

FORS551 DIGITAL IMAGE PROCESSING
SPRING 2015

INSTRUCTORS: LLOYD Queen
NUMBER OF CREDITS: 4
MEETING TIMES: Arranged
TEXT: *Introductory Digital Image Processing*. Jensen. Prentice Hall.
SUPPLEMENTAL TEXT: *Remote Sensing and Image Interpretation*. Lillesand and Kiefer.
Wiley.

COURSE DESCRIPTION:

This course will concentrate on the extraction of spatial and thematic information from digital image data. Hands-on lab exercises involving image preprocessing, rectification, classification, accuracy assessment, and macro programming will be conducted throughout the semester. The educational goals of the course will be addressed through lectures covering the concepts and theory of image processing. Students will then work through a tutorial exercise designed to train them in the use of ERDAS/IMAGINE image processing software.

MAJOR TOPICS:

- Physics of remote sensing; energy/matter interactions
- Concepts of digital remote sensing
- Major terrestrial sensors and platforms
- Image geometry; rectification, resampling
- Radiometric preprocessing; calibration and data reduction
- Image classification; supervised, unsupervised, and hybrid classifiers
- Accuracy assessment; thematic and cartographic accuracy

GRADING:

There are no exams scheduled in this class. We will meet for lecture periods (time/place to be arranged) during the last 8 weeks of the semester. Grades will be determined during a review to be held with individual students and the class instructors.