

Department of Geography

at

The University of
Central Arkansas



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DEPARTMENT FACULTY AND STAFF

Dr. Matthew Connolly – Assistant Professor

Ph.D. Texas State University

M.A. Texas State University

B.S. University of Colorado-Denver

Research Interests: Environmental Geography, Water Resources, Human-Environment Interaction, Geospatial Technologies

Dr. William Flatley – Assistant Professor

Ph.D. Texas A&M University

M.S. Virginia Tech

B.A. Dartmouth College

Research Interests: Biogeography, Forest Ecology, Wildfire Ecology, Climatology, Environmental History

Dr. Ellen Hostetter – Associate Professor in Geography and the Honors College

Ph.D. University of Kentucky

M.A. University of Kentucky

B.A. Rutgers University

Research Interests: Cultural Landscapes, Historical Geography, Landscape Architecture

Dr. Stephen O'Connell – Associate Professor and Chair

Ph.D. Oklahoma State University

M.S. Oklahoma State University

B.A. Mary Washington College

Research Interests: Recreation & Tourism, Historical Geography, Geospatial Technology Education

Ms. Mary Sue Passé-Smith – Senior Lecturer

M.A. University of Arkansas

B.S. University of Central Arkansas

Research Interests: Cartography, GIS, Hazards.

Dr. Brooks Pearson – Associate Professor

Ph.D. Indiana University

M.A. Kansas State University

B.S. Middle Tennessee State University

Research Interests: GIS, Remote Sensing, Historical Cartography

Dr. Ling Zhang – Assistant Professor

Ph.D. University of Utah

M.A. Beijing Normal University

B.A. East China Normal University

Research Interests: Economic Geography, Urban Geography, Spatial Modeling

Ms. Amy Adams – Administrative Specialist II

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ACADEMIC CALENDAR – 2018-2019

FALL SEMESTER (Full)

Thursday, August 23: Instruction begins

Wednesday August 29: Final date to register, add classes, or change credit and audit options; final date to drop classes with 100% refund.

Monday, September 3: *Labor Day Holiday*

Monday, September 10: Final date to drop classes with a 75% refund; 0% refund after this date.

Thursday, October 4 – Saturday, October 6: **Southwest AAG, Baton Rouge**

Thursday, October 11 – Sunday, October 14: *Fall Break*

Monday, October 15: Final date to pay at least 60% of bill before being dropped from classes.

Monday, October 29: Advance Registration for Spring 2018 begins.

Friday, November 9: Final date to officially withdraw from classes or the university with a W grade unless already dropped for non-attendance. After this date, only grades of A, B, C, D, F will be received.

Monday, November 12 – Friday, November 16: **Geography Awareness Week**

Wednesday, November 21 – Sunday, November 25: *Thanksgiving Break*

Friday, November 30: Final day to make degree application for December graduation.

Friday, December 7: Study Day

Saturday, December 8 – Friday, December 14: Final Exams

Saturday, December 15: Winter Commencement

Monday, December 17: Final grade report due, noon.

SPRING SEMESTER (Full)

Thursday, January 10: Instruction begins

Wednesday, January 16: Final date to register, add classes, or change credit and audit options; final date to drop classes with 100% refund.

Monday, January 21: *Dr. Martin Luther King Jr. Holiday*

Thursday, January 31: Final date to drop classes with a 75% refund; 0% refund after this date.

Monday, March 18: Final date to pay at least 60% of bill before being dropped from classes.

Sunday, March 17 – Sunday, March 24: *Spring Break*

Friday, March 29: Final date to officially withdraw from classes or the university with a W grade unless already dropped for non-attendance. After this date, only grades of A, B, C, D, F will be received.

Monday, April 1: Advance Registration for Summer and Fall 2019 begins.

Wednesday, April 3 – Sunday, April 7: **American Association of Geographers Meeting, Washington, DC**

Friday, April 19: Final date to make degree application for May graduation. Name will not be included in the commencement program.

Friday, April 26: Study Day

Saturday, April 27 – Friday, May 3: Final Exams

Saturday, May 4: Spring Commencement

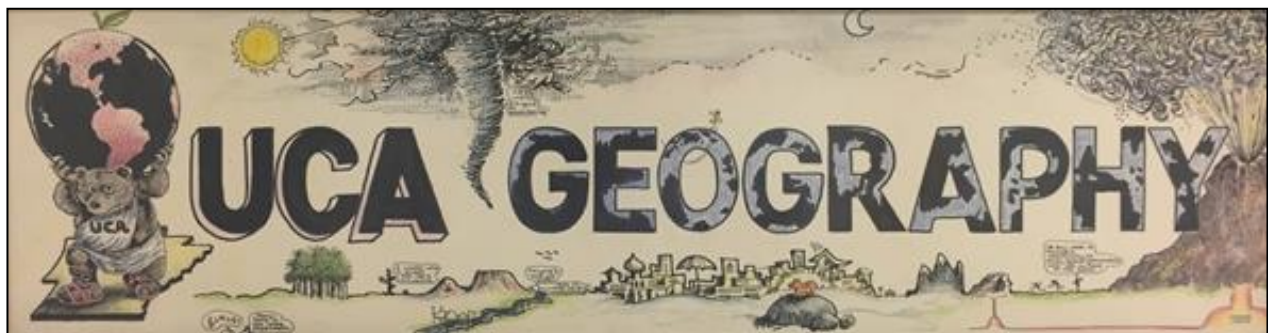
Tuesday, May 7: Final grade report due, noon.

History of the 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. 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. The department became the home for the Master of Community and Economic Development degree program in 2009. Dr. Stephen O'Connell joined in 2011. Dr. Mindy Conyers left the program in May 2012 and Dr. Kumkum Bhattacharyya joined the department as a Visiting Assistant Professor. Dr. Ellen Hostetter joined the department in a joint position with the Honors College in August 2012. Dr. Brooks Green retired in June 2013. Dr. Jeff Allender became Interim Chair; his title is changed to Chair of Geography in 2015. In July 2014, the Geography Department moved from the College of Liberal Arts to the College of Natural Sciences and Mathematics. Dr. Matthew Connolly joined the department in August 2014. In 2016, Dr. Jerry Reynolds retired; Dr. William Flatley was hired as his replacement. In 2017, Dr. Jeff Allender retired as Chair of the department; Dr. Stephen O'Connell assumed the role of Interim Chair of Geography, becoming Chair of Geography in 2018. In the same year, Dr. Yoder retired and Dr. Ling Zhang was hired as his replacement.



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: Arkansas, Missouri, UNC, Minnesota, Denver, S. Illinois, Memphis, 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.

UNDERGRADUATE DEGREES

Bachelor of Arts

The degree of Bachelor of Arts, with a major in geography, requires successful completion of 120 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. 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.

Bachelor of Science

The degree of Bachelor of Science, with a major in geography, requires successful completion of 120 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.* 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 UNIV 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. *No minor is required for Environmental Science: P&A track majors.

Geography Programs

Major in Geography (38 hours)

GEOG 1400, 1320, 2330, 2331, 2475, 3403, 4391, a class in regional geography, plus 12 hours of upper-division geography electives.

Major in Geography Geospatial Concentration (39 hours)

GEOG 1400, 1320, 2330, 2331, 2475, 3306, 3403, 3404, 4391, a class in regional geography, one upper-division GIS elective, plus 3 hours of upper-division geography electives.

Minor in Geography (23 hours)

GEOG 1400, 1320, 2475, a class in regional geography, plus 9 hours of upper-division geography electives.

Minor in Geographic Information Science (22 hours)

GEOG 1400, 1320, 2330, 2475, 3306, 3403, plus one upper-division GIS elective.

Possible self-created concentrations (not official; not contained in the Undergraduate Bulletin)

Regional – GEOG 1400, 1320, 2330, 2331, 2475, 3315, 3335, 3345, 3346, 3380, 4390, plus 4391.

Environmental – GEOG 1400, 1320, 2330, 2331, 2475, 3403, any five of: 3301, 3318, 3333, 3351, 3361, 4304, 4305, or 4308; plus 4391.

Cultural – GEOG 1400, 1320, 2330, 2331, 2475, 3403, 3305, 3325, 3371, 3381, 4391, plus 3 hours of upper-division geography electives.

Environmental Science Program

Major in Environmental Science – Planning & Administration Track (36 hours, P&A core; 82 hours total)

ES Core (34 hours), BIOL 3403, GEOG 2330, 2331, 2475, 3403, 3319, 3318 OR 3333, 3325 OR 3371, HIST 4301, PSCI 2305, WRTG 3310, plus 12 hours ES: P&A track electives.

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 4V60—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 Diversity in World Cultures Lower-Division Core requirement, but it may not count toward the geography major or minor.

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 Critical Inquiry / Social Science Lower-Division Core requirement, but it may not count toward the geography major or minor.

1320 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. This course may be taken to satisfy three hours of the Diversity in World Cultures Lower-Division Core requirement.

1400 EARTH SYSTEMS SCIENCE This course is a systematic study of the various components that make up the Earth's physical environment, weather, climate, vegetation, soil, and landforms using a lecture and laboratory format. Specific emphasis is placed on understanding interactions between the natural processes that create and modify the Earth System's four major subsystems (atmosphere, biosphere, hydrosphere, and lithosphere). Physical geographic perspectives (e.g., location, landscape interpretation, etc.) and the scientific method are incorporated into the lecture and laboratory settings to foster a holistic view of the Earth System, and provide students with a comprehensive overview of the physical world in which we live. This course satisfies the Natural Science/Physical Science requirement in the LD UCA Core; it cannot be used to fulfill the BS special degree requirement.

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.

2331 RESEARCH METHODS IN GEOGRAPHY Required course for geography majors. This course, through lectures, readings and assigned projects, introduces students to the significant components of contemporary geographic research methods. Topics may include the scientific method, research paper structure, citation methodology, archival research, field research methodology, writing and using surveys, the Institutional Review Board, and the use of geospatial technology in research. This course must be taken prior to or in conjunction with the first upper-division course in geography.

2475 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 cartographic design and convention, the construction of reference and thematic maps using mapping software, and the collection and classification of geographic data for mapping.

3V99 INTERNSHIP IN GEOGRAPHY (Variable credit: 3 or 6 credit hours.) 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.

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. On demand.

3301 CONSERVATION OF NATURAL RESOURCES 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.

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 1400 or consent of instructor.

3305 ECONOMIC GEOGRAPHY An upper-division elective. The course uses lectures and class discussions to provide a description and explanation of spatial patterns of economic activities, including manufacturing, transportation, information and financial services, and consumption. Classical location theories of Von Thunen, Weber, and Christaller are included along with contemporary theories of globalization. Prerequisite: GEOG 2331 or consent of instructor.

3306 INTRODUCTION TO REMOTE SENSING AND IMAGE INTERPRETATION An upper-division elective and a requirement for the Geospatial Concentration and geographic information science minors. This course introduces students to the history and science of remote sensing, as well as to the principles of image interpretation and basic photogrammetry. Classroom activities include lectures, lab exercises, and term projects. Prerequisite: GEOG 2331 or consent of the instructor.

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. Prerequisite: GEOG 2331 or consent of instructor. .

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 1400 or consent of instructor.

3319 GEOGRAPHIC FIELD TECHNIQUES An upper-division elective for geography majors/minors, minors in geographic information science, and others desiring field mapping methods, such as environmental science majors. This lecture/lab/field-oriented course introduces the student to the employment and capabilities of Global Navigation Satellite Systems (GNSS). Students will learn global positioning principles and problems and primary GNSS/GPS terminology; use a variety of GNSS receivers for positioning, navigating, tracking, and data logging in the field; configure GNSS units for customized use and interface with computers and GIS software; and understand how to correctly integrate GNSS information into GIS software for analysis and online mapping. Prerequisite: GEOG 2475.

3320 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 1400 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. Prerequisite: GEOG 2331 or consent of instructor.

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 1400 and 2331 or consent of instructor.

3335 GEOGRAPHY OF EUROPE AND RUSSIA An upper-division elective using a lecture and discussion format. Students will learn about the physical and human geography of Europe and the Russian Federation. Emphasis is on landforms, weather and climate, soils, vegetation, settlement, migration and expansion, agriculture, industry, urban and rural life, and politics. Prerequisite: GEOG 2331 or consent of instructor.

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.

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.

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.

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 1400 or consent of instructor.

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 2331 or consent of instructor.

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. Prerequisite: GEOG 2331 or consent of instructor.

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 and 2331 or consent of instructor.

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.

3403 GEOGRAPHIC INFORMATION SYSTEMS An upper-division elective for geography majors and a requirement for geography-geospatial majors and geographic information science minors. This computer lab-oriented course introduces the student to the realm, principles, and capabilities of a widely applicable technology, geographic information systems (GIS). A 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 2475 or consent of instructor.

3404 GEOGRAPHIC INFORMATION ANALYSIS An upper-division elective for geography majors and geographic information science minors and a requirement for geospatial track majors. 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 3403 or consent of instructor.

4V60 SPECIAL PROBLEMS IN GEOGRAPHY (Variable credit: 1-3 credit hours.) 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.

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 1400 and 2331 or consent of instructor.

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 1400 or consent of instructor.

4307 LOCATIONAL ANALYSIS AND DECISION MAKING WITH GIS An upper-division, project-based elective designed for students interested in the variety of applications of GIS, relevant to many disciplines beyond the major and minor in Geography or GIS. Topics may include site analysis, addressing global development issues, marketing/insurance analysis, crime analysis, urban planning/public administration uses, 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 3403 or consent of instructor.

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.

4309 GIS IN PRACTICE: ENVIRONMENTAL APPLICATIONS An upper-division, project-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 3403 or consent of instructor.

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. Prerequisite: GEOG 2331 or consent of instructor.

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.

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. Prerequisite: GEOG 2331 or consent of instructor.

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: GEOG 2231, junior status, 15 semester hours of geography, and a course in quantitative methods with a passing grade.

4406 INTRODUCTION TO DIGITAL IMAGE PROCESSING This course introduces advanced digital image processing techniques for remotely sensed data. Students will learn to transform satellite imagery through common geometric, radiometric, and atmospheric corrections. Students will also learn common thematic post-processing techniques such as band algebra, change detection analysis, and supervised classification. Classroom activities will include lecture, laboratory assignments, and a term project. Prerequisite: GEOG 3306 or consent of instructor.

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 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 investigate a subject and its implications more deeply than in the standard program of instruction and also be eligible to graduate with honors.

Required Credentials:

- Applicant must have a cumulative GPA of 3.25.
- Applicant must have a 3.5 GPA in the geography major.
- Applicant must have completed a minimum of 15 hours of geography coursework.

Additional Requirements:

- Applicant must have taken or be currently enrolled in Geography 4391—Research Seminar.
- Student will write a paper while enrolled in Geography 4360—Special Problems in Geography.
- Student must give an oral presentation and defense of their paper before an Undergraduate Scholars Committee, followed at a later date by a presentation at a geography student seminar.
- 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 their 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 PROGRAMS

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 and a Certificate in GIS by successfully completing five courses. The introductory course, GEOG 5310—Geographic Information Systems, presents fundamental theories, concepts, issues, and applications of geographic information systems while developing technical skills needed to be an effective online learner. Students are encouraged to enroll in GEOG 5310 as the entry point to the program. As a registered student in GEOG 5310, gain access to a student license of the most recent ArcGIS software from Esri. These software applications will be used in all courses of the Certificate Program.

After the introductory course 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 GIS, GEOG 6320—Technical Issues in GIS, and GEOG 6328—Spatial Analysis and Modeling. Any one of the following courses may be chosen to complete the five courses required for the Certificate: GEOG 6333—GIS for Planning & Public Admin, GEOG 5340—Database Design and Development, and GEOG 5345—Digital Image Processing for GIS.

Master of GIS

The Master of Geographic Information Systems (MGIS) degree is modeled after online Executive MBA programs which are popular and successful across the country. Students who enroll in the MGIS 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 job-retraining needs of someone interested in entering the GIS workforce.

The 30-hour, Master of GIS degree includes both a thesis and non-thesis option:

<u>Thesis Option</u>	<u>Non-Thesis Option*</u>
<p><i>Required Courses</i></p> <ul style="list-style-type: none"> 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 6V60—Directed Readings and Research GEOG 6380—GIS Research Methodology GEOG 6V90—Thesis Research (6 hours total) <p><i>Elective Courses</i></p> <ul style="list-style-type: none"> GEOG 5312—Health Applications of GIS GEOG 5340—Database Design and Development GEOG 6330—Environmental Applications of GIS GEOG 6333—GIS for Planning & Public Administration 	<p><i>Required Courses (21 hours)</i></p> <ul style="list-style-type: none"> GEOG 5310—Geographic Information Systems GEOG 5315—Mapping Fundamentals for GIS GEOG 5340—Database Design and Development GEOG 5345—Digital Image Processing for GIS GEOG 6320—Technical Issues in GIS GEOG 6328—Spatial Analysis and Modeling GEOG 6380—GIS Research Methodology <p><i>Elective Courses (9 hours)</i></p> <ul style="list-style-type: none"> GEOG 5312—Health Applications of GIS GEOG 6330—Environmental Applications of GIS GEOG 6333—GIS for Planning & Public Administration GEOG 6V60—Directed Readings and Research (3 hours)

* Students must submit a portfolio of sample work from GEOG 5315, 5340, 6328, and two additional courses.

Minimum Admission Requirements

Students must meet requirements of admission into UCA's Graduate School as outlined in the *Graduate Bulletin*, including a bachelor's degree and GPA of 2.70. Additionally, each student must have completed at least one college-level GIS course or be currently employed where GIS is frequently used. In consultation with MGIS faculty, exceptions to the GIS requirement may be considered.

Master of Science in Community and Economic Development

The Department of Geography is home of the Masters of Science in Community and Economic Development (MSCED) degree program. The MSCED program is not accepting new applicants, however current student will continue to be supported through August 2019.

Program Overview

The purpose of MSCED is to provide both experienced practitioners and new students with a comprehensive understanding of the theory and applications of state-of-the-art community and economic development tools and methods. Graduates will be prepared to act as catalysts for growth and change through a community development process.

<u>General Program</u>	<u>Planning Concentration</u>
<i>Required Courses (24 hours)</i>	<i>Required Courses (30 hours)</i>
CED 6305—Intro to CED CED 6310—CED Seminar CED 6311—Leadership & Decision Making CED 6315—Applied Research Methods & Analysis CED 6330—Community Development Policy Analysis CED 6340—Economic & Industrial Development CED 6350—Financing CED CED 6370—CED Internship	CED 6305—Intro to CED CED 6310—CED Seminar CED 6311—Leadership & Decision Making CED 6313—Transportation and Infrastructure CED 6315—Applied Research Methods & Analysis CED 6320—Holistic Planning and the Community CED 6330—Community Development Policy Analysis CED 6340—Economic & Industrial Development CED 6350—Financing CED CED 6370—CED Internship
<i>Electives (12 hours)</i>	<i>Electives (6 hours)</i>
CED 6101—CDI I CED 6102—CDI II CED 6103—CDI III CED 6301—Project Management CED 6302—Leadership & Community Organizations CED 6313—Transportation and Infrastructure CED 6318—Budgeting CED 6320—Holistic Planning and the Community CED 6335—Grant Writing CED 6360—Cultural Differentiation and Outreach 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 6333—GIS for Planning & Public Administration	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 6333—GIS for Planning & Public Administration

ADDITIONAL INFORMATION

Internship Program

The Geography Internship Program is designed to provide students with the opportunity to gain valuable, professionally-related work experience, while applying their learned skills. 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 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.

Required Qualifications:

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

Students interested in pursuing an internship are encouraged to reach out to potential agencies for availability. Internships opportunities that may become available will be distributed to majors and minor via UCA email, Department social media accounts, or postings in the GIS Lab or main Geography board. Once a suitable internship position is identified, the student should complete and internship application, available through Geography Internship Coordinator. Application screening by the Geography Internship Coordinator will follow. If approved, the student shall interview with selected the agency to determine appropriate hours and responsibilities. Once both student and agency are in agreement, the student, employer, and internship coordinator sign an internship agreement.

During the work assignment the student shall report on a predetermined schedule. In the context of the signed internship agreement, the student will perform duties at the agency in a professional and responsible manner. Over the course of the internship, the student will meet periodically with the Internship Coordinator to discuss progress; the Internship Coordinator may also contact the Intern Supervisor at the agency to assess intern performance. Once the intern completes the required hours, a summary report will be written by the student and a final evaluation by the Intern Supervisor will be submitted. These documents will be used in determining the final grade for internship hours. In the written report, the student will evaluate the specific internship position including both skills developed and challenges encountered. An in-person meeting between the student and Internship Coordinator will complete the semester assignment.

Geography Internship Program, Selected Prior Agencies or Organizations:

Public Agencies – State and Local:

- Conway City Planning
- AR Highway Transportation Dept.
- AR Dept. of Emergency Management
- AR Soil & Water Conservation Commission
- AR State Parks
- Metroplan
- Pulaski Area GIS (PAGIS)

Public Agencies - Federal:

- U. S. Army Corps of Engineers
- Natural Resources Conservation Service

Private:

- InterAct
- Urban Planning Associates
- Acxiom
- CenterPoint Energy
- Garver & Associates

Some internship positions may be paying positions though Conway positions are generally non-paying. On occasion, an interning student is hired—either temporarily or permanently—by the participating agency soon after completion of the program. If you would like additional information on the Geography Internship Program please contact Dr. O’Connell, Geography Internship Program Coordinator, Burdick 318F, 501-450-3164 or soconnell@uca.edu.

ArcGIS Online User Policy

The purpose of this policy is to provide users of the University of Central Arkansas ArcGIS Online Organization (AGO) with usage guidelines and limitations. Access to AGO is made possible through a campus-wide site license with the software company Esri; users who agree to the following guidelines and policies also agree to the terms of the software license. Receipt of this policy and subsequent access of the UCA AGO indicates an acceptance of the terms.

Background

Training with and use of geographic information system (GIS) software is an integral part of the mission of the Geography Department at UCA. To better facilitate GIS use across campus, the University entered into a campus-wide site license agreement with the manufacturer of ArcGIS, Esri. Along with access to more traditional desktop versions of ArcGIS software, this license granted access to a newer, online version, known as ArcGIS Online. Though limited in functionality relative to the desktop versions, AGO provides a user-friendly entry point to GIS and spatial data for a broader audience. With the goal of introducing GIS as a tool for other members of the UCA community, the Geography Department is coordinating efforts to introduce AGO beyond the department. As administrators of the AGO Organization for UCA, the Geography Department established the policies and guidelines set forth in this document.

Access Privileges

Use of AGO is intended for a broad audience across campus, however the license is limited to a specific number of unique accounts. With that in mind, the prioritization for use of the UCA AGO Organization is: first, UCA students in related courses or disciplines; second, UCA faculty with basic spatial analysis needs; and third, campus units needing mapping and visualization services. Any member of the UCA community with a demonstrated need for the use of online GIS capabilities can request a user account from the site Administrators; accounts will be distributed on a first-come, first-served basis until all available accounts are taken.

User Accounts

Roles

Access to the UCA AGO is done through assigned accounts and each individual user must access AGO using a designated user account and password. Because there are different levels of potential use across campus, different users will be granted different 'roles' within the AGO environment. Currently, there are three such roles, as follows:

- User
- Publisher
- Administrator

The role assigned to a user account will be selected at the discretion of the AGO administrators, in the context of the intended application by the user and level of GIS analysis required. Additional custom roles may be employed in the future as needed and as available within the AGO environment.

Types

User accounts in the UCA AGO will be classified into two distinct types based on the intended use of the individual and the context of that use. Long-term or indefinite-use accounts will be differentiated from short-term or limited-use accounts by this classification. The two types of accounts are:

- *Named Accounts*
- *Generic Accounts*

Named accounts are intended for long-term use and will be maintained within the AGO Organization for as long as the user remains at UCA and requires access to the online GIS platform. By default, these accounts will use the UCA Username for each individual; an initial password will be generated for each user, however each individual will be responsible for maintaining their own account information following the first sign in. All users

granted a Named account must have prior GIS knowledge OR complete a short GIS training workshop by Geography faculty. Members of the following groups might be eligible for Named accounts:

- Majors in programs where GIS use is common across a variety of courses
- Faculty teaching courses that employ GIS
- Faculty conducting research that requires basic spatial analysis
- Staff in units or offices that use GIS for mapping or reporting functions

Generic accounts are intended for short-term use—typically one semester or less—and will be reset at the conclusion of the access period. These accounts will use a standard username format, such as Student_### for a course roster or Workshop-### for temporary accounts needed for trainings and other purposes. Prior knowledge of GIS is not required for generic accounts.

Data Management

UCA AGO users are able to create, save, and store GIS-related files within their accounts. Storage of large files, creation of new layers, and analysis using embedded tools in the AGO environment require the use of 'credits'. As with the number of unique user accounts, the UCA AGO has a limited number of credits per academic year. Depending on the designated user role or type, each user may be limited to the number of credits available for use. All users should refer to the standard credit use structure, found at the Esri website, when budgeting available credits. If additional credits are required, a user must contact a UCA AGO Administrator.

Account Termination

All UCA AGO accounts are intended for use by members of the UCA campus. If an account holder is determined to no longer be affiliated with UCA, their account—and all data contained within the account—will be deleted. If an existing account holder has not logged into the UCA AGO for a period exceeding twelve (12) months, regardless of their affiliation with UCA, their account will be deleted. Other potential reasons for account termination include, but are not limited to: using an AGO account for activities not related to UCA functions, storage of unauthorized data or files in the AGO system, distribution or publication of sensitive or inappropriate materials, and violation of the policies set forth in this document or in the Esri Use License.

Any AGO user who wishes to transfer saved items from the UCA AGO to another AGO Organization must contact the UCA AGO Administrators at least six (6) weeks prior to their departure from UCA to coordinate the process.

GIS Laboratory

A significant component of the Geography Program is the Geographic Information Systems Laboratory located in Burdick 313. Currently the lab contains: 25 workstations, one black-and-white and one color laser printer, a large format HP DesignJet printer, the full ESRI ArcGIS suite and Imagine remote sensing software, Microsoft Office XP, and high-speed Internet access. Four Trimble Global Positioning System receivers and associated software are also available for use.

Students enrolled in Cartography, Remote Sensing, Geographic Information Systems, Geographic Information Analysis, Geographic Field Techniques, Locational Analysis, or Environmental Applications generally have priority access in the lab. Students in other courses in the Geography Program, those pursuing the GIS minor, or students who wish to use the programs can obtain lab privileges, which may differ from regular student privileges within the lab environment. Any students, faculty, or other interested groups contact the director, Mary Sue Passé-Smith at MARYSUEP@uca.edu or 450-3434 (Burdick 309 E).

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, rank in the upper 35 percent of their class, and have completed at least three semesters of college course work. Interested students can contact Dr. O'Connell at (501) 450-3164 or soconnell@uca.edu.

Geography Club

The Geography Club is open to any interested UCA student. This club promotes Geography through on-campus and community activities and events. In the past, club members have participated in Conway EcoFest, developed plans for annual Geography Awareness Week celebrations, and organized float trips and hikes. Interested students can contact Dr. O'Connell at (501) 450-3164 or soconnell@uca.edu or request to join the Geography Club through OrgSync/myUCA.

Graduate Assistantships

The Department of Geography has funds to employ Graduate Assistants. Full-time GA's must be enrolled full time, 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. Graduate Assistants must have a GPA of 3.0. Interested students should contact Dr. O'Connell.

H.L. Minton Center for Geospatial Analysis and Research

The Minton Center was dedicated on national GIS Day, November 15, 2006. 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-led geospatial research, and completion of public service and contract projects obtained from public and private agencies and state and local governments. Students interested in working in the Minton Center must have the requisite skills in cartography, GIS, and remote sensing and have the time to work in the Minton Center a few hours a week. Interested students should contact Dr. O'Connell in Burdick 318F, by phone at 450-3164, or by e-mail at soconnell@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 450-5288 or go to: <http://uca.edu/foundation/foundation-scholarships-2/>

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 – What do our Alumni do?

- Associate Director - Conway Regional Health Foundation, Conway
- Attached Service Specialist - Hewlett-Packard Call Center, Conway
- GIS Analyst - DeSoto Gathering Company, LLC, Conway
- GIS Technician - Southwest Energy-Midstream, Conway
- GIS/Surveying Supervisor - SWN Midstream Company, Conway
- Lecturer II, Lab Administrator - College of Natural Science and Mathematics, UCA, Conway
- Planner - City of Conway
- President and CEO - Conway Chamber of Commerce and Conway Development Corporation, Conway
- City Planner - North Little Rock
- GIS Analyst - Caliper Corporation, Camp Robinson, North Little Rock
- GIS Project Manager - InterAct Public Safety Systems, North Little Rock
- GIS Technician - InterAct Public Safety, North Little Rock
- Owner/Operator - Trigon Engineering, Maumelle
- Advanced Programs and Contracts Specialist - Arkansas Highway and Transportation Department, Little Rock
- Beautification Coordinator - Environmental Division, Arkansas Highway and Transportation Department, Little Rock
- Cartographer - Arkansas Highway and Transportation Department, Little Rock
- Cartographer/GIS Specialist - USDA/NRCS, Little Rock
- Environmental Analyst - Arkansas Highway and Transportation Department, Little Rock
- Environmental Division - GIS Section, Arkansas Highway and Transportation Department, Little Rock
- GIS Analyst - Arkansas Geographic Information Office, Little Rock
- GIS Analyst - Arkansas Oil and Gas Commission, Little Rock
- GIS Analyst - FTN Associates Ltd., Little Rock
- GIS Analyst - UALR, Institute for Economic Advancement, Little Rock
- GIS Planner - Metroplan, Little Rock
- GIS Specialist - North Little Rock Planning Department, Little Rock
- GIS Technician - Pulaski County Planning and Development, Little Rock
- GIS/Mapping Specialist - Pulaski County Assessor, Little Rock
- Program Manager, Arkansas Department of Human Services, Little Rock
- Research Assistant - Emergency Medicine, UAMS, Little Rock
- Senior Rate Analyst - Arkansas Electric Coop Corporation, Little Rock
- Staff Pavement Management Engineer - Arkansas Highway and Transportation Department, Little Rock
- GIS Manager - First Electric Cooperative, Jacksonville
- Environmental Inspector - Garland County, Hot Springs
- Study Director - Hot Springs Metropolitan Planning Organization, Hot Springs
- 4-H Program Assistant - U of A Division of Agricultural Extension Service, Mountain View
- Senior Registered Client Associate - Wells Fargo Advisors, Mountain Home
- Electric Meter Reader - Oklahoma Gas and Electric, Fort Smith
- Program Technician - U of A Agricultural Cooperative Extension Service, Fayetteville
- Director, Development and Planning - City of West Memphis
- Land Use Control Manager - Shelby County Office of Planning and Development, Memphis, Tennessee
- Department of Veterans Affairs, Muskogee, Oklahoma
- Flight School - Fort Ruckers, Alabama
- GIS Analyst - Heery International, Jacksonville, Florida
- Graduate Student - University of Central Florida, Orlando, Florida
- Graduate Student - Southern Illinois University, Carbondale, Illinois
- Planner - Wichita, Kansas
- Professor of Biology - Franklin College, Franklin, Indiana
- Graduate Student - University of Louisville, Louisville, Kentucky
- Project Manager - Pinnacle Roofing and Restoration, LLC, Denver/Boulder, Colorado
- GIS Technician - San Juan Water Commission, Farmington, New Mexico
- Senior Consultant - DemandTec, San Mateo, California
- Geospatial Analyst - Department of Defense, Honolulu, Hawaii
- Archaeologist - State of Queensland, Australia

Lower-Division UCA Core Check Sheet, AY 2017–18

Check sheet updated 2017-06-08

* Courses identified with an asterisk have prerequisites; consult the *Undergraduate Bulletin course pages* for details.

† Courses identified with a dagger may be used in the UCA Core if required by the student's program of study or with the consent of the advisor and course instructor. *Breadth Requirements:*

Fine Arts and Humanities: Students must take at least one course in the Fine Arts (FA) and one in the Humanities (HUM) to fulfill lower-division (L/D) requirements.

Social Science: All students are required to take six credits of social science. To complete the LD UCA Core in 38 credit hours, students should take, in addition to the Social Science course taken in the Critical Inquiry category, a Social Science course in either the Diversity in World Cultures or the Responsible Living category.

First-Year Seminar. During the first year, one course – from the Critical Inquiry, Diversity, or Responsible Living category – must be a First-Year Seminar (FYS). See the online class schedule to find FYS sections.

[1] Critical Inquiry

Quantitative – Choose 1

- MATH 1300 Quantitative Literacy [MATH1113]
- MATH 1390 College Algebra [MATH1103]
- MATH 1392 Plane Trigonometry*† [MATH1203]
- MATH 1395 Applied Mathematics for Business (*was:* Business Calculus)*†
- MATH 1491 Calculus for the Life Sciences*†
- MATH 1580 Algebra & Trigonometry*† [MATH1305]
- MATH 1496 Calculus I*† [MATH2405]

Physical Science – Choose 1

- CHEM 1400 Chemistry in Society [CHEM1004]
- PHYS 1400 Physical Science for General Education [PHSC1004]
- PHYS 1401 Descriptive Astronomy [PHSC1204]
- GEOS 1400 Earth Systems Science [PHSC1104]
- CHEM 1450 College Chemistry I*† [CHEM1414]
- CHEM 1402 General Chemistry for Health Sciences*† [CHEM1214]
- PHYS 1405 Applied Physics*†
- PHYS 1410 College Physics 1*† [PHYS2014]
- PHYS 1441 University Physics 1*†† [PHYS2034]

Life Science – Choose 1

- BIOL 1400 Exploring Concepts in Biology [BIOL1004]
- BIOL 1401 Exploring Ecology & the Environment [BIOL1004]
- BIOL 1402 Exploring Human Biology [BIOL1004]
- BIOL 1410 Human Anatomy & Physiology I† [BIOL2404]
- BIOL 1440 Principles of Biology I*† [BIOL1014]

American History and Government – Choose 1

- HIST 2301 The Making of America (*was:* American Nation I) [HIST1113]
- HIST 2302 America in the Modern Era (*was:* American Nation II) [HIST2123]
- PSCI 1330 US Government & Politics [PLSC2003]

Social Science – Choose 1

- BUAD 2301 College of Business Travel Class for Critical Inquiry (SS)
- ECON 2320 Principles of Macroeconomics (SS)* [ECON2103]
- ECON 2321 Principles of Microeconomics (SS)* [ECON2203]
- GEOG 1305 Principles of Geography (SS) [GEOG1103]
- HIST 2360 From Stonehenge to Popish Plots: A History of England to 1688 (SS)
- MGMT 2341 Principles of Management (SS)
- PSCI 1300 Introduction to Political Science (SS)
- PSCI 1330 US Government & Politics (SS) [PLSC2003] (if used for American History and Government, cannot be used to fulfill the Social Science requirement)
- PSCI 2300 International Relations (SS)
- PSYC 1300 General Psychology (SS) [PSYC1103]
- SOC 1300 Principles of Sociology (SS) [SOC11013]

Fine Arts/Humanities – Choose 1

- ART 2300 Art Appreciation (FA) [ARTA1003]
- AFAM 1330 African & African-American Studies (HUM)
- ENGL 1350 Introduction to Literature (HUM)
- ENGL 1355 Film & Literature (HUM)
- ENGL 1373 FYS: Humanities
- FILM 2300 Film Appreciation (FA)
- FREN 2320 Intermediate II [FREN2023] / GERM 2320 Intermediate II [GERM2023] / SPAN 2320 Intermediate III / CHIN 2320 Intermediate Chinese II* (HUM)
- LALS 2310 Latinos in the United States (HUM)
- PHIL 1301 Philosophy for Living (HUM) [PHIL1103]
- PHIL 1373 FYS: Humanities (HUM)
- PHIL 2305 Critical Thinking (HUM) [PHIL1003]
- RELG 1330 Exploring Religion (HUM)
- THEA 2300 Theatre Appreciation (FA) [DRAM1003]
- WLAN/LING 2350 World Languages (HUM)
- ART 2325 Asian Art Survey†
- ART 2335 Art History, Prehistoric to Medieval† [ARTA2003]

Lower-Division UCA Core Check Sheet

<http://uca.edu/academicbulletins/ld-uca-core/>

Fine Arts/Humanities, cont.

- ART 2336 Art History, Renaissance to Modern† [ARTA2103]
- HONC 1310 Honors Core I† (HUM)

[2] Effective Communication

Writing Foundation – Choose 1

Writing Foundation must be taken upon initial enrollment unless the student has already met the requirement or remediation is required.

- WRTG 1310 Introduction to College Writing [ENGL1013]
- HONC 1310 Honors Core I†

Research and Writing – Choose 1

- WRTG 1320 Academic Writing & Research [ENGL1023]
- ENGL 1320 Interdisciplinary Writing & Research [ENGL1023]
- HONC 1320 Honors Core II†

Oral Communication – Choose 1

- COMM 1300 Principles of Communication [SPCH1003]
- MGMT 2301 Business Communication [BUSI2013]
- MKTG 2376 Business Innovation & Creativity†

[3] Diversity

Diversity in Creative Works – Choose 1

- COMM 1305 Communication, Culture, & the Arts (FA)
- ENGL 2370 Introduction to Fiction (HUM)
- ENGL 2380 Introduction to Poetry (HUM)
- ENGL 2390 Introduction to Drama (HUM)
- MUS 2300 Music Appreciation (FA) [MUSC1003]
- WLAN 2315 Cultural Studies (HUM)
- WRTG 1374 FYS: Diversity in Creative Works (FA)
- WRTG 2310 Introduction to Creative Writing (FA) [ENGL2013]
- HONC 2320 Honors Core IV† (FA)
- MUS 1340 Introduction to Music Literature† (FA)

Diversity in World Cultures – Choose 1

- ANTH 1302 Introduction to Anthropology (SS) [ANTH1013]
- BUAD 2302 College of Business Travel Class for Diversity in World Cultures (SS)
- ECON 2310 Global Environment of Business (SS)
- ENGL 2305 World Literature I (HUM) [ENGL2113]
- ENGL 2306 World Literature II (HUM) [ENGL2123]
- ENGL 2320 Asian Literature (HUM)
- GEOG 1300 Geography of World Regions (SS) [GEOG2103]
- GEOG 1320 Human Geography (SS) [GEOG1113]

Diversity in World Cultures, cont.

- HBST 1377 Study Abroad Seminar (health and behavioral sciences)
- HIST 1310 Mummies–Mongols: World History I (SS) [HIST1113]
- HIST 1320 Galileo–Gandhi: World History II (SS) [HIST1123]
- HIST 1375 FYS: Diversity in World Cultures (SS)
- HIST 1399 A History of Today: The World Since 1945 (HUM)
- HIST 2310 Introduction to Asian History (HUM)
- LALS 2300 Latin American Cultures (HUM)
- LING 1310 Language, Culture, & Society (SS)
- PHIL 1330 World Philosophies (HUM)
- RELG 1320 World Religions (HUM)
- WLAN 2325 Issues of Cultural Identity in the African Diaspora (HUM)
- HONC 2310 Honors Core III† (HUM)

[4] Responsible Living – Choose 1

- ACAD 1300 Journeys to Success
- BUAD 2303 College of Business Travel Class for Responsible Living (SS)
- COMM 1306 Communication & Civic Engagement
- ECON 1310 Modern Political Economy (SS)
- EDUC 2330 Topics in Social Justice in Teaching & Learning (SS)
- ENGL 1345 Introduction to Literature & Social Responsibility (HUM)
- ENGR 1301 Introduction to Engineering
- EXSS 1320 Foundations of Wellness
- FACS 2341 Lifespan Development
- FACS 2351 Family Relations
- FINA 2330 Personal Finance (SS)
- H ED 1320 Essentials of Health & Wellness
- H ED 2320 Mental Health (SS)
- MCOM 1300 Media & Society
- NUTR 1300 Foundations of Nutrition
- PHIL 2325 Contemporary Moral Problems (HUM)
- PHIL 2300 Gender, Race, & Class (HUM)
- PSCI 2315 Introduction to Political Theory (SS)
- SOC 2325 Social Problems (SS) [SOC12013]
- WRTG 2325 Introduction to Rhetoric
- HONC 1320 Honors Core II† (SS)
- HONC 2310 Honors Core III† (HUM)

Checklist for Geography or Geography with a Geospatial Concentration

Geography Major:
39 hours

Geospatial Concentration Major:
40 Hours

_____	1400: EARTH SYSTEMS SCIENCE <i>(Fall & Spring)</i> <i>(Fulfills lower Core Physical Science requirement)</i>	_____
_____	1320: HUMAN GEOGRAPHY <i>(Fall & Spring)</i> <i>(Fulfills the lower Core Diversity requirement)</i>	_____
_____	2330: QUANTITATIVE METHODS <i>(Fall)</i>	_____
_____	2331: RESEARCH METHODS IN GEOGRAPHY <i>(Spring)</i> <i>(Take ASAP, a prerequisite for all upper level courses)</i>	_____
_____	2475: CARTOGRAPHY <i>(Fall & Spring)</i> <i>(Take ASAP, a prerequisite for 3403)</i>	_____
_____	3403: GEOGRAPHIC INFORMATION SYSTEMS <i>(Fall & Spring)</i> <i>(Prerequisite for 3404)</i>	_____

ONE OF THE FOLLOWING REGIONAL CLASSES: *(upper Core Diversity requirement)*

_____	3380: ARKANSAS <i>(Fall Even)</i> ; or 4390: HISTORICAL GEOG. OF U.S. <i>(Fall Odd)</i>	_____
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_____	4391: RESEARCH SEMINAR <i>(Fall)</i>	_____
_____	GEOGRAPHY ELECTIVE	_____

_____ GEOGRAPHY ELECTIVE

_____ GEOGRAPHY ELECTIVE

3306: REMOTE SENSING AND IMAGE INTERPRETATION *(Spring)* _____

3404: GEOGRAPHIC INFORMATION ANALYSIS *(Spring)* _____
(Prerequisite for either 4307 or 4309)

CHOOSE ONE OF THE FOLLOWING CLASSES:

4307: GIS IN PRACTICE: LOCATIONAL ANALYSIS & DECISION MAKING IN GIS *(Spring/on demand?)* _____

OR

4309: GIS IN PRACTICE: ENVIRONMENTAL APPLICATIONS *(Fall)*

OR

3319: GEOGRAPHIC FIELD TECHNIQUES *(Fall)*

_____ GEOGRAPHY ELECTIVE

TOTAL HOURS

Checklist for Geography or GIS Minors

Geography Minor:

Geographic Information Science Minor:

22 hours

22 Hours

<u>GEOGRAPHY CORE COURSES</u>	
_____	1400: EARTH SYSTEMS SCIENCE <i>(Fall & Spring)</i> <i>(Fulfills lower Core Physical Science requirement)</i>
_____	1320: HUMAN GEOGRAPHY <i>(Fall & Spring)</i> <i>(Fulfills the lower Core Diversity requirement)</i>
_____	2475: CARTOGRAPHY <i>(Fall & Spring)</i> <i>(Take ASAP, a prerequisite for 3403)</i>
	2330: QUANTITATIVE METHODS <i>(Fall)</i> _____
	3306: REMOTE SENSING & IMAGE INTERPRETATION <i>(Spring)</i> _____
	3403: GEOGRAPHIC INFORMATION SYSTEMS <i>(Fall & Spring)</i> <i>(Prerequisite for 3404)</i> _____
	3404: GEOGRAPHIC INFORMATION ANALYSIS
	or
	3319: GEOGRAPHIC FIELD TECHNIQUES
	or _____
	4307: LOCATIONAL ANALYSIS AND DECISION MAKING
	or
	4309: GIS IN PRACTICE: ENVIRONMENTAL APPLICATIONS
	3380: GEOGRAPHY OF ARKANSAS
	or
	4390: HISTORICAL GEOGRAPHY OF THE US
_____	GEOGRAPHY ELECTIVE
_____	GEOGRAPHY ELECTIVE
_____	GEOGRAPHY ELECTIVE

TOTAL HOURS

Environmental Science - Planning and Administration Check Sheet

ES core requirements for all 3 ES tracks: 34 hours

For information, contact: Dr. Connolly

P&A core requirements: 36 hours

mconnolly@uca.edu

Elective courses for the ES: P&A track: 12 hours

(501) 852-2640

82 hours = **B.S. Environmental Science/Planning & Administration track**

ES core requirements for all 3 ES tracks (34 hours):

	When Offered	Prerequisite(s)
BIOL 1440 Principles of Biology I	Fall, Spring, Summer	None
BIOL 1441 Principles of Biology II	Fall, Spring, Summer	BIOL 1440 with C or better
CHEM 1450 College Chemistry I	Fall, Spring, Summer	None
CHEM 1451 College Chemistry II	Fall, Spring, Summer	CHEM 1450 with C or better
GEOG 1400 Earth Systems Science	Fall, Spring	None
GEOG 3301 Conservation of Natural Resources	Fall	GEOG 2331 or consent of instructor
ENVR 3410 Environmental Theory and Application	Fall	BIOL 1441, CHEM 1451, GEOG 1400
ENVR 4410 Practicum in Environmental Science	Spring	ENVR 3410, junior status or higher
PSCI 3320 Environmental Policy and Regulation	Fall	PSCI 1330 & PSCI 2305

Planning and Administration Track (48 hours)

P&A core requirements (36 hours):

	When Offered	Prerequisite(s)
BIOL 3403 General Ecology	Fall, Spring, (often Summer)	BIOL 1441 with C or better and GEOG 2330
GEOG 2330 Quantative Methods	Fall	None
GEOG 2331 Research Methods in Geography	Spring	None
GEOG 2475 Cartography	Fall, Spring (usually T or W, 6:00-9:00)	None
GEOG 3403 Introduction to Geographic Information Systems	Fall, Spring (often T or W, 6:00-9:00)	GEOG 2475
GEOG 3318 Biogeography //or// GEOG 3333 Geo. of Nat. Hazards	Spring, odd years//Spring, even	GEOG 1400, GEOG 2331 or consent
GEOG 3319 Geographic Field Techniques	Fall	GEOG 2475
GEOG 3325 Urban & Regional Plan //or// GEOG 3371 Urban Geo.	Spring, even years /// Spring, odd	GEOG 2331
HIST 4301 American Environmental History	Spring	None
PSCI 2305 Introduction to Public Administration	Fall, Spring	PSCI 1330
WRTG 3310 Technical Writing	Fall, Spring	WRTG 1320

Elective courses for the ES: P&A track (12 hours):

	When Offered	Prerequisite(s)
ANTH 3340 Environmental Anthropology	Spring	ANTH 1302
ANTH 4395 Special Topics in Anthropology	Spring, odd years	ANTH 1302
BIOL 2490 Genetics	Spring, Fall	BIOL 2490 with C or better
BIOL 3390 Economic Botany and BIOL 3190 Economic Botany Lab	Spring, odd years	BIOL 2490 with C or better
BIOL 3410 Vertebrate Zoology	Spring, odd years; Summer	BIOL 2490 with C or better
BIOL 4401 Invertebrate Zoology	Spring, odd	BIOL 2490 with C or better
BIOL 4404 Plant Taxonomy	Fall	BIOL 2490 with C or better
BIOL 4406 Mammalogy	Fall, odd years	BIOL 2490 with C or better
BIOL 4407 Orthinology	Spring, odd years	BIOL 2490 with C or better
BIOL 4415 Evolution	Spring & Fall even years	BIOL 2490 with C or better
BIOL 4440 Entomology	Fall odd	BIOL 2490 with C or better
BIOL 4442 Restoration Ecology	Spring, odd years	BIOL 3403 General Ecology
BIOL 4455 Ichthyology	Spring, even years	BIOL 2490 with C or better
BIOL 4470 Biology of Seed Plants	Spring, odd years	BIOL 2490 with C or better
ENVR 4465 Environmental Toxicology	Spring, even years	BIOL 2490, CHEM 1451, MATH 2311 or equiv
GEOG 3306 Remote Sensing and Image Interpretation	Spring	None
GEOG 3318 Biogeography	Spring, odd years	GEOG 1400
GEOG 3320 Field Studies	On Demand	GEOG 1400 or GEOG 1320
GEOG 3325 Urban & Regional Planning	Spring, even years	GEOG 2331
GEOG 3333 Geography of Natural Hazards	Spring, even years	GEOG 1400, GEOG 2331
GEOG 3351 Weather and Climate	Fall, odd years	None
GEOG 3361 Landforms	On Demand	GEOG 1400
GEOG 3371 Urban Geography	Spring, odd years	GEOG 2331
GEOG 3399 or 3699 Internship in Geography	Fall, Spring, Summer	15 hours in GEOG
GEOG 3404 Geographic Information Analysis	Spring	GEOG 3403
GEOG 4160/4260/4360 Special Problems in Geography	Fall, Spring, Summer	12 hours in GEOG
GEOG 4303 Water Resources	Fall, even years	GEOG 1400, GEOG 2331
GEOG 4305 Soils	On Demand	GEOG 1400
GEOG 4307 Locational Analysis and Decision Making with GIS	Spring, even years	GEOG 3404
GEOG 4308 Oceanography	On Demand	GEOG 1400
GEOG 4309 GIS in Practice: Environmental Applications	Spring	GEOG 3404
GEOG 4313 Recreation and Tourism	Spring, odd years	None
MIS 2343 Desktop Decision Support Strategies	Fall, Spring, Summer	None
MIS 3321 Managing Systems and Technology	Fall, Spring, Summer	None
MIS 3328 Systems Analysis and Design	Fall, Spring	MIS 3221
MIS 3335 Programming Using Scripting Languages	Fall	None
PHIL 3380 Philosophy of Science	Fall, odd years	None
PSCI 3350 Interest Groups and Money in Politics	Fall or Spring (On Demand)	PSCI 1330
PSCI 3361 Public Policy Analysis	Spring	PSCI 1330 and PSCI 2305
PSCI 3365 Public Management	Spring	PSCI 1330 and PSCI 2305
PSCI 3372 Political Behavior	Spring (On Demand)	PSCI 1330
PSCI 3375 American Judicial System	On Demand	PSCI 1330
PSCI 4300 Constitutional Law	Fall	PSCI 1330
PSCI 4350 Public Policy and Program Evaluation	Spring	PSCI 1330 and 2305
PSCI 4375 Intergovernmental Relations	Fall, odd years	PSCI 1330 and 2305
PSCI 4391 Government and Budgeting	Fall, even years	PSCI 1330 and 2305
PSCI 4199/4299/4399 Studies in Political Science	On demand	Consent of Instructor and Chair
SOC 3321 Qualitative Research Methods	Fall	SOC 1300 or ANTH 1302
SOC 4310 Globalization and Development	Fall, Summer	SOC 1300
SOC 4321 Social Policy Analysis	(On Demand)	SOC 1300

For more information contact:

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