

# Remote Sensing and Geographic Information Systems (EESC03)

Winter 2010



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This course focuses on the use of Geographic Information Systems (GIS) and Remote Sensing (RS) for solving a range of scientific problems in the environmental sciences and describing their relationship with and applicability to other fields of study (e.g. geography, computer science, engineering, geology, ecology and biology). Topics include (but are not limited to): spatial data types, formats and organization; geo-referencing and coordinate systems; remotely sensed image manipulation and analysis; map production.

## Lecture Topics (Tentative listing)

- What is a GIS?
- Maps, Raster GIS
- Coordinates & Sampling Procedures
- Data Input and GIS
- Vector GIS, Vector/Raster Debate
- Spatial Interpolation; Remote Sensing In GIS
- Interaction of EM with the Earth's surface
- Aerial Photography Data Collection
- Satellites and Image Processing

## Reference Material:

*Concepts and Techniques of Geographic Information Systems (2nd Edition)*  
Lo, C.P. and Yeung, A.K.W. (2002) Prentice Hall, Upper Saddle River, New Jersey.

## Grading

- Labs (3 Total - Late assignments are penalized 10% per day):
  - January - 10% (due January 18 and February 1)
  - February - 15% (due February 15 and March 1)
  - March - 15% (due March 15 and April 1st)
- Midterm Test: 20% (February 22)
- Final Exam: 40%

## Lecture Time (S143)

Monday 3-5pm

## Tutorial Time (B469)

Monday 7-9pm

## Office Hours (P0103)

Monday 5-7pm