

## General Information

Instructors:

**Carrie Dolan, MPH**

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Office hours: by appointment

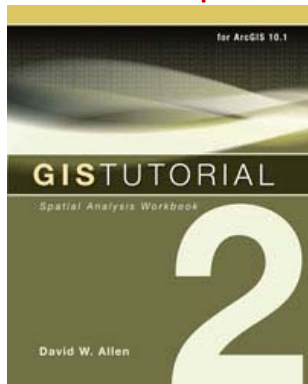
Class meetings: Tuesdays, 5:30-7:45 PM

## Course Description

The course contents will provide students the opportunity to learn basic spatial analysis using geographic information systems (GIS) and its application to Public Policy. This course is appropriate for students considering careers in the public policy arena who have completed the Introduction to GIS class.

## Textbook required for the class

**GIS Tutorial 2: Spatial Analysis Workbook by David Allen for ArcGIS 10.1**



## Course Objectives

By the end of the course the student will have an introductory exposure to:

- Build databases for spatial analysis – use of public data
- Creation of multiple kinds of data layers: drawing, geocoding, and calculating variables
- Spatial analysis techniques
  - Central Feature
  - Mean Center
  - Points to Polygons
  - Clip, Buffer
  - Analyze Patterns
  - Hot Spot analysis
- Project flow and communication of findings

By the end of the course the student will have acquired these skills:

- Understanding of underlying data for use in spatial analysis
- Basic spatial analysis
- Project flow using spatial analysis to answer questions

## Class attendance

**Regular attendance in class is vital for success in this class**, especially in view of the fact that there are a total of only 6 class meetings. If you will be absent from class for any reason, please contact your instructor via email prior to the class meeting.

**Blackboard**

Announcements, chapter PowerPoint presentations, exercises, and supplementary materials will be available on Blackboard. Check in regularly to keep abreast of latest course information. Emails sent from Blackboard will default to your W&M email account, so be sure to check it even if you routinely use other accounts. Student grades will be posted at the grade center on Blackboard.

**Grading**

Course grades will be determined as follows:

A	100-92
A-	91-90
B+	89-87
B	86-82
B-	81-80
C+	79-77
C	76-72
C-	71-70
D	69-60
F	59 & below

**Class content and Homework assignments**

**Homework assignments will all be posted to Blackboard and are due on the posted date by midnight**

<p><b>Legend:</b>  <u>Class date/description of materials</u>  <b>Tutorials to complete during the lab time in each class</b>  <i>Use class time wisely: this is the piece of the project to be thinking about as you perform the class work</i>  <u>Deliverables/Requirements</u></p>	<p>Percent of Grade</p>
<p><b><u>Class 1 – March 17<sup>th</sup>. Introduction to Spatial Analysis; Mapping where things are</u></b></p> <ul style="list-style-type: none"> <li>• Introduction/Overview;</li> <li>• Syllabus; Expectations for homework</li> <li>• <b>Map the Network Drive – Set up your workspace!!! See instructions</b></li> </ul> <p><u>Professor Dulin</u></p> <p><u>Lab work</u>  <b>Tutorial 1-1 Working with Categories</b>  <b>Tutorial 1-2 Controlling values that are displayed, modify legend</b>  <b>Tutorial 1-3 Limiting Values to display – query builder</b></p> <p><b>Tutorial 2-1 Mapping quantities</b>  <b>Tutorial 2-2 Choosing Classes; Analyze Year built data</b>  <b>Tutorial 2-3 Creating a Map Series</b>  <b>Tutorial 2-4 Working with Charts</b></p> <p><b><u>Homework 1: Turn in the map you produce for Exercise 2-4</u></b></p>	<p>Homework 10%</p>

<p><b><u>Class 2 March 24<sup>th</sup>. Mapping density &amp; Finding What’s Inside</u></b>  <u>Professor Dolan</u></p> <p><u>Lab work</u>            Tutorial 3-1            Tutorial 3-2  <i>Tutorial 3-3 – optional, if there is time</i>            Tutorial 4-1            Tutorial 4-2</p> <p><b><u>Homework 2: Turn in the resulting map from Exercise 4-2</u></b></p>	<p><b>Homework 10%</b></p>
<p><b><u>Class 3 March 31<sup>st</sup>. Finding What’s Nearby</u></b>  <u>Professor Dulin</u>            Brian Koziol visit class</p> <p><u>Lab work</u>            Tutorial 5-1            Tutorial 5-2            Tutorial 5-3            Tutorial 5-4            Tutorial 5-5  <i>Tutorial 5-6 – optional, if there is time</i></p> <p><b><u>Homework 3: Turn in the resulting map from Exercise 5-5 (2 maps, each station on different map)</u></b></p>	<p><b>Homework 20%</b></p>
<p><b><u>Class 4 April 7<sup>th</sup>. Mapping Change</u></b>  <u>Professor Dolan</u></p> <p><u>Lab work</u>            Tutorial 5-7            Tutorial 5-8            Tutorial 5-9            Tutorial 6-1            Tutorial 6-2            Tutorial 6-3</p> <p><b><u>Homework 4: Turn in the resulting map from Exercises 6-3</u></b></p>	<p><b>Homework 20%</b></p>

<p><b><u>Class 5 April 14<sup>th</sup>. Measuring Geographic Distribution</u></b>  <u>Professor Dulin</u></p> <p><u>Lab work</u>            Tutorial 7-1            Tutorial 7-2            Tutorial 7-3            Tutorial 7-4            Tutorial 7-5</p> <p><b><u>Homework 5: Turn in the resulting map from Exercises 7-2</u></b></p>	<p><b>Homework 20%</b></p>
<p><b><u>Class 6 April 21<sup>st</sup>. Analyzing Patterns and Clusters</u></b>  <u>Professor Dolan</u></p> <p><u>Lab work</u>            Tutorial 8-1            Tutorial 8-2            Tutorial 8-3            Tutorial 8-4            Tutorial 9-1            Tutorial 9-2            Summary of tools</p> <p><b><u>Homework 6: Turn in the resulting map from Exercises 8-4</u></b></p>	<p><b>Homework 20%</b></p>