ENRM 303
Fundamentals of Geospatial Systems

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Final Examination Topics

Your final exam in RREN 303 covers the material starting from Chapter 4 in the GIS Fundamentals textbook. The final exam will be held online using Blackboard and during our usual laboratory meeting time at 2:00 p.m. on Monday – 5/17. The final exam will be predominantly on the material covered since the first hourly exam (i.e., material starting from Chapter 4 in the GIS Fundamentals textbook). The exam will be two parts and you will have up to 90 minutes to complete the test. Both parts will involve multiple-choice and a few fill-in-the-blank questions with the same setup as the two online quizzes (i.e., questions being listed in random order, one at a time, with the available choices for the multiple-choice questions being also listed in random order). Each part of the final exam will include 50 questions. You will have up to 45 minutes to complete each part and Part 2 will be available and must be started after completing Part 1. Along with general questions regarding the ArcGIS software (mostly related to the widely used tools), here is a list of the material for the final exam. Although material in the textbook should serve as a reference, your focus should be on the material and topics covered in the listed lectures.

GIS Fundamentals Textbook:

Chapter 4: Maps, Data Entry, and Editing
- Building a GIS Database
- Digitizing: Coordinate Capture
- Coordinate Transformation
- Output: Maps, Digital Data, and Metadata

Chapter 6: Aerial and Satellite Images
- Introduction
- Basic Principles
- Aerial Images
- Satellite Images

Chapter 7: Digital Data
- Introduction
- National and Global Digital Data
- Digital Data for the U.S.

Chapter 5: GNSS and Coordinate Surveying
- Introduction
- Differential Correction
- GNSS Applications

Chapter 8: Attribute Data and Tables
- Introduction
- Selection Based on Attributes
- Joining (or Relating Tables)

Chapter 9: Basic Spatial Analysis
- Introduction
- Selection and Classification
- Dissolve
- Proximity Functions and Buffering
- Overlay
- Network Analysis

Chapter 10: Topics in Raster Analysis (**only a couple of sections**)
- Introduction
- Map Algebra
- Local Functions

Chapter 11: Terrain Analysis
- Introduction

Chapter 13: Spatial Models and Modeling
- Introduction
- Cartographic Modeling

Chapter 14: Data Standards and Quality
- Introduction
- Data Accuracy

PowerPoint Presentations:

GIS Data Entry and Editing
GIS Output
Introduction to Maps
Remote Sensing, Aerial Imagery, and Satellite Imagery
Overview of Digital Orthoimagery (DOI)
DOI Available through ArcGIS and from the NYS GIS Clearinghouse
Digital Data
An Overview of GPS
GNSS and Coordinate Surveying
Attribute Data and Tables
Inventory Operations
Basic Analysis
Advanced Spatial Operations and Network Analysis
Terrain Analysis
Spatial Models and Modeling
Data Standards and Quality