

GEOGRAPHY 325: ANALYSIS OF THE PHYSICAL ENVIRONMENT – Fall 2009

INSTRUCTOR:

Jim Knox, Evjue-Bascom Professor, Geography Department 234 Science Hall
Phone: 262-1804; email: knox@geography.wisc.edu

DESCRIPTION:

The course is designed to provide experience with basic field and laboratory procedures and equipment that are common to the mapping and environmental analyses of hydrologic and geomorphic physical processes. The class meets on Thursday afternoons, 1:00-5:15 pm, except on field trip days **October 1st, and October 15th** when we will return to campus between 7 and 8 pm. Much of the class will be held out-of-doors pending weather conditions. At other times class will be held in either Room 350 (lectures) or 217 (lab) Science Hall. The course grade will be determined from results of two exams, on level of participation in class projects, and on a 15 page research paper based on data and information provided in class during September and October. The research paper will be due on **November 19th**. In fairness to those who complete assignments on schedule, there will be a one letter grade reduction for late papers. There is no final comprehensive exam. Geography 325 provides 4 physical science credits. A surveying field notebook required. It can be purchased on the main level (1st) of University Book Store. Copies of selected methodologies and supporting reading materials will be provided electronically or as class hand out material. There is no required text.

SCHEDULE:

- Sept. 03: Introduction and overview; surveying by differential leveling: Rm 350 & campus field
Sept. 10: Surveying by trigonometric relationships: elevations and distance determinations with theodolites: campus field: Rm 350 & campus field
Sept. 17: Surveying and mapping with electronic total stations: Rm 350 & campus field
Sept. 24: Surveying and mapping with electronic total stations: Rm 350 & campus field
Oct. 01: **Loeffelholz Site – McAdam Branch, Grant County, SW Wisconsin field** -
Involving Historical Changes in Floods and Sediment; Channel Cross Section
Surveys for HEC-RAS Modeling
Oct. 08: **Exam 1**; and Working with HEC-RAS Data, Examples and Use of data from the
Loeffelholz Site; Introduction to Stream Gaging Procedures
Oct. 15: **Field Trip – Stream Gaging – Black Earth Creek or W. Branch, Pecatonica River**
Oct. 22: Working with stream gaging and water flow data
Oct. 29: Human impacts on historical erosion and sedimentation in river systems
Nov. 05: Working with stream sediment data
Nov. 12: Interpretation of depositional environments from sediment stratigraphic records
Nov. 19: Laboratory analysis of sediment grain size - Room 217; **Research paper due.**
Nov. 26: No class – Thanksgiving Recess
Dec. 03: Laboratory analyses of sediment grain size - Room 217
Dec. 10: Analyses of organic content in soils and sediments; Room 217 and 350 **Exam 2**