GEOGRAPHY 9418Y
Remote Sensing Digital Image Analysis
Fall 2011

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Course description:

An in-depth study of current algorithms in remote sensing digital image processing and analysis. Topics may vary depending on students' interests, such as hyperspectral data analysis, textural analysis, object-oriented classification, radar data processing and analysis, change detection, structural pattern recognition and integration with GIS.

Course work:

In this course, each student is required to complete a literature review and a remote sensing research project, as well as to demonstrate the use of a remote sensing image analysis software. You may choose any image analysis software. A conference paper format is followed. The objective is to be familiar with the current remote sensing research, and learn how to conduct literature review, collect and analyze remotely sensed data, be familiar with remote sensing image analysis software, and present research results.

Step 1: Selection of a topic and literature review
(Due date: TBD)
Submit an abstract or summary of the paper (around 500 words).
Submit a brief literature review, including a list of references.
In class discussion of research topics.
Presentation of literature review.

Note:

The abstract should include the following:

Abstracts are limited to 500 words and must include:

- Paper Title
- 3 - 5 key words
- Author Name(s)
- Institutional affiliation(s)
- Complete mailing Address
- Phone, Fax, and E-mail for ALL authors and presenters
- Describe the research question(s), main objectives, study area, methods to be used and anticipated results.

The literature review should provide background and current development in the proposed research area: What has been done? What needs to be done? Has someone done the exact same

as you proposed? What is new and innovative with your proposed research? It should be a critical review, not just to describe who did what.

Step 2: Data collection

(Due date: TBD)

Data collection for your project involves two tasks: Collection of remotely sensed data and ground truthing.

In class discussion (show and tell) of collected data.

Step 3: Software demondtration and the processing steps

(Due date: TBD)

Demonstration of the processing steps of the software that you are using for your project. During the demonstration, show how these steps work using examples.

Submit your ppt presentation on the detailed processing steps.

Step 4: Full paper

(Due date: TBD)

For example, you may follow the format on the one of the following conferences:
http://www.igarss2012.org/
http://www.isprs2012-melbourne.org/

Step 5: Oral or poster presentation

Oral presentation (20 minutes):

- Submit your powerpoint file

Poster presentation :

- Submit your digital poster file

Method of evaluation:

Class participation, including discussions	10%
Abstract, Literature review and presentation	20%
Software demonstration and steps	20%
Full paper	35%
Oral / poster presentation	15%