Geography 16370

Remote Sensing/Aerial Photography Interpretation

Scheduling Fall Semester 2016 Thursdays from 9:30am until ~12:15 in Robinson 311

Instructor

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Regular office hours:
Tuesdays 1:30-3p, and by appointment

Zachary Christman is an Assistant Professor in Rowan University's Department of Geography and Environment, where he serves as the Director of the Bachelor's of Science in Geographic Information Science. His research concerns landscape change in the United States and Mexico and the relationship of environmental conditions to human health and vulnerability. He holds a PhD and MA in Geography from the Graduate School of Geography of Clark University in Massachusetts and a BA in Anthropology (Archaeology) from the University of Pennsylvania. He rides bicycles, reads books and plays with his two sons, talks geography with his geographer wife, walks his dog, gets walked on by his cat, and sometimes goes on trips.

Mission

Images, from aerial photography, satellite imagery, or prepared raster-based geospatial data, form challenging and useful sources of spatial data with many requirements for their use within geographic information system. The scale, precision, accuracy, and content all demand technical attention to ensure that the content of these data can be properly interpreted and, if appropriate, quantitatively measured.

Objectives

This class has three major conceptual objectives for students:

1. Learn to read the composition, configuration, and activities in spatial images
2. Evaluate, quantitatively and qualitatively, raster data through map algebra
3. Recognize the characteristics of spatial imagery and apply the processes necessary to convert imagery into spatial data for use in GIS and RS software for analysis

Format

The course is organized as a series of weekly presentations with activities introducing new challenges for the use of spatial imagery. Activities are presented and discussed during class periods, making attendance at every meeting absolutely essential. Coursework necessitates the use of specialized software, which may be accessed in labs in the Geography and Environment department, online through Rowan Cloud, or, in some cases, downloaded and installed to personal computers

Text

There is no textbook, but reference materials and required readings will be announced in class and posted on the course website, on the Rowan Blackboard site

Prerequisites

This course assumes students' knowledge of geographic information and the successful completion of *Introduction to Mapping and Geographic Information Science*, GEOG 01610 or comparable introductory course, with permission of instructor.

Tentative Schedule

#	Date	General Theme	Specific tasks
1	9/1	Image Interpretation	*overview: image processing*
2	9/8		*image properties & interpretation*
3	9/15	Map Algebra & Image Interaction	*raster data properties & functions*
4	9/22		*local functions*
5	9/29		*focal functions*
6	10/6		*zonal + global functions*
7	10/13	Image Preparation & Spatial Data Integration	*summary activity*
8	10/20		*imagery and scale*
9	10/27		*rectification*
10	11/3		*digitization*
11	11/10		*resampling*
12	11/17		*summary activity*
T	11/24		*No class, Thanksgiving Holiday*
13	12/1	Landscape Inventory	*change assessment*
14	12/8		*summary activity*
X	12/15		*End of the semester deadline*