

**NATR 142**  
**Plane Surveying**  
**Fall 2009**

First Examination Study Guide

Prepared By

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- Define surveying
- List and discuss the three main reasons for surveying
- Discuss the difference between geodetic and plane surveying, and reasons why each is used today
- Discuss the importance of proper field notes and list four of the several points to remember about field notes
- List and discuss three of the five basic requirements of good field notes.
- List a type of information best discussed by each: tabulation, description, and diagrams
  
- Discuss the reasons for listing the date, weather instrument, and party information in good field notes, and why notes should be original and without erasures
- Know the English and metric units for various surveying measurements and how to convert from one unit to another (standard conversions will be provided during the exam)
- List and give an example for each of the five types of surveying measurements.
- Discuss the differences between blunders or mistakes, systematic errors, and random errors, and discuss a source of each type
- Know the difference between precision and accuracy
- Describe the reasons for significant digits and apply the theory to problems
- Be able to apply rounding rules to problems (as discussed in the class)
- Know that distances in plane surveying are assumed to be horizontal distances
- List the standard methods for measuring distances and the expected accuracy of each
- List an application for pacing, taping, and EDM
- List the purposes of taping accessories, and explain the events that require their use
- List the jobs of the head and the rear tapepersons
- List and discuss the procedure for proper distance measuring with a steel tape
- Discuss “breaking tape” and other methods of measuring distances on steep slopes
- List five of the nine common sources of taping errors and list how to minimize them
- Know how to calculate areas using rectangles, circles (including circular sectors), and triangles