The University of Oklahoma  
College of Continuing Education  
Advanced Programs – Course Syllabus

Course Title:  
Quantitative Methods in Geographical Research

Course Number:  
GEOG 5113-301

Course Description:  
This course is intended to develop statistical literacy in an environment that emphasizes concepts and critical thinking over computation. Emphasis will be placed on the logic of the scientific method and how to analyze data to identify patterns and draw conclusions, rather than on the use of formulas.

Class Dates, Location and Hours:  
Dates: June 24 - 30, 2012  
Location: Hangar 2, Room 102, Hickam AFB, Hawaii.  
Hours: M-F 6:00-10:00 p.m.; Sat. 8:30 a.m. - 12:30 p.m.; Sun 8:30 a.m.-4:30 p.m.;  
Last day to enroll or drop without penalty: May 26, 2012

Site Director:  
Mary Keller. Assistant: Novelda Sommers. Phone: 808-449-6364 (DSN & Commercial); Fax: 808-422-5509; E-mail: aphickam@ou.edu

Professor Contact Information:  
Course Professor: Bruce Hoagland, Ph.D.  
Mailing Address: Department of Geography  
University of Oklahoma  
100 E. Boyd St., Suite 684  
Norman, OK 73019  
Telephone Number: (405) 325-0562  
Fax Number: (405) 325-7702  
E-mail Address: bhoagland@ou.edu  
Professor availability: The professor will be available via e-mail to students before and after the class sessions. On-site office hours are half an hour before and after each class session, by appointment.

Textbook(s) and Instructional Materials:  
Student materials are available at the Follett/AP Bookstore located in the Oklahoma Memorial Union, 900 Asp Ave., Norman, OK. Orders can be placed online at www.oklahomaunion.bkstr.com or by telephone at 866-369-9713 (toll free in the U.S.) or 405-325-5960 (outside the U.S.). E-mail orders may be sent to oklahomaunion@bkstr.com. Representatives are available from 8 a.m. to 6 p.m. CST Monday through Thursday and 8 a.m. to 5 p.m. CST on Friday. Summer hours: 8 a.m. to 4 p.m. CST. Faxed orders may be placed 24 hours a day to 866-223-5607 (toll free in the U.S.) or 405-325-7140 (outside the U.S.).


Note: The Follett/AP Bookstore is the Advanced Programs contractual textbook provider. Should text changes become necessary after publication of the course syllabus, Advanced Programs will facilitate text returns/refunds only for texts purchased through the Follett/AP Bookstore.
Course Objectives:
The objective of this course is to gain an understanding of statistical principles and their uses. We will learn how to collect data, summarize data, examine data for patterns and relationships, and analyze data so we can draw conclusions. We will also learn to interpret and judge statistical information, including information embedded in computer output.

Assignments, Grading and Due Dates:
The course format is lecture and group discussion.

1. Pre-seminar assignment: a draft of the data you collected will be the first day (see below). The data collection component represents 15% of your grade and the article review 15%.

2. Participation: thoughtful participation throughout the course will help solidify your learning, as well as adding to the educational environment. The participation grade also includes the class presentation of your review article: 20% of your course grade.

3. A final examination will be given in class on the last day. This will be based on material covered during the class discussions and may also require elaboration or extension of these materials and ideas. This will be worth 50% of your grade.

Pre-Seminar Assignment:
There are two components to the pre-class assignment. The first involves data collection. Your task is simple. Go to a public place (BX, restaurant, the office, wherever), find a comfortable spot, and record the following information for each person that passes by over a 30 minute period; hair color, gender. In addition, visit a weather web site and download/record the hourly temperature for a location of your choosing for a 24-hour period. We will discuss the first night of class how these data will be used.

Second, select an article from newspaper or magazine that uses or cites statistic in some form. Since we are approaching an election year, there will be an endless number of polls, etc., being reported. Write up a brief description (one page) and discuss (to the best of your knowledge) the statistics used. In your write-up, consider the following questions: Do the authors do a good job of explaining what's involved? Do the conclusions follow from the information given? Do you consider this a good use or a bad use of statistics? What additional information should the authors have presented to you? Beginning the second night of class, students will discuss the article for the class. The one-page write-up will be submitted via a dropbox on D2L.

Class Schedule

Part I: Understanding Data and the Research Process
- Types of Statistical Studies
- Sampling
- Data Types and Measurements

Part II: Describing Data
- Picturing Distributions
- Shapes of Distributions
- Measures of Variation
- Normality and the Central Limit Theorem

Part III: Understanding Relationships
- Variables, Relationships, Measurement, Reliability and Validity
- Correlation and Causation

Part IV: Statistical Inference
- From Samples to Populations
- Hypothesis Testing
Grading:

This is a letter-graded course: A, B, C, D, or F.

NOTICE: Failure to meet assignment due dates could result in a grade of I (Incomplete) and may adversely impact Tuition Assistance and/or Financial Aid.
POLICIES AND NOTICES

Attendance/Grade Policy

Attendance and participation in interaction, individual assignments, group exercises, simulations, role playing, etc. are valuable aspects of any course because much of the learning comes from discussions in class with other students. It is expected that you attend all classes and be on time except for excused emergencies.

Excused absences are given for professor mandated activities or legally required activities such as emergencies or military assignments. Unavoidable personal emergencies, including (but not limited to) serious illness; delays in getting to class because of accidents, etc.; deaths and funerals, and hazardous road conditions will be excused.

If you are obtaining financial assistance (TA, STAP, FA, VA, Scholarship, etc.) to pay all or part of your tuition cost, you must follow your funding agency/institution’s policy regarding “I” (Incomplete) grades unless the timeline is longer than what the University policy allows then you must adhere to the University policy.

Students who receive Financial Aid must resolve/complete any “I” (Incomplete) grades by the end of the term or he/she may be placed on “financial aid probation.” If the “I” grade is not resolved/completed by the end of the following term, the student’s Financial Aid may be suspended make the student ineligible for further Financial Aid.

Students are responsible for meeting the guidelines of Tuition Assistance and Veterans Assistance. See the education counselor at your local education center for a complete description of your TA or VA requirements.

Academic Honesty

Honesty is a fundamental precept in all academic activities and … [you] have a special obligation to observe the highest standards of honesty. Academic misconduct in any form is inimical to the purposes and functions of the University and is therefore unacceptable and is rigorously proscribed. Academic misconduct includes:

- cheating (using unauthorized materials, information, or study aids in any academic exercise), plagiarism, falsification of records, unauthorized possession of examinations, intimidation, and any and all other actions that may improperly affect the evaluation of a student’s academic performance or achievement; assisting others in any such act; or attempting to engage in such acts.

All acts of academic misconduct will be reported and adjudicated as prescribed by the student code of the University of Oklahoma. All students should review the “Student’s Guide to Academic Integrity” found at http://www.ou.edu/provost/integrity

Accommodation Statement

The College of Continuing Education [Advanced Programs] is committed to making its activities as accessible as possible. For accommodations on the basis of disability, please contact your OU Site Director.

Course Policies

Advanced Programs policy is to order books in paperback if available. Courses, dates, and professors are subject to change. Please check with your OU Site Director. Students should retain a copy of any assignments that are mailed to the professor for the course. Advanced Programs does not provide duplicating services or office supplies.

Copyright

Any and all course materials, syllabus, lessons, lectures, etc. are the property of professor teaching the course and the Board of Regents of the University of Oklahoma and are protected under applicable copyright.

For more information about Advanced Programs, visit our website at: http://www.goou.ou.edu/
INSTRUCTOR VITA
Bruce W. Hoagland, Ph.D.

Education

• 1995 Ph.D., Botany; University of Oklahoma; Norman
• 1990 M.S., Ecology; Eastern Kentucky University; Richmond
• 1986 B.A., Biology; University of Louisville; Louisville, Kentucky.

Current Positions

• Professor of Geography
• Coordinator, Oklahoma Natural Heritage Inventory
• Adjunct Professor of Botany

Frequently Taught Advanced Programs Courses

• GEOG 5113-220 Quantitative Methods in Geographical Research
• GEOG 6240-221 Seminar in Resource and Environmental Geography: Biogeography and Conservation

Major Areas of Teaching and Research Interest

• Research: geography and conservation of vascular plants. Current research projects include use of 19th century land surveys to analyze land cover change, inventories of Oklahoma vascular plants, and phenology of trees in the Talamanca Mountains, Costa Rica.
• Teaching: Courses include Biogeography, Vegetation Ecology, and Geography of Oklahoma, and graduate seminars in vegetation analysis.

Representative Sample Publications and Presentations

• Micozzi, M & BW Hoagland. 2010. Vegetation dynamics in a semi-arid mesa environment: the effects of spatial heterogeneity and environmental gradients at Black Mesa, Cimarron County, Oklahoma. Black Mesa, Cimarron County, Oklahoma. VDM Verlag-Muller. 120 pp.

Major Professional Affiliations

• Association of American Geographers
• Botanical Society of America