FOR 230A : MAP, COMPASS AND GPS

Transcript title

Map, Compass and GPS

Credits

3

Grading mode

Standard letter grades

Total contact hours

50

Lecture hours

20

Lab hours

30

Course Description

Teaches the basic skills of field and forest navigation with compass and GPS. Competency obtained in pacing, paper and computer map use, compass and basic GPS use.

Course learning outcomes

1. Use a magnetic compass to determine bearings and azimuths, both true and magnetic.
2. Convert between bearings and azimuths and between true and magnetic directions.
3. Use a clinometer or an Abney to measure vertical angels and then correct slope distance to horizontal distance using basic trigonometry.
4. Measure distance by pacing and GPS use.
5. Know the basic design and utilization of the Public Land Survey system.
6. Identify all symbols, grids, Public Land Survey notation, and marginal information on a USGS 7W series map.
7. Determine land area from a map using a dot grid and a polar planimeter.
8. Draw a map to scale using standard format and symbols.
9. Determine position by recreational GPS.
10. Use MyTopo's Terrain Navigator to obtain locations, coordinates, distance, direction, elevation and GPS tracks and routes.

Content outline

- Course Introduction
- Definitions
- Direction and Distance Measurement
- Compass Theory and Angular Measurement
- Compass Use
- Map Scale and Map Projections
- Coordinate Systems
- GPS Theory
- Planimetric and Topo Maps
- Topography and Slope
- USGS Maps
- USGS Map Symbols and US National Grid