Course: GEOG 5110/6110, 3 Units
Instructor: Matthew Connolly, Ph.D.
Day & Time: Monday/Wednesday, 8:05 AM to 9:25 AM
Location: OSH 215

Prerequisites: GEOG 3110

Course Description:
High-resolution multispectral data, coupled with expanding computing power and increasingly sophisticated image processing software, provides a large set of quantitative, graphic and science visualization tools for solving science-based environmental problems using remote sensing data. The theory and application of image-processing techniques such as: data corrections, enhancements, transformations, and classification are aimed at specific environmental problems in the natural and human domains. Hands-on experience is gained through image processing laboratory techniques, field-based measurements and real-world science projects.

Who is this course for?
This course is intended for graduate students in Geography or related disciplines that want to advance their understanding of how remotely sensed data and image processing techniques may be applied to study physical and human environments. Graduate students should enroll in GEOG 6110 and will be held to higher standards and/or more work. Course topics will include convolution filtering, supervised and unsupervised classification algorithms, feature extraction, orthorectification, and atmospheric corrections among others. Students in this course will gain exposure to the theoretical underpinnings of digital image processing, as well as hands-on experience applying the techniques discussed in lecture. Additionally, students enrolled in this course will complete a research project that applies digital image processing methods to the topic of their choice.