# Department of Geography

at

The University of
Central Arkansas

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**Department Faculty and Staff**

Dr. Jeff Allender - Assistant Professor; Ph.D. University of Wisconsin-Milwaukee; M.S. University of Wisconsin-Milwaukee; B.S. University of Wisconsin-Whitewater. Planning, Tourism.

Ms. Mindy Conyers – Instructor; ABD Texas State University; M.A.G. Texas State University; BS North Texas State University. Fluvial Geomorphology, Hydrological Processes, Geospatial Technologies

Dr. Brooks Green – Professor and Chair; D.A. University of Northern Colorado; M.S. Brigham Young University; B.A. Brigham Young University. Historical, Arkansas, Russia.

Ms. Mary Sue Passé-Smith - Lecturer II; M.A. University of Arkansas; B.S. University of Central Arkansas. Cartography, GIS, Hazards.

Dr. Brooks Pearson - Assistant Professor; Ph.D. Indiana University; M.A. Kansas State University; B.S. Middle Tennessee State University. GIS, Remote Sensing.

Dr. Jerry Reynolds - Associate Professor; Ph.D. Southern Illinois University; M.S. Southern Illinois University; B.S.F. Stephen F. Austin State University. Water Resources, Natural Hazards, Natural Resources Management.

Dr. Michael Yoder – Associate Professor; Ph.D. Louisiana State University; M.A. University of South Carolina; B.B.A. University of Houston. Urban, Economic, Mexico.

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**From Left: Reynolds, Conyers, Passé-Smith, Allender, Pearson, Yoder, and Green**

**Mrs. Rogers**

**History of the UCA Department of Geography**

Geography courses have been taught at UCA since 1908, the year that Arkansas State Normal School began operation. At that time, the course, Physical Geography, was located in the Department of Science. By 1913, the department was renamed the Department of Natural Science, and the course, Commercial Geography, was added. In 1924, geography became a division within the Department of Science and three courses, Business Geography, Review Geography, and Historical Geography, were the only courses listed. Arkansas State Normal School became Arkansas State Teachers College in 1925. By that time, Hurbert L. Minton had joined the faculty. He was instrumental in adding fourteen geography courses to the curriculum and in 1927 became the first chair of the newly created Department of Geography. In 1937, a 15-credit geography minor was offered. Minton remained chair until 1947, at which time Alger E. Burdick, who served as the second chair until 1959, replaced him. In 1955, a geography major was offered for the first time. From 1959 to 1968, three acting chairs, Clarence Williams, Alger Burdick, and William F. Keinath, led the Department of Geography. In 1967, ASTC became State College of Arkansas and in 1968, Keinath became the third chair of the department. While Keinath was chair, the departmental honors program was implemented, and in 1975, ASC became the University of Central Arkansas. William Carl Jameson arrived in 1975 and became acting chair in 1977 and chair in 1978. At that time, the Department of Geography was located in the basement floor of Main Hall. Paul Butt and Brooks Green arrived in 1980. Suzanne Rogers, departmental secretary, was hired in 1983. Jerry Reynolds arrived in 1984, and Jeff Allender was hired in 1990. Green became chair in 1989 and served until 1994 when the Department of Geography was consolidated with Political Science and Sociology. In 1993, the geography faculty moved to the newly constructed Irby Hall to suite 306. From 1994, the consolidated department was led by Carl Redden (sociology), Lawson Veasey (public administration), both interim chairs, and Ronald Hy (public administration), who become chair in 1996. William F. Keinath retired in the spring of 1997. Mary Sue Passé-Smith began in 1997 as a Laboratory Instructor, but became a Lecturer I in 2003. When Hy left UCA in 2002, Don Whistler (political science) was appointed interim chair of the department, and the geography faculty moved to Irby 301. W. C. Jameson retired in the spring of 2002. In 2003, geography and political science separated and Brooks Green became permanent chair in July 2004. Brooks Pearson arrived in 2005. A Master's Degree in GIS was approved in 2007. Rajrani Kalra arrived in 2007. Paul Butt retired and Rajrani Kalra left in 2008. Michael Yoder and JoAnn Sullivan joined the department in 2008. JoAnn Sullivan left the department in 2009 and Mindy Conyers joined it.

**What is Geography?**

Geography is the science of place and space. Geographers ask where things are located on the surface of the Earth, why they are located where they are, how places differ from one another, and how people interact with the environment.

There are two main branches of geography: human geography and physical geography. Human geography is concerned with the spatial aspects of human existence - how people and their activities are distributed over the earth's surface, how they use and that surface, and how they create and sustain the places that make up the Earth's surface. Human geographers work in the fields of urban and regional planning, transportation, marketing, real estate, tourism, international business, etc.

Physical geographers study patterns of climates, landforms, vegetation, soils, and water. They forecast the weather, manage land and water resources, and analyze and plan for forests, rangelands, and wetlands. Many human and physical geographers have skills in cartography and Geographic Information Systems (GIS).

Geographers also study the linkages between human activity and natural systems. Geographers were, in fact, among the first scientists to sound the alarm that human-induced changes to the environment were beginning to threaten the balance of life itself. They are active in the study of global warming, desertification, deforestation, loss of biodiversity, groundwater pollution, and flooding.

**Why Study Geography?**

1. Studying Geography promotes environmental literacy.

It is widely agreed that education is the most effective means that society possesses for confronting the challenges of the future. In order to address the environmental challenges society is currently faced with, people are needed who can think broadly and understand the systems, connections, and patterns of the physical and cultural world. We desperately need people equipped with the analytical skills necessary to plan and rebuild neighborhoods, towns, and cities.

2. Geography prepares you to confidently enter the workforce.

Geography has a major role to play in framing and answering key environmental, economic, social and political questions. As a diverse subject, it allows students to obtain a range of learning experiences and skills which make geography graduates highly attractive to a wide range of future employers. The skills practiced in geography are used by many professionals: urban and regional planners, natural resource managers, attorneys, international development workers, public safety officials, GIS specialists, and teachers. Preparation in geography is an ideal stepping stone to a wide range of careers.

3. If you have ever thought of pursuing a graduate degree, UCA Geography will give you the start you need.

Graduates from the Department of Geography at UCA have a great reputation as successful graduate students. They have been successful both at being admitted to their school of choice and receiving funding. Some of the universities include: UA, U. of Mo., SIU, U. Memphis, U. Wyoming, Oregon St., LSU, Utah, Utah St., OSU, and OU.

4. Geography is a diverse, broad field that encompasses a wide range of knowledge.

Geography is a broad flexible subject, which may be classified as an art, science, or social science. Geography, as a discipline, is as diverse as the problems facing our planet. From saving a forest to planning a downtown development project, geographers are there. When you study Geography at UCA you will have the chance to learn how events around the world affect your community and how events in your community affect the rest of the world.

5. Studying Geography is FUN!!

Studying Geography can take you to distant lands and cultures. You can learn about different peoples and places. You can develop the skills that will help you recognize and make sense of the patterns, distributions, and interactions between living things and their environment. Geographers often travel and study places by experiencing them first-hand. They have the opportunity to use cutting-edge technology to study the landscapes and patterns that define who we are and what we do.

**Geography Degrees**

Bachelor of Arts

The degree of Bachelor of Arts, with a major in geography, requires successful completion of 124 hours, including (1) the general education component, (2) degree requirements, (3) the geography courses listed below, and (4) a minor as worked out with the student's advisor. A geography major may not minor in geographic information science. In addition to the other requirements for graduation, the Bachelor of Arts degree requires completion of three hours in a foreign language at the 2000-level or above.

Major in Geography (36 hours)

GEOG 1315, 1320, 2330, 2375, 3300, 3303, 4391, plus 15 hours of upper division geography electives.

Minor in Geography (24 hours)

GEOG 1315, 1320, 2375, 3300, plus 12 hours of upper division geography electives.

Bachelor of Science

The degree of Bachelor of Science, with a major in geography, requires successful completion of 124 hours, including (1) the general education component, (2) degree requirements, (3) the geography courses listed below, and (4) a minor as worked out with the student's advisor. A geography major may not minor in geographic information science. In addition to other requirements for graduation and the general education requirements in mathematics and science, the Bachelor of Science degree requires completion of one year of mathematics (excluding UVIV 1340, MATH 3351, and MATH 4310) or two courses in a laboratory science (e.g., 2 courses in biology, 2 courses in chemistry, etc.). General education science courses (e.g., BIOL 1400, CHEM 1400, and PHYS 1400, cannot be used to satisfy the additional year of science.

Major in Geography (36 hours)

GEOG 1315, 1320, 2330, 2375, 3300, 3303, 4391, plus 15 hours of upper division geography electives.

Minor in Geography (24 hours)

GEOG 1315, 1320, 2375, 3300, plus 12 hours of upper division geography electives.

Minor in Geographic Information Science (21 hours)

A technology-oriented minor designed to strengthen one's use of the tools of geography. Geography core includes GEOG 1315, 1320, 2330, 2375, 3303, 3306, and 4330. Students must also successfully complete 3 hours of statistics. Geographic information science minors may not be geography majors. GEOG 3307 or 3309 may substitute for GEOG 4330.

Upper Division Credit Requirement

The credit offered for graduation must include at least forty (40) semester hours of upper-division level (3000 and 4000) courses, including at least 15 semester hours of upper-division work in the major field and 12 hours of upper division work in the minor field. GEOG 4160, Special Problems, is commonly used in meeting one hour deficiencies.

**Geography Courses**

1300 GEOGRAPHY OF WORLD REGIONS In this course, students will come to better understand the rapidly changing world through analyzing cultural and physical regions using traditional Western as well as non-Western and the evolving Developing World's theories. The course uses primarily electronic sources for current data gathering and various types of geographic analysis, supported by lecture and discussion. This course may be taken to satisfy three hours of the behavioral and social science General Education requirement, but it may not count toward the 36-hour geography major or the 24-hour geography minor. Fall, spring, summer. Also offered online.

1305 PRINCIPLES OF GEOGRAPHY This course uses a lecture and discussion format to provide an introduction to the basic conceptual and methodological principles of geography as an academic discipline for understanding the patterns of human societies and physical environments on the surface of the earth. This course may be taken to satisfy three hours of the behavioral and social science General Education requirement, but it may not count toward the 36-hour geography major or the 24-hour geography minor. Fall, spring, summer. Also offered online.

1315 INTRODUCTION TO PHYSICAL GEOGRAPHY Required for majors and minors in geography, majors in environmental science, and minors in geographic information science. In a lecture and discussion format, this course is a topical assessment of the spatial diversity of the natural environment, including landforms, weather and climate, soils, vegetation, and water, along with their significance in terms of human occupation of the earth. Fall, spring.

1320 INTRODUCTION TO HUMAN GEOGRAPHY Required for majors and minors in geography and minors in geographic information science. In a lecture and discussion format, this course examines the spatial variability of human characteristics across the surface of the earth. Topics include the geography of culture, population, language, religion, settlement, agriculture, urbanization, and political activities. Fall, spring, summer.

2302 CONSERVATION AND LAND USE Required for environmental science majors, an elective for others. This course uses a lecture and discussion format in an assessment of the physical, social, economic, and political considerations in the examination of major global natural resource issues with emphasis on the United States. The historical development and contemporary application of the conservation philosophy of resource use are discussed. Fall.

2330 QUANTITATIVE METHODS IN GEOGRAPHY A required course for geography majors and students enrolled in the geographic information science minor. This course uses a lecture and discussion format to provide information about descriptive, inferential, and relational statistics as these techniques are employed in spatial analysis; also included is that set of quantitative methods used in conjunction with map analysis termed spatial statistics. Spring.

2345 GEOGRAPHIC INFORMATION TECHNIQUES A lower-division elective. The course, via lectures, class discussions, and laboratory exercises, enhances students' knowledge and understanding of geography, geographic information, and the various techniques geographers employ as they collect, store, manage, analyze, and display geographic data or information. On demand.

2375 CARTOGRAPHY Required of geography majors and minors and those students minoring in geographic information science. Cartography today revolves around the study of the theory, science, and technology behind the production of maps and spatial databases. This computer lab-oriented, exercised-based course instructs students on cartograhic design and convention, the construction of reference and thematic maps using mapping software, and the collection and classification of geographic data for mapping. Fall, spring, summer on demand. Also offered online.

3300 World Regional Geography A required course for geography majors and minors. A lecture and discussion-oriented course that focuses on the physical and cultural geography of Earth's major regions: U.S.A. and Canada, Latin America, Europe, Russia and the Near Abroad, Middle East and North Africa, Africa South of the Sahara, Monsoon Asia, and the Pacific World. Fall, spring, summer on demand.

3302 ARID LANDS GEOGRAPHY An upper-division elective. This course employs a lecture and discussion format, supplemented by outside readings and research, to explore physical and cultural environments in arid and semi-arid lands and to develop strategies pertinent to planning for the future. Prerequisite: GEOG 1315 or consent of instructor. On demand.

3303 GEOGRAPHIC INFORMATION SYSTEMS An upper-division elective and a requirement for geography majors and minors in geographic information science. This computer lab-oriented course introduces the student to the realm, principles, and capabilities of a widely applicable technology, geographic information systems (GIS). A short lecture and lab exercise format are employed to develop understanding of and practically apply the fundamental concepts of GIS. Emphasis is placed

on life-based applications of GIS technology; a simple research project is required. Prerequisite: GEOG 2375 or consent of instructor. Fall, spring, summer on demand.

3305 ECONOMIC GEOGRAPHY An upper-division elective. The course uses lectures and class discussions to provide a description and explanation of economic activities from a spatial perspective. Classical location theories of Von Thünen, Weber, and Christaller are emphasized. Spring, odd years.

3306 REMOTE SENSING AND IMAGE INTERPRETATION An upper-division elective and a requirement for geographic information science minors. The course introduces the student to the principles of remote sensing, including the study of photographic and non-photographic techniques, the principles of acquiring and interpreting airphoto and satellite imagery, digital image processing, and the relationship between remote sensing and geographic information systems. Emphasis is placed on new achievements in space technology and on practical application of innovative remote sensing-based methods through lab exercises and student term projects. Fall.

3307 GIS IN PRACTICE: BUSINESS AND SOCIAL SCIENCE APPLICATIONS An upper-division, lecture- and exercise-based elective designed for students interested in the variety of business and social science applications of GIS, such as site analysis, marketing analysis, sales management, crime analysis, urban planning, and historic preservation. The course examines example applications and enables students to use GIS software to complete computer-based exercises and for project development. Vector GIS is emphasized. Prerequisite: GEOG 3303. Spring.

3309 GIS IN PRACTICE: ENVIRONMENTAL APPLICATIONS An upper-division, exercise-based elective designed for students interested in the variety of environmental applications of GIS. Topics such as human impact on the landscape, environmental hazards, endangered species habitat inventory and protection, and point and non-point pollutant sources will be addressed in short lectures and example applications. The student will use GIS software to complete directed exercises, as well as for development of an individual project. Raster GIS is emphasized. Prerequisite: GEOG 3303. Fall.

3315 GEOGRAPHY OF LATIN AMERICA An upper-division elective and required for Latin American studies minors. Using a lecture and discussion format, an examination and comparison of the various nations that comprise Latin America is achieved. Emphasis is on the physical environment, social and economic development, and historical trends that affect the region's evolution. Spring, even years.

3318 BIOGEOGRAPHY This course offers a broad introduction to the field of biogeography, exploring key concepts, theories, and practices employed by biogeographers. Past and present distribution of plants and animals will be described through systematic and integrative studies, and factors of location including geographical, environmental, and historical, will be discussed. The course consists of lecture and discussion. Prerequisite: GEOG 1315. Spring, odd years.

332O FIELD STUDIES An upper-division elective for students interested in receiving credit while: (1) conducting field work in the United States or foreign area, and/or (2) studying in a foreign area. Typically students keep journals and write papers about their experiences. Prerequisite: GEOG 1315 or 1320 and consent of instructor. On demand.

3325 URBAN AND REGIONAL PLANNING An upper-division elective. Using a lecture and discussion format, a macrospatial analysis of planning techniques and case studies as evolving in the US is emphasized. Rapidly changing trends, philosophies, and techniques in the planning field are combined to better understand the locational decisions impacting transportation and urban growth. Fall, odd years.

3333 GEOGRAPHY OF NATURAL HAZARDS An upper-division elective. This course uses a lecture and discussion format in identifying geomorphic and atmospheric phenomena (e.g., floods, tornadoes, hurricanes, earthquakes) that represent real hazards to the population. Human responses to the various natural hazards are assessed and common adjustments identified. Prerequisite: GEOG 1315 or consent of instructor. Spring, even years.

3335 GEOGRAPHY OF EUROPE AND RUSSIA An upper-division elective. This course employs a lecture and discussion format, supplemented by outside readings and research, with the purpose of exploring the physical and cultural environments of Europe and Russia. Spring odd years.

3345 GEOGRAPHY OF CHINA AND EAST ASIA An upper-division elective for Geography, Asian Studies, or other students. Using a lecture, discussion, and Internet/technology format, an examination and comparison of the various nations that comprise Pacific Asia is achieved. Regional emphasis will be centered on China, Japan, North and South Korea, and the states of Southeast Asia. Topical emphasis is on the physical environment, resources, social and economic development, historical trends, and participation in today's globalizing world. Spring, odd years.

3346 GEOGRAPHY OF SOUTH ASIA An upper-division elective. This course is intended to be interactive and discussion oriented involving student's participation. Lectures, discussions, and video films will enable students to understand the issues, challenges, and diversity in the region. This course is a 'Journey to South Asia,' exploring, from a geographic perspective, the burning issues, and understanding the economic and social transformations which the region is presently undergoing as it emerges as an economic leader. On Demand.

3351 WEATHER AND CLIMATE An upper-division elective. This course uses a lecture and discussion format in the identification and assessment of atmospheric processes. Weather variables are investigated, the components and procedures of the daily weather forecasts are described, and the world's climates analyzed. Fall.

3361 GEOGRAPHY OF LANDFORMS An upper-division elective. Using a lecture and laboratory format, this course examines the landforms of the earth's surface including those resulting from diastrophism, volcanism, plate tectonics, weathering, mass movement, running water, karst, glacial ice, periglacial environments, wind, and breaking waves. Prerequisite: GEOG 1315 or consent of instructor. Spring, even years.

3371 URBAN GEOGRAPHY An upper-division elective. Using a lecture and discussion format, this course analyzes the various aspects of the distribution of urban settlements, the internal structure of urban areas, and an analysis of the growth, development, and problems of the American city. Prerequisite: Geography 1320 or consent of instructor. Fall, odd years.

3380 GEOGRAPHY OF ARKANSAS An upper-division elective. The course, through lectures and class discussions, examines the physical and human geography of the state of Arkansas. Topics include landforms, weather, climate, settlement, poverty, politics, agriculture, and lumbering, among others. Fall, odd years, summer on demand.

3381 POLITICAL GEOGRAPHY An upper-division elective. Using a lecture and discussion format, the spatial perspective of political phenomena is analyzed. Traditional topics include the coincidence of state and nation, boundaries, claims to territory, and state location, shape, and size. Contemporary topics include political processes and territory, integration, location, residential quality, economic factors, and local policy in metropolitan areas. Prerequisite: GEOG 1320 or consent of instructor. Fall, odd years.

3385 GLOBAL FOOD RESOURCES An upper-division elective. A worldwide study of past and present patterns of food production, consumption, and problems, using a lecture, discussion, and visual presentations format. Specific environmental conditions and cultural complexes which significantly influence food production and diet are examined. On Demand.

3399, 3699 INTERNSHIP IN GEOGRAPHY An elective for geography majors and minors. A structured, supervised, work experience in an academic format. The student is assigned to a specific agency and completes a minimum of 150 hours during the semester enrolled. This course is normally taken for 3 credit hours but can be taken for 6 credit hours if the job assignment requires additional time. Agency assignment and credit hours will be determined through student consultation with the geography program internship director. Prerequisite: 15 semester hours in geography and permission of program internship director. Fall, spring, summer.

4304 WATER RESOURCES An upper-division elective. This course uses a lecture and discussion format to provide detail on the occurrence, distribution, and movement of water on and beneath the earth's surface and the integration of water into human activities, e.g., flooding, drainage, irrigation, power, navigation, water supplies, and water pollution. Prerequisite: GEOG 1315 or consent of instructor. Fall, even years.

4305 SOILS An upper-division elective, this course introduces the soil environment, including soil properties and components, soil controls, soil-forming processes, soil classification, conservation and management, and use of the soil survey. This course uses a lecture format combined with field study to acquaint students with the nature and characteristics of soils. Prerequisite: GEOG 1315 or consent of instructor. Spring, odd years.

4308 OCEANOGRAPHY An upper-division elective. Employing a lecture/discussion/visual presentations format, this course is an introduction to oceanic environments, distribution, ocean basin topography, physical and biological characteristics, marine climate, currents, ecology, and politics. Emphasis is on the oceanic physical environment and natural resources. Prerequisite: GEOG 1315 or consent of instructor. Fall, odd years.

4313 RECREATION AND TOURISM An upper-division elective. This course uses a lecture and discussion format in the analysis of the physical, economic, and social aspects of outdoor recreation and tourism. Emphasis is on outdoor recreation activity and tourism in the United States and Arkansas. Fall, even years.

4325 PERSPECTIVES ON HUMAN GEOGRAPHY An upper-division elective. A seminar-oriented, discussion-based course, which analyzes significant trends of thought that have emerged in human geography since 1945. Prerequisite: GEOG 1320. On Demand.

4330 GEOGRAPHIC INFORMATION ANALYSIS An upper-division elective and a requirement for geographic information science minors. This is an advanced-level course in GIS. It provides an understanding of analysis in GIS environment, knowledge of GIS design and implementation, an insight into spatial variability and geostatistics, and an experience in error propagation analysis within GIS. Emphasis of lectures and practical lab exercises is placed on problem-solving GIS techniques such as layering, networking, buffering, and querying. Environmental modeling and decision support system creation in real-life research projects executed by students is also an objective of this course. Prerequisites: GEOG 2375 and 3303 or consent of instructor. Spring.

4390 HISTORICAL GEOGRAPHY OF THE UNITED STATES An upper-division elective. The course uses a lecture and discussion format to gain a comprehensive understanding of the evolving human geography of the United States during the past four centuries. Fall, even years.

4391 RESEARCH SEMINAR Required for geography majors. This course uses a seminar format to introduce the student to scientific research methods and quantitative techniques with emphasis on geographic research. These methods and techniques are used to initiate investigation into a contemporary student-identified geographic problem and to develop a formal research proposal. Prerequisite: Junior status, 15 semester hours of geography, and a course in quantitative methods with a passing grade. Fall.

4160, 4260, 4360 SPECIAL PROBLEMS IN GEOGRAPHY An elective for geography majors and minors. Independent readings, discussions, and writings are completed in specific areas of geography that are of particular interest to the student. Credit from one to three semester hours may be earned in one semester. May be repeated for a total of six hours, but only three hours may be applied toward the major. Prerequisite: 12 semester hours in geography and consent of instructor. Fall, spring, summer.

**Undergraduate Scholars Program**

Purpose:

A superior student combines high intelligence with the will to use it effectively. The Department of Geography recognizes that such a student needs special instruction and should have an outlet for their special skills, thus the establishment of an Undergraduate Scholars Program of intensive study for qualified undergraduates. By participating in this Program, a highly qualified student can probe a subject and its implications more deeply than in the standard program of instruction and also be eligible to graduate with honors.

Required Credentials:

1. Applicant must have a cumulative GPA of 3.25.

2. Applicant must have a 3.5 GPA in the geography major.

3. Applicant must have completed a minimum of 15 hours of geography coursework.

Additional Requirements:

1. Applicant must have taken or be currently enrolled in Geography 4391, Research Seminar.

2. Student will write a paper while enrolled in Geography 4360, Special Problems in Geography.

3. Student must give an oral presentation and defense of his/her paper before an Undergraduate Scholars Committee. This presentation is to be followed at a later date by a presentation at a geography student seminar.

4. Deadlines related to writing the paper, the defense, and any other aspect of the student's Undergraduate Scholars Program will be determined by the director.

Procedure:

1. A faculty member will nominate a prospective Undergraduate Scholar during a regular departmental meeting.

2. Those students deemed potential participants will be advised of the criteria for the Department Undergraduate Scholars Program. If a student is interested and feels he/she qualifies, the student will present an up-to-date UCA Check Sheet to the Chair of the Department.

3. The departmental faculty will examine the UCA Check Sheet. If all criteria are met, the Department Chair will send the student a letter of invitation to participate in the Undergraduate Scholars Program.

4. As soon as practically possible following the receipt of the invitation, the student will select a director for the Program. The director will be chosen from current geography faculty members.

5. The student, in concert with his/her director, will select the remaining members of the committee. A minimum of three faculty members is required. One committee member may be from another department.

**Graduate Certificate in GIS**

The University of Central Arkansas Certificate Program in GIS is a graduate credit program designed to meet the needs of individuals with a bachelor's or master's degree. Those individuals with a bachelor's or master's degree can earn graduate credit. Individuals earn the Certificate in GIS by successfully completing five courses. While most courses have prerequisites, some courses can be taken anytime from anywhere. Most courses involve approximately 100 hours of activity, depending on prior computing and GIS experience.

The introductory course, GEOG 5310, Geographic Information Systems, assists the student to explore fundamental theories, concepts, issues, and applications of geographic information systems while the student also develops the technical skills needed to be an effective online learner.

Students with earned bachelor's or master's degrees must enroll in GEOG 5310 as the entry point.

As a registered student in GEOG 5310, individuals will be entitled to purchase the latest version of *ArcView 9.1* software at a significantly reduced price. These software applications will be used in all courses of the Certificate Program. Proof of enrollment in the Certificate Program must be provided to ESRI before students will be permitted to purchase the software.

After the introductory course (GEOG 5310) has been completed, the remaining four courses may be taken in any order. The following three-course sequence is recommended: GEOG 5315, Mapping Fundamentals for Geographic Information Systems; GEOG 5320, Technical Issues in GIS; and GEOG 5328, Spatial Analysis and Modeling. Any one of the following three courses may be chosen to complete the five courses required for the Certificate: GEOG 5333, Vector-based GIS Techniques, GEOG 5340, Fundamentals of Database Design, and GEOG 5345, Digital Image Processing for GIS.

As courses become available online, they will be delivered via a combination of information technologies including, but not limited to, Internet/WWW (WebCT), CD-ROM, e-mail, and print. Upon successful completion of the five-course sequence, students will earn 15 graduate credits and a Certificate in GIS from UCA's Department of Geography.

**Master of GIS Degree**

The Master of Geographic Information Systems (MGIS) degree is modeled after the online Executive MBA programs which are now quite popular and successful across the country. Students who enroll in the Degree will ideally have had previous GIS coursework (having taken at least one GIS course at the undergraduate level) or be currently employed in a position which requires the use of GIS or GIS-based information services (i.e., either a GIS professional seeking greater training or someone who must manage GIS workers or who needs information from a GIS to perform his/her job). As an online Master's Degree, the program will meet the training needs of university graduate students, active professionals, as well as the job retraining needs of someone interested in entering the GIS workforce.

Several rationales exist for the online degree, Master of GIS:

- The Master of GIS degree is a logical companion program to the existing online Graduate GIS Certificate Program. While some students may want a Certificate in GIS, there are others who are more interested in an advanced degree. The Master of GIS degree, therefore, can be implemented with minimal investment on the part of the College and the University relative to what is already committed for the Certificate Program.

- Students will gain the greater value added of a Master's Degree with its greater marketability, opportunity for advancement within their organization, and enhancing the knowledge of graduate students in related programs, such as Community and Economic Development.

- Demand for training and/or credentials such as offered by the Master of GIS degree can be found among administrators, planners, other government workers, geographers, and public and private GIS professionals.

- No similar Degree currently exists in Arkansas or in the region.

- The Degree represents cutting edge subject matter and a cutting edge instructional delivery method.

- The Degree provides beneficial postgraduate job skills- training to facilitate local, state, and regional workforce.

- development in a globalizing economy.

The 30-hour, Master of GIS degree will be configured as outlined below:

<u>Required Courses</u>

GEOG 5310, Geographic Information Systems
GEOG 5315, Mapping Fundamentals for GIS
GEOG 5345, Digital Image Processing for GIS
GEOG 6320, Technical Issues in GIS
GEOG 6328, Spatial Analysis and Modeling
GEOG 6360, Directed Readings in GIS
GEOG 6380, GIS Research Methodology
GEOG 6390, Thesis (capstone experience)
GEOG 6390, Thesis (capstone experience)

<u>Elective Courses</u>

GEOG 5333, GIS for Planning and Public Administration
GEOG 5340, Fundamentals of Database Design and Development

Minimum Admission Requirements

To enroll in the Master of GIS degree, students must meet the requirements to be admitted into UCA's Graduate School as outlined in the *Graduate Bulletin*, including: 1) a bachelor's degree, 2) a GPA of 2.70, and 3) each student must have successfully completed at least one college-level GIS course or be currently employed in an agency/business where GIS is frequently used by the student. In consultation with Dr. Brooks Pearson and with Dr. Brooks Green, Chair of the Department of Geography, exceptions to #3 may be considered.

**Graduate Assistantships**

The Department of Geography has funds to employ Graduate Assistants. Full-time GA's must be enrolled in 3, 3-credit courses, work 20 hours per week, and not be employed off campus. Part-time GA's are not restricted regarding credits or employment, but must work at least 10 hours per week. Work assignments might include assistance in the Social Science Laboratory, completing projects for the Cities of Holland or Greenbrier, and assisting Dr. Pearson and Ms. Conyers. Graduate Assistants must have a GPA of 3.0. Interested students should contact Dr. Brooks Pearson, Graduate Advisor, or Dr. Brooks Green, chair of the department.

**Gamma Theta Upsilon**

Gamma Theta Upsilon is an international honor society in geography. Members of GTU have met academic requirements and share a background and interest in geography. The GTU chapter at University of Central Arkansas supports geography knowledge and awareness. Initiates to GTU must complete a minimum of three geographic courses, have a B average in geography, must rank in the upper 35 percent of their class and must have completed at least three semesters of college course work. Interested students can contact Dr. Allender at (501) 450-5641 or JEFFA@uca.edu.

**Geography Club**

The Geography Club is open to any interested UCA student. This club is active in outside activities including: caving, canoeing, camping, and backpacking. As a service to the community, the Geography Club has been involved in painting large maps of the United States in elementary schoolyards in Conway. Interested students can contact Dr. Allender at (501) 450-5641 or JEFFA@uca.edu.

**Environmental Alliance**

The Environmental Alliance is a student activity/service organization with the purpose of promoting interest in environmental ethics and offering opportunities for all students to further their knowledge and understanding of environmental issues, resulting in an increased level of environmental awareness. The Environmental Alliance was formed in 1990, with forty-four people (students and faculty) attending the organization's initial meeting on January 23, 1990. Since the initial meeting, the Environmental Alliance has been active in addressing such environmental issues as:

* clearcutting in the Ouachita National Forest
* introduction of bi-metal containers to Central Arkansas
* endangered species in Arkansas and the United States
* transportation alternatives for Conway and UCA
* general cleanup of the UCA campus
* overuse of herbicides on the UCA campus
* reduction in solid waste production at UCA, especially in food services
* elimination of an illegal trash dump on the UCA campus
* stream cleanup of Stone Dam Creek and Tucker Creek
* environmental inventory of the UCA campus
* develop a recycling program for the UCA campus

Students with an interest in environmental issues and improving environmental quality, or those who want to learn more about global, national, state, and local environmental concerns, are encouraged to become active in the organization.

For additional information about the Environmental Alliance, contact
Jerry Reynolds, Faculty Advisor, Environmental Alliance Department of Geography, University of Central Arkansas 501/450-5639, jerryr@uca.edu

**Internship Program**

Ongoing since 1980, over 100 students have participated in the program, with several completing more than one internship. Two internship courses are listed, Geog 3399, requiring completion of 150 hours at a participating agency, and Geog 3699, requiring completion of 300 hours at a participating agency. Geog 3399 is the internship course that most students enroll in, resulting in an average of 10-12 hours/week at a participating agency during a semester. Enrollment in either course requires the approval of the Geography Internship Coordinator, located in Irby 301.

The Geography Internship Program is designed to provide the student (intern) with the opportunity to gain valuable, professionally-related work experience, while applying his/her learned skills. To accomplish this, the student must meet the defined requirements and accept the responsibilities, as identified below.

The Required Qualifications

Junior or Senior classification; Geography or Environmental Sciences Major or Minor; Cumulative GPA of 2.5, Geography or Environmental Sciences 3.0 (can be waived); Demonstration of professional promise; Successful completion of prerequisite courses (e.g. GIS, cartography), if applicable.

<u>The necessary steps in order to participate in the program</u>

Student completes application, specifying possible agencies (Applications available through Geography Internship Coordinator, Irby 301C); Application screening by Geography Internship Coordinator; If approved, student interviews with selected agency(ies) with brief resume; If both

student and agency are in agreement, assignment to agency is made; Student, employer, and internship coordinator sign internship agreement.

Requirements for student at assigned agency

Student reports to work on a predetermined schedule; Student performs duties at agency in a professional manner; Student meets periodically with internship coordinator to discuss progress; Student completes required hours; Intern Supervisor is contacted periodically to assess intern's performance.

Requirements for completion and credit of internship

Student is evaluated by supervisor at participating agency; Student evaluates internship position; Student prepares 2-3 page paper summarizing internship; Student makes oral presentation on internship position to internship coordinator; Internship Coordinator evaluates student's performance.

Agencies that have previously participated or are participating in the Geography Internship Program

State and Local - Public Agencies: Conway City Planning; Conway Sanitation Dept.; Conway Corporation; Old Conway Homeowners Assn.; Arkansas Highway Transportation Dept.; Arkansas Dept. of Emergency Management; Arkansas Parks and Tourism - State Parks; Arkansas Soil and Water Conservation Commission; Little Rock Public Works Department; Pulaski County Planning; Metroplan; Pulaski Area GIS (PAGIS); North Little Rock Community Development; Arkansas National Guard - Camp Robinson; Arkansas Game and Fish Commission

Federal - Public Agencies: U. S. Army Corps of Engineers; Natural Resources Conservation Service

Private: FTN Associates; InterAct; Urban Planning Associates; Acxiom; CenterPoint Energy; Nabholz Properties, Inc.; KATV

Many of the internship positions, especially those in the immediate Little Rock vicinity, are paying positions. Conway positions are generally non-paying. On numerous occasions, the interning student is hired, either temporarily or permanently, by the participating agency, or by another agency, soon after completion of the program. Students also have the opportunity to develop (i.e. locate) internship positions themselves, if the available position is related to the discipline of geography. This procedure requires screening and approval by the Geography Internship Coordinator. If you would like additional information on the Geography

Internship Program please contact: Dr. Jerry Reynolds, Geography Internship Program Coordinator, Irby 301C, 501/450-5639. jerryr@uca.edu.

**Social Science Laboratory**

A significant component of the Geography Program is the Social Science Laboratory located in Irby 213. Currently the lab contains 30 Dell workstations, one black-and-white and one color laser printer, a large format HP DesignJet printer; cartographic/GIS/remote sensing software including the full ESRI ArcGIS suite, ArcView 9.X, and Idrisi; Microsoft Office XP, and high-speed Internet access. Four Trimble Global Positioning System receivers and associated software (Pathfinder Office) are also in use in the lab, and spatial data abounds.

Students enrolled in Cartography, Remote Sensing, Geographic Information Techniques, Geographic Information Systems, Geographic Information Analysis, the GIS Certificate program, 3307 and 3309 (GIS in Practice: Applications in Business/Social Science and Environmental Studies) or other courses in of the Geography Program, or pursuing the GIS minor--as well as those in any discipline who wish to use the programs for their own work--can obtain lab privileges, which differ from regular student privileges within the lab environment (use of color printer and plotter, storage space and access to special geographic data). Any students, faculty, or other interested groups wishing to tour the lab can contact the director of the lab, Mary Sue Passé-Smith at (MARYSUEP@uca.edu) 450-3280 (Irby 301 E).

**H.L. Minton Center for Geospatial Analysis and Research**

The Minton Center was dedicated on national GIS Day, November 15, 2006. It was named for H. L. Minton, the first chair of the Department of Geography. The purpose of the Minton Center is to provide a space for student and faculty geospatial research, and completion of public service and contract projects obtained from public and private agencies and state and local governments.

Student interested in working in the Minton Center must have the requisite skills (cartography, GIS, and perhaps remote sensing) and have the time to work in the Minton Center a few hours a week. Interested students should contact Dr. Brooks Pearson, Director of the Minton Center, in his office (Irby 302 C) or phone (450-5581) or by e-mail (bpearson@uca.edu).

**The Burdick/McAlister Scholarship**

The Burdick/McAlister Scholarship Fund was created in 2001 by Dr. and Mrs. Alger Burdick. Dr. Burdick was the second chair of the Department of Geography. This scholarship is for full-time students majoring in geography or business and who are citizens of the United States. Entering freshmen eligibility: ACT of 24 or above and high school grade point average of 2.75 or above. Current student eligibility: 2.75 or above cumulative grade point average. Consideration is given to financial need. Contact the UCA Foundation at 450-5859 or go to:
http://www.uca.edu/divisions/academic/mba/Scholarships-Grants/burdickmcalister_scholarship.htm

**The Abney-Bradley Scholarship**

This is an academic scholarship that honors two former geography majors who passed away while attending UCA or soon after graduation from UCA: Billy B. Abney, Jr., from Jacksonville, Arkansas, and Duwayne C. Bradley, from Clinton, Arkansas.

The Abney-Bradley Scholarship is a $500 award presented to a junior geography major at the April Honors Convocation. The money goes toward the student's tuition. Please contact any geography faculty member for more information about this scholarship.

**Geography Graduates - Where Are They Now?**

'98 GIS Specialist, AHTD, Little Rock, AR
'98 GIS Specialist, NLR Community Development, North Little Rock, AR
'99 GIS Coordinator, AHTD, Little Rock, AR
'99 GIS Technician, Conway Corp, Conway, AR
'00 Planner, Pulaski County GIS, Little Rock, AR
'00 GIS Specialist, AHTD, Little Rock, AR
'00 GIS Specialist, AHTD, Little Rock, AR
'00 GIS Specialist, CAPDD, Lonoke, AR
'01 GIS Specialist, PAGIS, Little Rock, AR
'01 Computer Technician, UCA, Conway, AR
'01 Information Technology Specialist, UCA, Conway, AR
'01 GIS Director, Pulaski County Planning, Little Rock, AR
'02 GIS Technician, Interact, Little Rock, AR
'02 GIS Specialist, AHTD, Little Rock, AR
'03 GIS Specialist, AHTD, Little Rock, AR
'04 City Planner, Conway, AR
'05 Graduate School, University of Arkansas, Fayetteville, AR
'05 Southwest Energy, Conway
'05 Teacher, Monticello
'05 Department of Human Services, Little Rock
'05 US Army
'05 Graduate School, University of Montana
'06 Graduate School, United Kingdom
'06 Arkansas Capital Corporation Group, Little Rock
'06 Environmental Testing, Russellville
'06 GIS, Salt Lake City
'07 Arkansas Game and Fish, Little Rock
'07 Arkansas Oil and Gas
'07 Wiser Corporation, TN
'08 Southwest Energy, Conway
'08 Graduate School, MGIS, UCA
'08 Graduate School, Florida
'08 Pulaski Area GIS, Little Rock
'08 Fason Cabinets, Naylor, AR
'08 GIS, Camp Robinson
'08 Teacher Education, UCA
'08 Graduate School, Southern Illinois University
'09 US Navy
'09 US Army
'09 Americorp
'09 Arkansas Transportation and Highway Department
'09 Graduate School

# GENERAL EDUCATION PROGRAM

**To graduate from UCA, students must complete a minimum of 124 semester hours, including the general education program, major and possibly minor requirements, any special degree requirements, and 40 upper division (3000-4000) hours.**

**All students must take the following courses:**

**Writing**
(to be taken on initial enrollment unless requirement already met)
___ WRTG 1310 (Introduction to College Writing)
___ WRTG 1320 (Academic Writing & Research)
**OR**
___ HONC 1310 (Honors Core I)
___ HONC 1320 (Honors Core II)

**Health Studies**
___ HED/KPED 1320 (Concepts of Lifetime Health & Fitness)

**Oral Communication**
___ SPCH 1300 (Basic Oral Communication)

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**American History and Government—Choose 1**
___ HIST 2301 (American Nation I)
___ HIST 2302 (American Nation II)
___ PSCI 1330 (US Government & Politics)

**Behavioral and Social Sciences—Choose 2**
**(Must be from DIFFERENT disciplines)**
___ ANTH 1302 (Introduction to Anthropology)
___ ECON 1310 (Modern Political Economy)
___ ECON 2310 (Global Environment of Business)
___ GEOG 1305 (Principles of Geography)
___ GEOG 1300 (Geography of World Regions)
___ PSCI 1300 (Introduction to Political Science)
___ PSCI 1330 (US Government & Politics)
___ PSCI 2300 (International Relations)
___ PSYC 1300 (General Psychology)
___ SOC 1300 (Principles of Sociology)
___ HONC 1320 (Honors Core II)
___ HONC 2310 (Honors Core III)

**Fine Arts—Choose 1**
___ ART 2300 (Art Appreciation)
___ MCOM 2310 (Film Appreciation)
___ MUS 2300 (Music Appreciation)
___ THEA 2300 (Theatre Appreciation)
___ HONC 2320 (Honors Core IV)

**Humanities—Choose 1**
___ ENGL 1350 (Introduction to Literature)
___ ENGL 2370 (Introduction to Fiction)
___ ENGL 2380 (Introduction to Poetry)
___ ENGL 2390 (Introduction to Drama)
___ FREN 2320 **OR** GERM 2320 **OR** SPAN 2320 (Conversation-Composition II)
___ FYFS 1301 (First Year Seminar: Studies in Humanities)
___ PHIL 1301 (Philosophy for Living)
___ PHIL 2305 (Critical Thinking)
___ PHIL 2325 (Contemporary Moral Problems)
___ PHIL 2360 (Gender, Race, and Class)
___ RELG 1330 (Exploring Religion)
___ WLAN 2315 (Cultural Studies)
___ WLAN 2325 (Issues of Cultural Identity in Francophone Africa and the Caribbean)
___ HONC 1310 (Honors Core I)
___ HONC 2310 (Honors Core III)

**Mathematics—Choose 1**
___ MATH 1360 (Mathematics in Society)
___ MATH 1390 (College Algebra)
OR, **if required by the student's program of study**
___ MATH 1392 (Plane Trigonometry)
___ MATH1395 (Business Calculus)
___ MATH 1396 (Calculus for the Life Sciences)
___ MATH 1580 (Algebra and Trigonometry)
___ MATH 1591 (Calculus I)

**Natural Sciences—1 Biological, 1 Physical Required**

**Biological Science—Choose 1**
___ BIOL 1400 (Biology for General Education)
OR, **if required by the student's program of study**
___ BIOL 1440 (Principles of Biology I)

**Physical Science—Choose 1**
___ CHEM 1400 (Chemistry in Society)
___ PHYS 1400 (Physical Science for General Education)
___ PHYS 1401(Descriptive Astronomy)
OR, **if required by the student's program of study**
___ CHEM 1450 (College Chemistry I)
___ CHEM 1402 (Physiological Chemistry I)
___ PHYS 1405 (Applied Physics)
___ PHYS 1410 (College Physics I)
___ PHYS 1441 (University Physics I)

**World Cultural Traditions—3 courses required**

**History—Choose 1**
___ HIST 1310 (World History I)
___ HIST 1320 (World History II)

**Literature—Choose 1**
___ ENGL 2305 (World Literature I)
___ ENGL 2306 (World Literature II)

**Other World Culture Options—Choose 1**
___ ENGL 1330 (African & African-American Studies)
___ ENGL 2305 (World Literature I)
___ ENGL 2306 (World Literature II)
___ FYFS 1310 (First Year Seminar: Studies in World Cultural Traditions)
___ HIST 1310 (World History I)
___ HIST 1320 (World History II)
___ PHIL 1330 (World Philosophies)
___ RELG 1320 - World Religions
___ WLAN/WRTG 2350 (World Languages)
___ HONC 2310 (Honors Core III)

**NOTE:**
- If the ACT subject score is below 19 in reading, writing, or algebra, remediation is required .
- Some majors require specific general education courses.
- Courses may be used only once to satisfy the general education requirements.
- A minimum grade of C is required in some general education courses.
- **For additional information, consult your academic advisor or the undergraduate bulletin.**

Revised: 07/12/06

## BA/BS in Geography Major
## Check Sheet

**Name** _____ **Identification Number** _____

**Password** _____

**MAJOR IN GEOGRAPHY: 36 Hours**

| Course | Semester | Grade |
|---|---|---|
| 1315 INTRO TO PHYSICAL (FALL, SPRING, SUMMER ON DEMAND) | _____ | _____ |
| 1320 INTRO TO HUMAN (FALL, SPRING, SUMMER ON DEMAND) | _____ | _____ |
| 2330 QUANTITATIVE METHODS IN GEOGRAPHY (SPRING) | _____ | _____ |
| 2375 CARTOGRAPHY (FALL, SPRING) | _____ | _____ |
| 3300 WORLD REGIONAL GEOGRAPHY FALL, SPRING) | _____ | _____ |
| 3303 INTRO TO GIS (FALL, SPRING) | _____ | _____ |
| 4391* RESEARCH SEMINAR (FALL) | _____ | _____ |

**PLUS 15 hours of geography courses, all of which must be UPPER DIVISION:**

| | | |
|---|---|---|
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |

**TOTAL HOURS:** _____

**MINOR in Geography**: 24 hours (core includes 1315, 1320, 2375, 3300 plus 12 hours of geography courses, all of which must be upper division)

**MINOR in Geographic Information Science**: 21 hours (core includes 1315, 1320, 2330, 2375, 3303, 3306, and 4330. GIS minors may not be Geography majors.)

| Course | Semester | Grade |
|---|---|---|
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |

Total Hours: _____

***A passing grade in GEOG 2330, Quantitative Methods in Geography, is required prior to enrolling in GEOG 4391.**

CHECK
www.uca.edu/divisions/academic/geography/
FOR OTHER PERTINENT INFORMATION!

NOTES:

_____
_____
_____
_____
_____

For more information contact:

Department of Geography
University of Central Arkansas
201 Donaghey Avenue
301 Irby Hall
Conway, Arkansas 72035
Phone: 501-450-3164
Internet: http://www.uca.edu/divisions/academic/geography/