that will be turned in for a grade. Each of these assignments will be worth 50 points. These laboratory assignments will focus on the technical aspects of cartographic production. It is critically important that students complete the lab exercises to the best of their ability. Students will also be receiving peer feedback on their maps, which will count as part of their own map's grade.

**Briefing:** Students will practice creating maps for PowerPoint/Keynote presentations and then using them deliver an effective oral presentation. Details of the briefing assignment will be forthcoming but students will be expected to produce maps for an oral presentation, design the rest of the presentation slides, and then deliver the briefing at least twice, having made robust and substantive improvements to the presentation after the first presentation.

**Wikipedia Map Project:** Students will produce a map to be uploaded to Wikimedia Commons for use in a Wikipedia article of their choice. This map should encapsulate everything that the student has learned during the semester. Students will be required to submit at least one draft prior to the submission of the final map. Further, the course instructor will serve as the student's cartographic editor. The map **MUST** receive final approval from him in order to be posted to Wikipedia. Failure to obtain the approval to upload the final map can potentially result in failure to obtain *any* points for this assignment.

**Grading Scale**

Point Total	Grade		Point Total	Grade
970-1000	A+		740-769	C
940-969	A		700-739	C-
900-939	A-		670-699	D+
870-899	B+		640-669	D
840-869	B		600-639	D-
800-839	B-		≤ 599	F
770-799	C+			

**Note:** At the discretion of the instructor, minor adjustments to this scale may be made based on the performance of the class as a whole at the end of the course.

**Make-Up Exam and Late Work Policy**

The Department of Geography and GIScience does not allow make-up exams, except for students in special circumstances and at the discretion of the faculty member teaching the course. These circumstances include (1) the death or illness of a family member, (2) illness of the student, (3) three or more final examinations on the same day, and (4) participation in a university sponsored activity at the same time as the regularly scheduled examination. Make-up exams will not be granted for personal convenience or for personal travel. Make-up exams will also only be granted if the student can document one of the situations described above. Advanced arrangements must be made for situations (3) and (4). *If you miss an exam for situations (1) or (2), the instructor must be notified the end of the workday of the exam either by phone or by email.* The missed exam must be made up within one week. Contact the instructor in order to schedule the make-up exam. Tests that are not made up within a week will be graded as a zero.

Lab assignments which are turned in late will be penalized a flat 25%. However, after one week past the deadline the labs will no longer be accepted and can receive no credit. Completion of the labs is a vital part of the class. Students who do not keep up with laboratory exercises cannot be expected to perform well on exams of the projects. Further, students who do not bring their maps to class on the assigned day will not be eligible to participate in the peer feedback process. Please be sure your labs are turned in on time. Submitting late work for the briefing and Wikipeda project (regardless of the stage) may be accepted late at the sole discretion of the instructor and only then by being assessed a late penalty of 25% of the general equivalent as circumstances warrant.

Meeting deadlines is a major part of cartographic production. Therefore, turning in the project and its component parts (such as the draft maps) is critical. Draft maps will receive commentary from the instructor and other students so that the maps can be revised and improved. Therefore students who do not have draft maps to turn in will not have an opportunity to receive commentary, meaning the quality (and grade) of the final map may suffer. It is extremely important that students remain conscientious of deadlines and turn the aspects of the projects in on time.

### **Incomplete Policy**

Grades of “incomplete” are generally not given for the course. In accordance with the College of Liberal Arts and Science policies, granting a student a grade of incomplete is appropriate only when a student must delay the completion of a *final assignment* of the course. A student cannot receive an incomplete simply because he or she has not been able to complete all or some of the coursework throughout the semester. A student who is granted an incomplete has until the midterm of the following semester to complete the outstanding assignment. If the student fails to complete the assignment in time, the incomplete is converted to a grade of “F”.

*Only* the dean of the student’s academic college may authorize a grade of incomplete for an undergraduate student, and ordinarily, such requests will only be entertained for *documented* medical emergencies or other *extraordinary* circumstances *beyond the student’s control*. Also in accordance with the college’s policy, the instructor of this course *will not entertain any private requests from students to assign a temporary grade for the class* to be altered with a change of grade submission at a later time. In the event that you find yourself in a situation where you believe a grade of incomplete may be necessary and appropriate, you are referred to the LAS Student Academic Affairs Office in Lincoln Hall Room 2002, or, if you are an undeclared major, the Campus Center for Advising and Academic Services. Please do not petition for a grade of incomplete without a just cause that is in compliance with university policy.

### **Laboratory Policies**

Students are to obey all department policies regarding the use of the GIS lab. ***NO FOOD OR DRINK IS PERMITTED IN THE LABS***. Because of the number of classes taught in the lab, it is generally not available for use outside of class time. However, ArcGIS software is available on nearly every computer on campus, but the recommended location for working on lab exercises

outside of lab sessions is ATLAS's G8 Computing Lab, located in the basement of the Foreign Languages Building.

### **Plagiarism and Academic Dishonesty**

To claim as one's own the ideas or words of another is plagiarism. Plagiarism is defined as the following:

- using the exact words of another person's work/writing without acknowledgment of your source through the use of quotation marks and correct citation/documentation;
- rephrasing a passage of another writer without giving proper credit;
- using someone else's facts or ideas without acknowledgment;
- using a piece of writing for one course that was already used in a previous course (or in courses in which you are simultaneously enrolled) without express permission from both instructors to do so;
- turning in papers or other assignments from "paper mills" or "paper banks" such as those available for purchase from online databases, or where "ghostwriting" services can be acquired; or
- presenting fabricated or falsified citations or materials.

Because the purpose of this course is learn to produce maps, all maps that you turn in must be your own original creation. This includes any inset, outset, or locator maps including on your submission. Using someone else's cartographic materials and claiming it as your own is plagiarism. When you create maps from datasets or base materials that are not your own, that material must be correctly cited.

Please consult with the instructor if you are unsure about how to document sources. The instructor of this course may employ different methods of detecting plagiarism and other academic dishonesty, including the use of electronic plagiarism detection software. In accordance with University policies, students who submit a plagiarized assignment shall receive an "F" with a numerical value of zero on the item submitted, and "F" shall be used to determine the final course grade. The instructor also has the option to fail the student in the course. Other forms of academic dishonesty will not be tolerated in class, including, but not limited to, cheating on exams, the fabrication of data, information, or citations in any formal academic exercise, deception (such as providing false information to the instructor concerning exercises - *e.g.* giving a false excuse for missing a deadline or falsely claiming to have submitted work), the sabotage of other students from completing their assignments, or the impersonation of another student for the purposes of completing an exam or other assignment.

Please review the University's academic dishonest policies and procedures. They are all in force for this course. If you have any questions about where an activity might constitute academic misconduct, ask the instructor *before* you engage in the activity.

### **Classroom Conduct**

Beyond the requirements of academic honesty, as a member of the learning community, each student has a responsibility to other students who are members of the community. Students are expected to comport themselves in a dignified and professional manner. It is particularly important to this instructor that students treat one another with respect, which includes not taking

part in any behavior which will disrupt the learning environment or inhibit other students' ability to learn or fully participate in class. Please do not talk a while others are talking, while the lecture is ongoing (except for asking questions of course!), and if you finish an exam or other assignment before others, please find a way to keep yourself silently occupied while they finish. When a cell phone rings in class, it is immediately disruptive to the class. Therefore, cell phones and other such communication devices should be turned off or put on silent (not simply vibrate), and ordinarily should not be taken out during class. Refrain from talking on the telephone, sending text messages, IMing using Facebook, Twitter, personal email, etc., while in class. Students may choose to use electronic methods for note taking, or use technology (such as internet access) to find information relevant to the lecture or classroom discussion. Such technology usage is permissible.

### **Style Guide for Written Assignments**

Unless otherwise specified in individual assignments, students are welcome to use any style guide to format essays and other written assignments that is recognized within their discipline, so long as the style guide is followed and the format (especially regarding in text citations and the references) is consistent throughout the document. For those students in geography, the style guide for the *Annals of the Association of American Geographers* is recommended. It is available online. It is also recommended for any student who does not otherwise have a preferred style guide.

### **Policy Regarding Lecture Recordings**

This instructor believes that students may be discouraged from participation in class, especially in the discussion of potentially controversial material, if students are making recordings of the class proceedings. Therefore, students may make audio recording of the lecture materials only with the expressed permission of the instructor. Such recordings may *only* be used for the personal study or research and may not be distributed or otherwise circulated to any third party in any manner whatsoever. Student video recordings are prohibited. Further, the lecture material is the intellectual property of the instructor and he holds the copyright for it. Under no circumstances are notes or recordings from the class authorized to be sold.

### **Disability Policy**

Students with a disability in this class are encouraged to meet with the instructor privately during the first week of class to discuss reasonable accommodations. Course requirements cannot be waived, but reasonable accommodations may be provided based on disability documentation and course objectives. Accommodations cannot be made retroactively. Students seeking reasonable accommodations due to disability are referred to the university's disability office in order to discuss their particular needs and also to obtain any documentation necessary for the instructor.

### **Disclaimer**

This syllabus (including course requirements, class policies, and course schedule) is subject to change. However, any students will be notified of any changes through classroom announcement and/or electronic notification.

*Course Outline (Fall 2015)*

Week	Lectures/Lab	Readings (From Dent et al.)	Lab
1	Tuesday: August 25, 2015 Welcome, Course Introduction, and ArcGIS Review  Thursday: August 27, 2015 Mapping in ArcGIS Review		Begin working through tutorial on “Adobe Illustrator for Cartographers”
2	Tuesday: September 1, 2015 Maps to “See” vs. Maps to “Read”  Thursday: September 3, 2015 Essential Map Elements	Chapter 1  Chapter 12	Continue working through “Adobe Illustrator for Cartographers”
3	Tuesday: September 8, 2015 Map Composition and Fantasy Cartography  Thursday: September 10, 2015 Basics of Thematic Mapping	Chapter 13  Chapter 14	Complete “Adobe Illustrator for Cartographers”  Lab 1: Fantasy Map Assigned
4	Tuesday: September 15, 2015 Data for Cartography  Thursday: September 17, 2015 Fantasy Map Draft Presentation	Chapter 4	
5	Tuesday: September 22, 2015 Choropleth Mapping  Thursday: September 24, 2015 Choropleth Map Draft Presentation	Chapter 5  Chapter 6	Lab 1: Fantasy Map due  Lab 2: Choropleth Map Assigned
6	Tuesday: September 29, 2015 Proportional Symbol Mapping  Thursday: October 1, 2015 Proportional Symbol Map Draft	Chapter 8	Lab 2: Choropleth Map due  Lab 3: Proportional Symbol Map Assigned
7	Tuesday: October 6, 2015 Dot Density Map  Thursday: October 8, 2015 Dot Density Map Draft	Chapter 7	Lab 3: Proportional Symbol Map due  Lab 4: Dot Density Map Assigned
8	Tuesday: October 13, 2015 Isarithmic Maps and Flow Maps  Thursday: October 15, 2015 Midterm	Chapter 9	Lab 4: Dot Density Map due
9	Tuesday: October 20, 2015 Creating Cartogram  Thursday: October 23, 2015 Cartogram Draft	Chapter 10	Lab 5: Cartogram Assigned

10	Tuesday: October 27, 2015 Advanced Projections and Scale  Thursday: October 29, 2015 Lab Review/GIS Day	Chapter 2  Chapter 3	Lab 5: Cartogram due  Briefing Assigned
11	Tuesday: November 3, 2015 Creating Effective Briefing  Thursday: November 5, 2015 Lab Review/GIS Day		
12	Tuesday: November 10, 2015 First Oral Briefing  Thursday: November 12, 2015 Virtual and Web Mapping	Chapter 16	First Briefing due  Wikipedia Map Assigned
13	Tuesday: November 17, 2015 Presentation of Final Briefing  Thursday: November 19, 2015 Discussion of Wikipedia Final Maps		Final Briefing due
14	Thanksgiving Vacation		
15	Tuesday: December 1, 2015 Review of Draft Wikipedia Maps  Thursday: December 3, 2015 Final Exam		Draft Wikipedia Map due
16	Tuesday: December 8, 2015 Presentation of Final Wikipedia Maps		Final Wikipedia Map