

## Syllabus – Fall 2017

Excluding materials for purchase, syllabus information may be subject to change. The most up-to-date syllabus is located within the course in HuskyCT.

### Course Information and Requirements

**Course Title:** GEOG 5510 – Application Issues of GIS

**Credits:** 3

**Instructor:** Richard Mrozinski

**email:** [mrozinski@uconn.edu](mailto:mrozinski@uconn.edu)

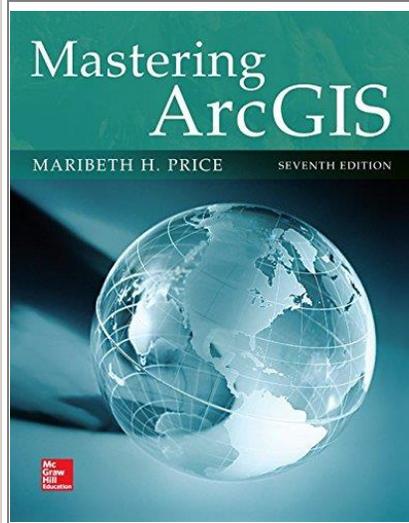
(After the first day of classes, students registered in the course should use HuskyCT's Messages tool to send correspondence to the instructor.)

**Office:** 429 Austin Building, 860-486-3788

**Office Hours:** Tue 9-10, Wed 1-3, and by appointment (contact through email).

We can meet face-to-face or use the HuskyCT Collaborate utility (just like Skype)

### Required Text:



**Mastering ArcGIS 7<sup>th</sup> Edition** by Maribeth Price

**Publisher:** McGraw-Hill Higher Education

**ISBN:** [0-07-809514-X](https://www.mheducation.com/shop/9781308621951)

This text is written to be used with ArcGIS 10.3 (or later), therefore it is important to use the 7<sup>th</sup> edition of Mastering ArcGIS. There are updates and changes to the material [especially exercises] in the text to correspond with the newer versions of ArcGIS.

An eBook version of the text is available from the publisher. Visit [create.mheducation.com/shop/](https://create.mheducation.com/shop/) and search for [ISBN: 9781308621951](https://www.mheducation.com/shop/9781308621951) (title: Applications of GIS).

### Other requirements: None

The course developer is Richard Mrozinski, GIS Lab Manager & Instructor in the Department of Geography at the University of Connecticut. Unless otherwise cited, all images, charts, graphs are from the textbook or were created by the course developer.

## Course Description

Geography 5510 is a course covering the application of geographic information systems (GIS). Emphasis will be placed on understanding GIS through actual use of software, mainly ArcGIS. Students will study principal functional components of ArcGIS including: general GIS design and management theory, spatial and attribute data automation, database design, database management, spatial analysis, cartographic production, and application design and implementation. The course includes a final project component, where students investigate a GIS application in depth.

**Prerequisites:** Students are expected to come to class with basic computer literacy along with a basic theoretical understand of GIS (vector and raster). There are many textbooks covering introductory GIS topics, and a brief review can never hurt if you do not feel comfortable with this requirement.

## Course Goals and Objectives

Upon successful completion of this course, you will be able to:

- Define GIS.
- Illustrate GIS concepts:
- Representation of the world as a map
- Usage of coordinate systems.
- Modeling feature behaviors.
- Map scale.
- Analyzing data quality issues.
- Demonstrate the use of ArcGIS:
- Store data in ArcGIS.
- Use ArcCatalog.
- Use ArcMap.
- Create layers and layer properties.

You will study the principle functional components of GIS including:

- General GIS design & management theory.
- Spatial and attribute data creation.
- Database design.
- Database management.
- Spatial analysis.
- Cartographic production.
- Application design and implementation.

## Course Schedule

	Topic		Activity	Due Date
<b>Session 1</b> Aug 28 – Sept 10	Introduction GIS Data	Introduction Chapter 1	Assignment 1	Sept 10
<b>Session 2</b> Sept 11 – Sept 17	Managing GIS Data	Chapter 2	Assignment 2	Sept 17
<b>Session 3</b> Sept 18 – Sept 24	Coordinate Systems	Chapter 3	Assignment 3	Sept 24
<b>Session 4</b> Sept 25 – Oct 1	Mapping GIS Data	Chapter 4	Assignment 4	Oct 1
<b>Session 5</b> Oct 2 – Oct 8	Presenting GIS Data	Chapter 5	Assignment 5	Oct 8
<b>Session 6</b> Oct 9 – Oct 15	Attribute Data	Chapter 6	Assignment 6	Oct 15
<b>Session 7</b> Oct 16 – Oct 22	Queries	Chapter 8	Assignment 7	Oct 22
<b>Session 8</b> Oct 23 – Oct 29	Spatial Joins	Chapter 9	Assignment 8	Oct 29
			Project Proposal	Nov 1
<b>Session 9</b> Oct 30 – Nov 5	Map Overlay and Geoprocessing	Chapter 10	Assignment 9	Nov 5
<b>Session 10</b> Nov 6 – Nov 12	Raster Analysis	Chapter 11	Assignment 10	Nov 12
<b>Session 11</b> Nov 13 – Nov 26	Creating & Editing GIS Data	Chapters 7 & 12	Assignment 11	Nov 26
<b>Session 12</b> Nov 27 – Dec 3	Network Analysis	MGIS-6e- networks.pdf [on HuskyCT]	Assignment 12	Dec 3
<b>Project</b>	Final Project		Final Project	Dec 8
<b>Exam</b>	Final Exam		Final Exam	Dec 15

All assignments and activities are due at noon (EST) on the specified day.

## Course Requirements: Activities, Grading and Exams

### Activities

Each assignment will be introducing new concepts and commands, building on the GIS principles covered in previous exercises. Therefore, it is important to finish the exercises in the order they are assigned. It is also a good idea to read the lab in advance, and review/note new procedures or activities.

**Assignments are due at noon** of the specified day. Late labs are penalized 10% per day, and labs will not be accepted if they are more than one week late. If you know you will be having a conflict for a significant event or emergency (wedding, childbirth, car accident), please let me know beforehand (if possible) and we can usually arrange something. All submissions are via HuskyCT. NO email submissions. Incorrect homework submissions will be returned.

### Project Assignment

The course includes a final project component where students investigate a GIS application in depth. The project is intended to provide a deeper understanding of a GIS application through experience. The project should investigate a particular research problem and use ArcGIS. The project should contain spatial data creation (digitize, geocode, etc) and it must involve some type of spatial analysis.

### Final Exam

There will be a final exam in this course. It will consist of a practical GIS component along with several essay questions based on the concepts covered during the semester and the material presented in the textbook.

### Feedback and Grades

I will make every effort to provide feedback and grades within one week of the assignment due date. To keep track of your performance in the course, refer to My Grades in HuskyCT.

Course grading is on a straight scale. The grading breakdown and grading scale are as follows:

Grade Breakdown	
Session Assignments	33 ⅓ %
Class Project	33 ⅓ %
Final Exam	33 ⅓ %

Grade Scale	
A+	97 - 100
A	93 - 96.99
A-	90 - 92.99
B+	87 - 89.99
B	83 - 86.99
B-	80 - 82.99
C+	77 - 79.99
C	73 - 76.99
C-	70 - 72.99
D+	67 - 69.99
D	63 - 66.99
D-	60 - 62.99
F	0 - 59.99

## Student Responsibilities and Resources

As a member of the University of Connecticut student community, you are held to certain standards and academic policies. In addition, there are numerous resources available to help you succeed in your academic work. Review these important [standards, policies and resources](#), which include:

- The Student Code
- Academic Integrity
- Resources on Avoiding Cheating and Plagiarism
- Copyrighted Materials
- Netiquette and Communication
- Adding or Dropping a Course
- Academic Calendar
- Policy Against Discrimination, Harassment and Inappropriate Romantic Relationships
- Sexual Assault Reporting Policy

## Students with Disabilities

Students needing special accommodations should work with the University's [Center for Students with Disabilities \(CSD\)](#). You may contact CSD by calling (860) 486-2020 or by emailing [csd@uconn.edu](mailto:csd@uconn.edu). If your request for accommodation is approved, CSD will send an accommodation letter directly to your instructor(s) so that special arrangements can be made. (Note: Student requests for accommodation must be filed each semester.)

Blackboard measures and evaluates accessibility using two sets of standards: the WCAG 2.0 standards issued by the World Wide Web Consortium (W3C) and Section 508 of the Rehabilitation Act issued in the United States federal government." (Retrieved March 24, 2013 from [Blackboard's website](#))

## Software Requirements

The technical requirements for this course include:

- Reliable, high-speed internet access
- ArcGIS Desktop 10.5 (ArcGIS is available to enrolled students via [UConn SkyBox](#) or [UConn AnyWare](#), or you can request a download code from the instructor to install the software on your PC.
- ArcGIS is a MS Windows based program, therefore student computers must have a MS Windows operating system if they want to install ArcGIS Desktop on their own computer.
- Word processing software
- [Adobe Acrobat Reader](#)

## Help

[Technical and Academic Help](#) provides a guide to technical and academic assistance.

This course is completely facilitated online using the learning management platform, [HuskyCT](#). If you have difficulty accessing HuskyCT, you have access to the in person/live person support options available during regular business hours through [HuskyTech](#). You also have [24x7 Course Support](#) including access to live chat, phone, and support documents.

## Minimum Technical Skills

To be successful in this course, you will need the following technical skills:

- Save files in commonly used word processing program formats.
- Copy and paste text, graphics or hyperlinks.
- Work within two or more browser windows simultaneously.
- Open and access PDF files.

University students are expected to demonstrate competency in Computer Technology. Explore the [Computer Technology Competencies](#) page for more information.

## Course Evaluation

Students will be provided an opportunity to evaluate instruction in this course using the University's standard procedures, which are administered by the [Office of Institutional Research and Effectiveness](#) (OIRE).

Additional informal formative surveys may also be administered within the course as an optional evaluation tool.