

Introduction to GIS

This course provides you with the foundational concepts in Geographic Information Systems (GIS) and it introduces you to an array of geospatial tools. GIS encompass the organization, production, storage, representation and analysis of digital spatial information. This course will consider each of these tasks, survey the rapidly growing GIS industry and cover many important principles guiding GIS use and development while providing you with hands-on experience with geospatial technologies. The ultimate goal of this course is to understand GIS as a useful and flexible tool to solve a wide range of geographic questions and real world problems. This course is suitable for a wide variety of disciplines: Regional Planning, Environmental Science, Criminal Justice, Business & Management, History, etc.

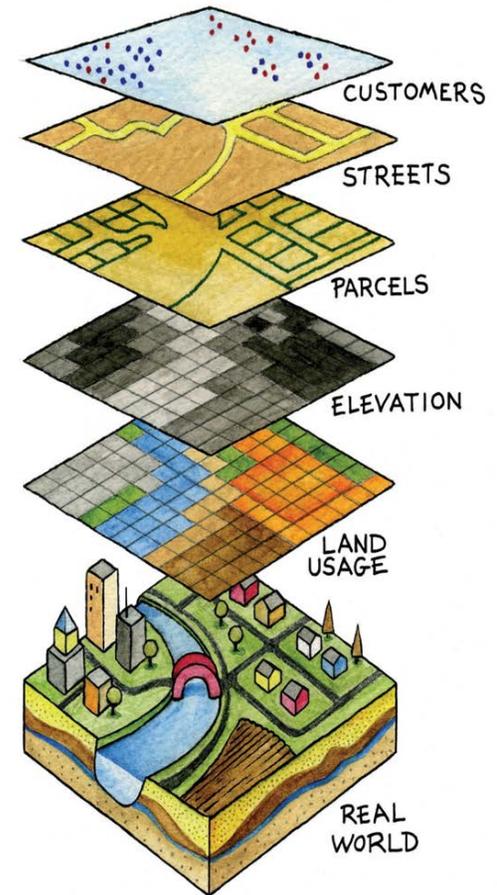
After our short time together, you will:

- Understand the core concepts underlying GIS and how to apply GIS to a wide variety of subject areas within geography and other disciplines;
- Recognize how GIS is utilized in the public and private sectors;
- Be capable of applying spatial reasoning and GIS techniques to solve real world problems and to communicate effectively complex information to a diverse audience; and
- Be able to create eloquent maps and visualizations from a wide array of sources.

Text: We will use Michael Law and Amy Collins (2015) Getting to Know ArcGIS. **4th edition**
ISBN: 978-1589483828.

There are plenty of copies floating around on the Internet (roughly \$50), just make sure that you purchase the correct edition. I will provide any additional required readings

Readings: You will be expected to read a handful of readings a week and complete 1 to 2 tutorials per week from the Getting to Know ArcGIS textbook.



Logistics: Throughout the semester, you will complete 12 quizzes, 8 homework assignments and 3 GIS projects. Quizzes draw from the online lectures and the readings. The 11 best quizzes will be used to calculate your grade. Homework assignments will cover material from class and the assigned readings; they are designed to reinforce important concepts and to give you an opportunity to develop a GIS skillset. The three GIS Projects are designed to practice important aspects of GIS and geospatial analysis using a problem-solving approach and real-world examples.

Grading:	Homework Assignments	50%
	Quizzes	20%
	GIS Project 1	10%
	GIS Project 2	10%
	GIS Project 3	10%

Schedule

Week 1:	Welcome & Introductions
Week 2:	What is GIS
Week 3:	Geographic Representations & Data Models
Week 4:	Tables, Queries & Relational Databases
Week 5:	Coordinate Systems & Projections
Week 6:	Cartographic Design & Map Production
Week 7:	Cartographic Design & Map Production II
Week 8:	Spring Break
Week 9:	Digitizing, Editing & Geocoding
Week 10:	Vector Geoprocessing
Week 11:	Raster Geoprocessing
Week 12:	GIS Analysis
Week 13:	Geospatial Technology & Ethics

Week 14: Web GIS
 Week 15: Web GIS II

My goal is to equip you with the skills, knowledge and confidence needed to utilize effectively geographic inquiry and geospatial technologies in your own professional/academic work

For more information, please contact:

- Dr. Timothy LeDoux, Geography & Regional Planning
- Email: tledoux@westfield.ma.edu

