

Dale Bumpers College of Agricultural, Food and Life Sciences

Dean of the College

E-108 Agricultural, Food
and Life Sciences Building
479-575-4446

Advising Office, Scholarships, Student Relations

E-108 Agricultural, Food
and Life Sciences Building
479-575-2252

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OBJECTIVES

The objectives of the Dale Bumpers College of Agricultural, Food and Life Sciences are to improve agriculture and family living in Arkansas, to stimulate students in their own development, to foster an attitude of inquiry and to develop leadership.

To accomplish this, the curricula are designed to include basic courses in physical, biological and social sciences, mathematics, the humanities, and communications, as well as agriculture and human environmental sciences. Such education is important to prepare young men and women for careers for the 21st century.

HISTORY AND ORGANIZATION

As the land-grant university of Arkansas, the University of Arkansas has the responsibility for leadership in agricultural and human environmental sciences. This responsibility is shared with the Division of Agriculture, and it includes teaching, research and service functions.

The Bumpers College is an integral component of the University of Arkansas and addresses the teaching responsibility of the land-grant university. Its roots lie in the First Morrill Act of 1862, which created the land-grant system by providing a grant of land to each state for the establishment of a college "where the leading objective shall be, without excluding other scientific and classical studies and including military tactics, to teach such branches of learning as are related to agriculture and the mechanical arts in such manner as the legislatures of the state may prescribe to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life." Agricultural sciences have been taught at the University of Arkansas almost from the beginning of the institution in 1872. The first degrees in agriculture were conferred by the University in 1904.

The passage of the Hatch Act in 1887 and subsequent legislation made possible the Agricultural Experiment Station, the research component of the Division of Agriculture. Most faculty who teach in the Bumpers College also hold appointments in the Experiment Station and are able to incorporate active research into their teaching.

The dissemination of University research in agriculture and human environmental sciences is carried out by personnel in the Cooperative Extension Service, created by the Smith-Lever Act of 1914. Many Extension specialists also hold adjunct faculty status and bring their expertise to the teaching program.

It is this blending of teaching, research and service functions that create a unique learning environment in the College. As students learn to relate basic areas of science to human needs, they study in laboratory-based classes and are taught in research facilities supported by the Division of Agriculture. Similarly, students are encouraged

to intern with professionals in industry and governmental agencies, including the Cooperative Extension Service.

The School of Human Environmental Sciences was originally established as the department of home economics in 1913. The department was elevated to school status in 1994, and its name was changed to the School of Human Environmental Sciences.

In recognition of the land-grant mission of the University and its commitment to serve the entire state, the Dale Bumpers College of Agricultural, Food and Life Sciences has worked cooperatively with numerous community colleges to organize the Arkansas Consortium for Teaching Agriculture (ACTA). ACTA is designed to facilitate the "seamless" transfer of students from community colleges to the Bumpers College. Coordinated advising, recruiting and curricula development are working goals of the Consortium. Students interested in ACTA should contact the dean's office.

Services for Students with Children

There are two services administered by the School of Human Environmental Sciences that can benefit young children whose parents are students at the University of Arkansas.

The Infant Development Center (IDC), located at 536 N. Leverett Street, provides care for children age three months to three years. At least one parent must be a UA student, and priority is given to undergraduate parents, single parents, and families in which both parents are UA students.

The Nursery School provides care for children from the entire community who are between the ages of three and five years.

Enrollment in each program is limited, and no provision is made to accommodate "drop-ins." For fee and other information, call the School of Human Environmental Sciences at (479) 575-4306.

DEGREES OFFERED

All entering students (including freshmen, international and transfer students) admitted to the University of Arkansas, Fayetteville, are eligible to pursue a degree program in the Dale Bumpers College of Agricultural, Food and Life Sciences. Degrees offered are as follows:

The Bachelor of Science in Agricultural, Food and Life Sciences (B.S.A.)

The Bachelor of Science in Human Environmental Sciences (B.S.H.E.S.)

The Bachelor of Interior Design (B.I.D.)

Non-Degree Training

While most students enrolled in the Dale Bumpers College of Agricultural, Food and Life Sciences work toward a degree, students who desire additional education of a specific nature but who do not wish to fulfill all requirements for a degree may enroll as special or unclassified students.

COLLEGE SCHOLARSHIPS

In addition to the scholarships awarded by the University, there are a number of scholarships available to students in agricultural and human environmental sciences made possible by generous gifts from many firms and individuals. During the 2001-2002 school year, the College awarded approximately 375 scholarships for over \$670,000. To be considered for a college scholarship, students must first be admitted to the University. Most scholarships require students to be enrolled full-time, which is at least 12 credit hours per semester. A College scholarship application, which serves as an application to all available scholarships offered by the College, must be submitted by March 1 each year (priority deadline for new freshmen is February 15). A listing of various outside scholarships is available for review

in the dean's office, E-108, Agricultural, Food and Life Sciences Building and on the college's web-site. There are also miscellaneous outside scholarships for which applications are available in some departmental offices. For more information on scholarships, contact the dean's office.

STUDENT ORGANIZATIONS, BUMPERS COLLEGE

The **Agricultural Business Club** is a student organization for those interested in agricultural business and economics.

Agricultural Communicators of Tomorrow (ACT) is designed for students with an interest in agricultural communications. It allows students an opportunity to interact with others with similar interests at the college and professional level.

The **Student Branch, American Society of Agricultural Engineers (ASAE)** is an organization for students interested in agricultural engineering.

The **American Society of Interior Designers (ASID)** is a professional society dedicated to serving the entire profession and maintaining the highest possible standards for the practice of interior design. ASID student members participate in a wide range of learning experiences and stimulating programs that complement their academic training. Through the Society's thousands of professional members, student members gain important insight into the professional aspects of interior design.

The **Arkansas Animal Industry Club** is for students who are interested in any phase of animal science. It is affiliated with the National Block and Bridle Club.

Collegiate 4-H/FFA is for any student who has been active in 4-H and/or FFA or has a current interest in service to these youth-serving organizations. This club is especially designed for students interested in teaching agricultural education or working in Extension.

All human environmental sciences majors are eligible for student membership in the **National Association of Family and Consumer Sciences** and in the campus section of the **Association of Family and Consumer Sciences**. Monthly meetings highlight various phases of human environmental sciences and provide social contact with other majors. In addition, members become involved in local service projects and may attend statewide workshops and leadership training sessions.

The **Crop Management/Environmental, Soil, and Water Science Club** is a student organization for those interested in crops and soils through both an agricultural and environmental perspective.

The **Horticulture Club** is a student organization for those interested in horticulture including floriculture, ornamentals, turf, small fruits and vegetables.

The **Pre-Vet Club** is for students interested in veterinary medicine and is especially designed for those students in the pre-veterinary medicine curriculum.

The **Food Science Club** is an organization for those students interested in food science.

The **Northwest Arkansas Association for the Education of Young Children** is an organization for students who are interested in the welfare of young children. The organization, through programs, publications, and trips, offers students information about career opportunities in human development.

The **Student Dietetic Association** is an organization for students who are interested in the profession of dietetics. The purposes are to promote growth in professional attitudes and to provide various programs of interest to the members.

The **Fashion Merchandising Club** is an organization open to all students interested in the fashion industry.

The **Poultry Science Club** is open to all students interested in any phase of the poultry industry or related fields.

There are also numerous general organizations on the University campus, and students of the Dale Bumpers College of Agricultural, Food and Life Sciences participate in most of them. These include fraternities, sororities, honor and scholarship organizations, religious and music groups, sports organizations, and others.

HONOR SOCIETIES

Alpha Zeta is the professional honor fraternity for students of agriculture. To be invited to become a member, a student must rank in the upper two-fifths of the class and be recognized for leadership and character.

Phi Upsilon Omicron is the professional honor fraternity for human environmental sciences students. To be eligible for invitation to membership, a student must rank in the upper 35 percent of the class and be recognized for character and leadership.

Gamma Sigma Delta is the honor fraternity for graduating seniors, graduate students, faculty, and alumni of the Dale Bumpers College of Agricultural, Food and Life Sciences. Seniors must rank in the upper 25 percent of their class to be eligible for membership, but not more than 15 percent of the class may be elected for membership. The highest-ranking sophomore and the highest-ranking senior are recognized annually by the society.

Alpha Tau Alpha is a national honorary professional fraternity for those preparing to become teachers of agricultural education. Its mission is to develop a true professional spirit in the teaching of agriculture, to help train teachers of agriculture who shall be leaders in their communities, and to foster a fraternal spirit among students in teacher training in agricultural education.

COLLEGE ACADEMIC AND DEGREE REQUIREMENTS

General Residency Requirement

For the Bachelor of Science in Agricultural, Food and Life Sciences degree, a student may choose one of 15 majors that satisfies his or her interests and goals for educational achievement. Some programs have concentrations; most allow students to select a minor.

For the degree of Bachelor of Science in Agricultural, Food and Life Sciences, students must complete a minimum of 30 semester hours within the Bumpers College.

For the degree of Bachelor of Science in Human Environmental Sciences or Bachelor of Interior Design, students must complete a minimum of 30 hours within the School of Human Environmental Sciences at the University of Arkansas.

Grade-Point Requirement

A grade-point average of 2.00 ("C" average) on all work attempted at the University of Arkansas is required for graduation.

Rules Applying to Course Work Used for Degree Credit

1. No credit will be given for duplicate coursework.
2. A maximum of six hours of internship and six hours of special problem may be counted for degree credit.
3. Elective courses used for degree credit may be chosen from any department in the University and are subject to the approval of the academic adviser.
4. Students are encouraged to join the University band, chorus and judging teams, and to participate in debate, drama, athletics, etc. A total of six semester hours of elective credits in such activities may be counted toward a degree. The maximum elec-

tive credits in any one activity that may be counted toward a degree are as follows:

	HOURS
Band and/or chorus	4
Drama and/or debate	4
Judging teams	4
Physical education activities or athletics	4

5. Any course taken by correspondence, including Web-based courses, must be approved in advance in the dean's office if the credits earned in the course are to be applied toward a degree. This applies regardless of the school from which the course is taken.

Requirements for a B.S.A. Degree

	HOURS
1. A total 124 semester hours with a minimum 2.0 cumulative grade-point average.	124 Total
2. A minimum of 39 hours of courses at the 3000-level and above.	39+
3. University Core Requirements: See page 44 Check requirements for each major; some require specific core courses.	35
4. Other University Requirements ENGL 2003, Advanced Composition or ENGL 2013 (See page 43 for details.)	3
5. College Requirements COMM 1313 Communications Intensive Elective See specific majors for requirement. Bumpers College courses outside of major may be included in departmental requirements	15 3 3 0-9
6. Electives May be used to develop a minor	0-32
7. Departmental Requirements See specific majors and concentrations	33-59

Requirements to Graduate with Honors

Students who have demonstrated exceptional academic performance in baccalaureate degree programs will be recognized at graduation by the honors designation of *Cum Laude*, *Magna Cum Laude* or *Summa Cum Laude*. To earn these distinctions, a student must meet the following criteria:

1. At least one-half of the degree course work must have been completed at the University of Arkansas, Fayetteville.
2. Only the grade-point average on course work completed at the University of Arkansas, Fayetteville, will be considered.
3. For each of the three distinctive honors, the student must have the minimum grade-point average indicated.
 - (a) *Cum Laude*: 3.50–3.74
 - (b) *Magna Cum Laude*: 3.75–3.89
 - (c) *Summa Cum Laude*: 3.90–4.00
4. Students may graduate with honors without participating in the Honors Program.

Additional Requirements

In addition to the University requirements for graduation, including the University Core requirements (page 44), a student must complete a prescribed degree curriculum in accordance with the rules and regulations of the Dale Bumpers College of Agricultural, Food and Life Sciences to be eligible for a baccalaureate degree from the College.

Former students of the College who are readmitted after an ab-

sence of one year may be expected to meet the curriculum requirements in effect at the time of their readmission. Students should consult their academic adviser for degree planning before registering for classes.

Students interested in earning an additional bachelor's degree should refer to the University requirements on page 44.

HONORS PROGRAM

The Bumpers College Honors Program provides students with opportunities for intellectual enrichment beyond the traditional undergraduate experience. This is accomplished through special honors courses, completion of an undergraduate honors thesis and other significant activities including interactions with students in honors programs in other colleges.

The results of the student's original research or creative project is published in *Discovery*, the college undergraduate research journal. In support of these efforts, participants in the Honors Program are eligible to receive an honors stipend in support of their research projects. The transcript and diploma of each honors graduate will designate the student as an honor graduate of the college. At the college commencement ceremony, each honors graduate will wear special regalia and have the title of their honors thesis and their mentor's names listed in the graduation program. Honors graduates will be recognized as graduating with Honors distinction. Students must maintain a GPA of 3.25 to remain in the program.

COLLEGE CURRICULA

The B.S.A., B.S.H.E.S. and B.I.D. degrees will be conferred upon students who have met all the general University and College requirements for a degree, and who have completed 124 semester hours in accordance with the college requirements.

Students, with the assistance of a faculty adviser, will plan a program best suited to their own background, training and objectives. The program of study will be decided after consideration of a student's preparation, aptitudes, test scores, and other information. Undeclared students will work with an adviser as they explore program opportunities within the college. Students must inquire about specific requirements in the department or school where the major is located. Students are responsible for meeting all requirements for graduation.

Selection of a Major

A student who elects to major in some area of agricultural, food and life sciences or human environmental sciences should plan the program with a faculty advisor. While undecided students are welcome, early selection of a major will permit better planning and proper sequencing of courses. The student and faculty adviser work closely to ensure that curriculum requirements are met in a timely fashion. A student uncertain about a major will be advised as an undeclared major through the dean's office.

AGRICULTURAL MAJORS AND MINORS

Majors, some with concentrations, are as follows:

Agricultural Business (AGBS)

Concentration A:

Agricultural Business and Marketing (ABMM)

Concentration B:

Pre-Law (PRLW)

Concentration C:

Agricultural Economics (AGEC)

Agricultural Education, Communications and Technology (AECT)

Concentration A:

Agricultural Education (AGED)

Concentration B:

Extension and Industry Education (EXIE)

Concentration C:

Agricultural Systems Technology Management (ASTM)

Concentration D:

Agricultural Communications (ACOM)

Animal Science (ANSC)

Crop Management (CPMG)

Environmental, Soil, and Water Science (ESWS)

Food Science (FDSC)

Concentration A: Food Science (FDSC)

Concentration B: Food Technology (FDTN)

Horticulture (HORT)

Concentration A:

Horticulture Management and Production (HMAP)

Concentration B:

Horticulture Science (HSCI)

Concentration C:

Horticulture Merchandising (HMER)

Pest Management (PMGT)

Poultry Science (POSC)

Turf & Landscape Horticulture (TLHT)

Concentration A:

Turf Management (TMGM)

Concentration B:

Landscape Horticulture (LHRT)

Seventeen minors are offered:

Agricultural Business (AGBS)

Agricultural Education (AGED)

Agricultural Systems Technology Management (ASTM)

Animal Science (ANSC)

Crop Management (CPMG)

Entomology (ENTO)

Environmental, Soil, and Water Science (ESWS)

Extension and Industry Education (EXIE)

Food Science (FDSC)

Global Agricultural, Food and Life Sciences (AFLS)

Horticultural Production (HORT)

Journalism (JOUR)

Landscape Design and Urban Horticulture (LHRT)

Pest Management (PMGT)

Plant Pathology (PLPA)

Poultry Science (POSC)

Turf Management (TURF)

SCHOOL OF HUMAN ENVIRONMENTAL SCIENCES MAJORS AND MINORS

Food, Human Nutrition and Hospitality, (FHNH)

Concentration A:

Dietetics (DIET)

Concentration B:

General Foods and Nutrition (GFNU)

Concentration C:

Hospitality and Restaurant Management (HRMN)

Apparel Studies (APST)

General Human Environmental Sciences (HESC)

Human Development, Family Sciences,

and Rural Sociology (HDFS)

Concentration A:

Child Development (CDEV)

Concentration B:

Lifespan (LSPN)

Interior Design (IDES)**Two minors are offered in human environmental sciences:**

Human development and family studies (HDFS)

Human nutrition (GFNU)

Minors in Other Colleges

Students in the College of Agricultural, Food and Life Sciences may pursue an academic minor in the Sam M. Walton College of Business or in the J. William Fulbright College of Arts and Sciences. These minors usually consist of 15 to 20 hours of course work. For requirements regarding minors, check the catalog under the department offering the minor. Students must notify the dean's office of their intention to pursue a minor.

Minor in Journalism

This minor allows for a combination of training in journalism with a specialization in agriculture or human environmental sciences. Its purpose is to prepare the student for employment with firms and institutions that produce agricultural or human environmental sciences publications or employ public relations personnel.

Requirements for a minor in journalism:

Students interested in a journalism minor may choose from one of three areas:

Print Journalism (18 semester hours)

JOUR 1023, JOUR 1033, JOUR 2013, JOUR 3013,
JOUR 3123 and JOUR 3633

Broadcast Journalism (18 semester hours)

JOUR 1023, JOUR 1033, JOUR 2032/2031L,
JOUR 3072/3071L, JOUR 3633 and JOUR 4863/4860L

Print and Broadcast Journalism (18 semester hours)

JOUR 1023, JOUR 1033, JOUR 2013,
JOUR 2032/2031L, JOUR 3072/3071L and JOUR 3633

A student interested in a journalism minor must notify his or her major adviser for detailed information. The minor is coordinated by the department of agricultural and extension education in consultation with the department of journalism.

PRE-VETERINARY MEDICINE

Because Arkansas does not have a college of veterinary medicine, the Arkansas General Assembly has authorized funds for education in veterinary medicine at out-of-state institutions. The State Board of Higher Education is the designated agent for the State of Arkansas, and the Student Loan Authority is authorized to administer the program. Terms and conditions prescribed by the Student Loan Authority are as follows: the grant will cover only out-of-state tuition, and the student will pay his or her own fees and expenses.

Contracts have been negotiated with the Board of Control for Southern Regional Education for education in veterinary medicine at Louisiana State University, Mississippi State and at Tuskegee University. Arrangements have also been made with the University of Missouri and Oklahoma State University. Under the provisions of the legislation, only citizens of Arkansas are eligible. They must enroll in and complete the pre-veterinary medicine curriculum to satisfy the admission requirements of these colleges of veterinary medicine.

The pre-veterinary medicine program at the University of Arkansas is administered in the departments of animal and poultry science

of the Dale Bumpers College of Agricultural, Food and Life Sciences. There are faculty in these departments who help counsel and advise students regarding their pre-veterinary medicine program. There are also faculty veterinarians who provide some insight into the practice of veterinary medicine and are knowledgeable about many of the problems encountered in establishing a practice upon graduation. Some of these veterinarians have been in private practice; others have been involved in full-time agricultural research since graduation from veterinary medicine and graduate school. Because there is a wide cross-section of experience among these faculty, students find their counsel valuable in planning a future in veterinary medicine.

While it is possible to complete requirements for admission to some colleges of veterinary medicine in two years, most students take three years or more to complete the requirements, and most complete a B.S.A. degree before being admitted. Students who carefully plan their work may complete a B.S.A. degree by transferring hours earned in the first two years at an accredited college of veterinary medicine back to the University of Arkansas, provided they complete certain degree requirements at the University prior to entering a school or college of veterinary medicine. These students must complete a minimum of 94 hours of a 124-hour program of prescribed courses. This will require three years and one or two 6-week summer terms for most students. Therefore, students should inform their adviser early in their program that they wish to be in a pre-vet degree program.

The Bumpers College of Agricultural, Food and Life Sciences is ready to assist students in fulfilling their pre-veterinary medicine requirements whether they desire to complete them in a two-year span or over three or four years. The supporting departments at the University, including chemistry, English and biological sciences, all offer quality courses that give a student an excellent background for the pursuit of a degree in veterinary medicine.

To earn the professional degree, a student must complete the pre-veterinary medicine requirements and the four-year prescribed curriculum in one of the colleges of veterinary medicine.

Required Examinations

All required examinations are given on campus and administered by testing services (Hotz Hall 730, phone, 479-575-3948). Exams must be taken at least by late fall of the year prior to entering vet school. Application forms for taking the exams can be picked up at testing services. Applications should be turned in at least 30 days prior to examination. Students seeking admission to Louisiana State University may take the MCAT on one of the two national testing dates in the spring or early fall or the Graduate Record Examination (GRE), which is given frequently.

Students who wish to apply for admission to either Tuskegee University or the University of Missouri must take the VCAT, which is given twice each fall.

Students applying for admission to Oklahoma State University must take the general test and the biology test of the G.R.E., which is given frequently on campus.

Applications

Students applying to Louisiana State University and/or Oklahoma State and Mississippi State must fill out a Veterinary Medical College Application Service (VMCAS) form, available at their online site (www.aavmc.org). Students must complete the application and have it postmarked by Oct. 1st of the year prior to beginning studies. Students applying to the University of Missouri may obtain the application form at <http://www.hsc.missouri.edu/vetmed.docs.adm.html>. Applications must be received by Nov. 1 of

the year prior to entry. Applications forms for Tuskegee University may be obtained from the University of Arkansas department of animal science or directly from Tuskegee University. Application forms are due by Dec. 5th of the year prior to entering school. Since requirements for the various veterinary schools periodically change, it is important that students check with their adviser about specific school requirements as they progress through the pre-veterinary requirements.

All students should contact the Coordinator of Veterinary Medicine, Dale Bumpers College of Agricultural, Food, and Life Sciences B109, University of Arkansas, Fayetteville, Arkansas 72701, phone (479) 575-4351 in the spring prior to making fall application for admission to a veterinary school to verify that they can complete the requirements for the school they wish to attend. Pre-professional requirements and specific requirements for admission to colleges of veterinary medicine at Louisiana State University, Oklahoma State University, University of Missouri and Tuskegee University are listed with information on the Web for the department of animal science at <<http://www.uark.edu/depts/dbcafls/>>.

GRADUATE STUDIES

The Graduate School of the University, in cooperation with the Dale Bumpers College of Agricultural, Food and Life Sciences, offers the master of science degree in each of its nine departments and in one school. Six doctoral degrees are offered. More detailed information regarding individual programs may be obtained by contacting the administrative office of each department, or by consulting the *Graduate School Catalog*.

Departments, Degree Programs and Courses

AGRICULTURAL AND EXTENSION EDUCATION (AGED)

Don R. Herring
Head of the Department
205 Agriculture Building
575-2035

- Emeritus University Professor Hardy
- Professors Graham, Herring, Johnson, Wardlow
- Adjunct Professors Lyles, Baker
- Professors Emeriti Braker, Ferguson, Love, Rolloff
- Associate Professors Arthur, Scott
- Associate Professor Emeritus Scanlon
- Assistant Professor Miller
- Research Assistant Professor Lester
- Adjunct Assistant Professors Burch, Plafcan

The department of agricultural and extension education offers a degree program in agricultural education, communication and technology. Students with this major are in constant demand due to the rapidly changing educational needs of the agricultural and natural resources industries. Graduates with this degree have a broad knowledge of agricultural disciplines. They are prepared as agricultural technology transfer specialists to enter a variety of careers in formal and non-formal teaching roles in either the public or private sector as agricultural educators, Extension agents, industry-based trainers, information specialists or technology-management specialists. Students in agricultural education, communication and technology may

choose one of four areas of concentration listed below, or, with adviser's approval, select courses from more than one concentration area.

Concentration A - Agricultural Education (AGED)

This area of concentration is designed for students who wish to be certified to teach agricultural science in public schools. Students may choose one of two options for teacher certification: either a four-year certification program or a five-year certification program that culminates in a master's degree (M.A.T.). The department of agricultural and extension education has information about both programs. Admission and graduation requirements for the M.A.T. program are listed on in the College of Education and Health Professions section of this catalog.

Concentration B- Extension and Industry Education (EXIE)

This concentration is designed for students who desire employment as professional educators/change agents with either the Cooperative Extension Service or in agricultural business and industry. Graduates from this program are in demand because it combines strong leadership, team management, communication and human relations skills with a broad base of competencies in scientific agriculture.

Concentration C - Agricultural Systems Technology Mgmt. (ASTM)

Students planning a professional career related to technical operations and management in agricultural industry should enroll in this concentration. Graduates assume positions of leadership and responsibility in such areas as agricultural services and sales, agricultural management, agricultural production systems, product service, product testing and service management. The program focuses on preparing students as problem solvers in the application, management and/or marketing of agricultural technology.

Concentration D - Agricultural Communications (ACOM)

This concentration is designed to produce graduates with both technical knowledge about the food and fiber industry and the communication skills needed to convey in an effective manner the story of agriculture to consumers, policy makers and the public at large. Interpersonal and group communication, public relations, graphic art, video and television production, electronic communication, distance learning, video conferencing and writing for the media are emphasized in this program.

Requirements for a major in agricultural education, communication and technology (See page 44 for University Core and page 75 for B.S.A. requirements.)

	HOURS
35 hours of University Core requirements to include:	
English	6 - 9
ENGL 1013 – Composition I	
ENGL 1023 – Composition II	
University Advanced Composition Requirement:	
ENGL 2003 - exemption possible	
MATH	3
MATH 1203 – College Algebra	
Science	8
BIOL 1543/1541L – Principles of Biology/Lab	
CHEM 1074/1071L – Fundamentals of Chemistry/Lab	
(Two semesters of chemistry, CHEM 1103/1101L and CHEM 1123/1121L,	

may be substituted for CHEM 1074/1071L.)

Fine Arts, Humanities

6

See University core requirements, page 44
WLIT 1113 or WLIT 1123 (Required for AGED)

HISTORY

3

See University core requirements, page 44

Social Sciences

9

AGEC 1103 – Principles of Agricultural Microeconomics or
AGEC 2103 – Principles of Agricultural Macroeconomics
PSYC 2003 – General Psychology
See University core requirements for other electives, page 44

College Requirements

6

COMM 1313 – Fundamentals of Communication,
AGED 3142/3141L – Agricultural Communications/Lab

Departmental Requirements - 83 hours

(includes concentration and elective hours):

CHEM 2613/2611L – Organic Physiological Chemistry/Lab
MBIO 2013/2011L – General Microbiology/Lab or

PHYS 1044 – Physics for Architects (or higher level)

Bioscience elective – (3 - 4 hrs.)

AGED 1001 – Orientation to Agricultural & Extension Education
AFLS 1011 – Freshman Orientation

AGED 3133/3130L – Methods in Agricultural Education/Lab or
EXED 4173 – Principles of Extension Teaching
(see concentration for course selection)

AGED 4012 – Program Development or

AGED 3153 – Leadership Development in Agriculture or
EXED 3023 – Introduction to the Cooperative Extension

Service (see concentration for course selection)

AGED 4003 – Issues in Agriculture

AGME 1613/1611L – Fundamentals of Ag Systems Tech/Lab

AGME 2903 – Application of Microcomputers

AGME 4011 – Senior Seminar

ANSC 1032 – Introductory Animal Science

ANSC 1051 – Introduction to the Livestock Industry

CSES 2203/2201L – Soil Science/Lab

CSES/HORT 1203 – Intro to Plant Sciences

CSES 2013 – Pest Management

EXED 475V (3 hrs.) – Internship in Extension

Electives – 10-17 hours selected in conjunction with adviser

Concentration A (AGED) for teacher certification

Agricultural electives 13 hours – selected in conjunction with
adviser plus the following courses:

AGED 1122 – Agri Youth Organizations

AGED 3133 – Methods in Ag Ed

AGED 4012 – Program Development

AGED 4843 – Methods in Ag Labs

AGME 2123 – Metals and Welding

AGME 3102/3101L – Small Power Units/Turf Equipment/Lab or

AGME 3173/3170L – Electricity in Agriculture or

AGME 4203 – Mechanized Systems Mgmt.

AGME – two hours JR/SR elective

CIED 1002/1011 – Introduction to Education or

AGED 1031 – Introduction to Early Field Experience

CIED 3023 – Survey of Exceptionalities

CIED 3033 – Classroom Learning Theory

ETEC 2001/2002L – Educational Technology/Lab or

AGME 2903 – Applications of Microcomputers

HLSC 3633 – First Responder/First Aid

HORT – 3 elective hours

**Concentrations B: Extension and Industry Education (EXIE)
(14–21 hrs).**

BIOL, BOTY, MBIO, ZOO or MATH (above MATH 1203)

Elective – 3 hours

EXED 4173 – Prin of Extension Teaching
(from departmental core)

AGED 3153 – Leadership Development in Agriculture

EXED 3023 – Intro to Coop Extension Service
(from departmental core)

EXED 4183 – Management of Volunteer Programs

5–6 hours from the following:

COMM 3303 – Small Group Communication

RSOC 4623 – Intro Community Dev or

RSOC 2603 – Rural Sociology

AGED 1122 – Agri Youth Organizations

VAED 3113 – Skills/Strategies in HRD

VAED 4113 – Theory and Principles of Adult Education

MGMT 3563 – Mgmt Concepts and Organizational Behavior

MGMT 3643 – Team Management

Concentration C: Agricultural Systems Technology Management (ASTM) (14 to 21 hours).

Select from:

AGME 2123 – Metals and Welding

AGME 3153 – Surveying in Agriculture and Forestry

AGME 3102/3101L – Small Power Units/Turf Equipment/Lab

AGME 3173 – Electricity in Ag

AGME 4203 – Mechanized Systems Management

AGME 4963 – Soil and Water Conservation Technology

AGME 4973 – Irrigation

PHYS 220V – Intro Electronics I

PHYS 320V – Intro Electronics II

GEOG 4523 – Computer Mapping

GEOG 4543 – Geographic Info Sys

GEOG 4593 – Introduction to Global Positioning Systems

**Concentration D: Agricultural Communications (ACOM)
(14–21 hours)**

COMM 2303 – Public Speaking

JOUR 1033 – Fundamentals of Journalism

JOUR 1023 – Media and Society

Select 5 hours from the following:

AGED 4143 – Electronic Communications in Agriculture

AGED 401V (3 hours) – Special Topics: Publication Production

AGED 401V (3 hours) – Special Topics: Contemporary Practices

COMM 3703 – Organizational Communication

COMM 3303 – Small Group Communication

JOUR 2013 – News Reporting I

JOUR 3023 – News Reporting II

JOUR 2032/2031L – Broadcast News Reporting I

JOUR 3072/3071L – Broadcast News Reporting II

JOUR 2332/2331L – Photojournalism I

JOUR 3743 – Public Relations Principles

Requirements for a minor in Agricultural Education (AGED):

22 hours to include the following:

CIED 1002, CIED 1011 or AGED 1031, ETEC 2002L/2001, or

AGME 2903, CIED 3023, CIED 3033, AGED 1122,

AGED 3133, AGED 4843, and AGED 4012.

A student completing the requirements for this minor meets the
education hours required for entry into the master of arts in teaching
(M.A.T.). Students interested in being certified to teach must contact

the department of agricultural and extension education for additional requirements to enter the M.A.T. program.

Requirements for a minor in agricultural systems technology management (ASTM):

18 hours to include AGME 1613 and AGME 2903 and

12 hours selected from the following:

AGME 1611L, AGME 2123, AGME 3153, AGME 3102/3101L, AGME 3173, AGME 4203, AGME 4963, AGME 4973

Students planning to minor in ASTM should contact the department of agricultural and extension education.

Requirements for a minor in extension and industry education (EXIE):

18 hours to include AGED 1122, AGED 1001, EXED 3023, AGED 3133 or EXED 4173, EXED 475V, and MGMT 3563 or RSOC 4623.

Select 3 additional hours from COMM 2303, COMM 3303 and JOUR 1033.

Students planning to minor in EXIE should contact the department of agricultural and extension education.

Requirements for a minor in journalism (JOUR):

18 hours. See page 77 for specific requirements.

Requirements for a minor in global agricultural, food and life sciences (AFLS):

Students must successfully complete 18 hours of regular courses, including 15 hours of required courses and 3 hours of elective courses as described on page 80. No other program component is required for this minor.

SEE PAGES 251, 287 AND 252 FOR AGRICULTURAL AND EXTENSION EDUCATION COURSES (AGED, EXED OR AGME)

AGRICULTURAL ECONOMICS AND AGRIBUSINESS (AGEC)

M. J. Cochran
Head of the Department
221 Agriculture Building
575-2256

- University Professor La Ferney
- Professors Cochran, Dixon, Redfern, Wailes
- Adjunct Professors Millager, Miller
- Professors Emeriti Berry, Headley, Jackson, Meenen, Morrison, Price
- Associate Professors Ahrendsen, Goodwin, Parsch, Popp (M.)
- Assistant Professors Fuller, McKenzie, Popp (J.), Rainey, Thomsen, Watkins
- Adjunct Assistant Professor Bryant
- Adjunct Instructor Hipp

The agricultural business degree program provides education suited to career opportunities in farm management, agricultural business management and agricultural marketing in both the domestic and international areas.

Managers of farms and agricultural businesses are continually required to make organizational and operational decisions. The basic skills and knowledge needed for making sound decisions are provided by the agricultural business curriculum. Students may elect to specialize in areas compatible with their personal objectives, depending upon the extent of accounting and business orientation desired.

Students educated in agricultural business are in demand for positions in agricultural industries, farm operation, marketing agencies, agricultural service organizations, state and federal agencies, and numerous other positions. For those who go on to graduate school, teaching and research positions are available with land grant colleges as well as with other institutions. Three concentrations are available to meet career objectives:

- A. Agricultural Business Management and Marketing (ABMM)
- B. Pre-Law, for students preparing to attend law school (PRLW)
- C. Agricultural Economics, which emphasizes quantitative and analytical skills to prepare students for graduate school (AGEC)

Requirements for a B.S.A. degree with a major in agricultural business.

(See page 44 for University Core and page 75 for B.S.A. requirements).

35 hours of **University Core requirements** to include the following:

- PSYC 2003 or SOCI 2013 or RSOC 2603
- AGEC 1103
- AGEC 2103

University Advanced Composition Requirement:

ENGL 2003 – exemption possible

College Requirements:

- COMM 1313 and
- 3 hours communication elective selected from AGED 3142/3141L, COMM 2303, COMM 2373, COMM 3303, COMM 3383 or ENGL 3053
- General Electives – 20 hours
- College Broadening Electives – 9 hours

Departmental Requirements (51-52 hours)

Concentrations A and B:

Agribusiness management and marketing, and pre-law:

- AGEC 2303 – Intro to Agribusiness
- AGEC 3403 – Farm Business Mgmt.
- AGEC 4613 – Domestic & International Agricultural Policy
- ECON 3033 – Microeconomics
- ECON 3133 – Macroeconomics
- ACCT 2013 – Intro Acct Info I
- ACCT 2023 – Intro Acct Info II
- MATH 2053 – Finite Math
- MATH 2043 – Survey of Calculus
- ISYS 2013 – Business Statistics or
- STAT 4003/4001L – Statistical Methods

For Concentration A, Agricultural Management and Marketing:

Select one of the three groups below:

1. Agribusiness Management

- AGEC 3303 – Food and Agriculture Marketing
- AGEC 3503 – Agricultural Law I
- AGEC 4143 – Agricultural Finance
- AGEC 4313 – Agri Business Mgmt.
- 9 hours of upper-level AGEC or College of Business courses

2. Farm Business Management

- AGEC 3373 – Futures and Options Markets
- AGEC 3503 – Agricultural Law I
- AGEC 4143 – Agricultural Finance
- AGEC 4403 – Advanced Farm Business Management
- 9 hours of upper-level AGEC or College of Business or

technical agriculture courses

3. *Agricultural Marketing*

AGEC 3303 - Food and Agricultural Marketing
 AGECE 3373 - Futures and Options Markets
 AGECE 4303 - Advanced Agri Marketing Management
 AGECE 4113 - Agri Prices and Forecasting
 AGECE 4373 - Advanced Price Risk Management
 6 hours of upper-level AGECE or College of Business courses

For Concentration B, Pre-Law:

AGECE 3373 – Futures and Options Markets
 AGECE 3413 – Principles of Environmental Economics
 AGECE 3503 – Agricultural Law
 AGECE 4143 – Agricultural Finance
 AGECE 4313 – Agri Business Mgmt.
 ACCT 3613 – Managerial Uses of Accounting Info
 3 upper-level hours from AGECE, ACCT, FINN, MGMT or
 ISYS approved by adviser

3/3 Program. Exceptional students in the Pre-Law concentration may enroll in the Law School in their fourth year provided that the following requirements have been met:

1. complete all university, college and department core requirements for the pre-law concentration.
2. completed 12 hours in the specialization list for pre-law.
3. a cumulative grade-point average in all college or university course work of at least 3.50 without grade renewal.
4. a LSAT score of at least 159. A student may substitute law school course work for the remaining total hours required for the bachelor's degree in agricultural business.

It is a requirement of the Law School's accrediting standards that no student be admitted to Law School until they have completed at least three-fourths of the work necessary for the baccalaureate degree. The requirements embodied in the 3/3 program satisfy this requirement.

Departmental Requirements (51 hours) for Concentration C, Agricultural Economics:

AGECE 2303 – Intro to Agribusiness
 ECON 3033 – Microeconomic Theory
 ECON 3133 – Macroeconomic Theory
 ACCT 2013 – Intro to Accounting Info I
 ACCT 2023 – Intro to Accounting Info II
 MATH 1213 – Plane Trigonometry or
 MATH 1285 – Precalculus (in lieu of MATH 1203 and MATH 1213)
 MATH 2053 – Finite Math
 MATH 2554 – Calculus I
 MATH 2564 – Calculus II
 STAT 4003/4001L – Statistical Methods
 ECON 4743 – Intro to Econometrics
 MATH 3083 – Linear Algebra
 9 hours upper-level AGECE courses
 6 hours upper-level AGECE or College of Business courses

Requirements for a minor in agricultural business (AGBS):

18 semester hours to include AGECE 1103 and AGECE 2303;
 6 hours from AGECE 3303, AGECE 3373, AGECE 3403,
 AGECE 3413, or AGECE 4313; and
 6 hours to be selected from the following:

ACCT 2013	ACCT 2023	AGECE 2103
AGECE 3303	AGECE 3373	AGECE 3403
AGECE 3413	AGECE 3503	AGECE 4113
AGECE 4143	AGECE 4303	AGECE 4313

AGECE 4373	AGECE 4403	AGECE 4413
AGECE 4613	AGME 2903	BLAW 2013
ECON 3033	ECON 3133	ECON 3533
ECON 4633	FINN 3043	FINN 3623
ISYS 2013	ISYS 2232	ISYS 3333
ISYS 3603	MGMT 3563	MGMT 3933
MGMT 4403	MGMT 4433	MKTT 3433
MKTT 3533	MKTT 4033	MKTT 4553
MKTT 4933	MKTT 4943 or	STAT 4003/4001L.

Additional upper-division courses in the Sam M. Walton College of Business may be substituted with approval, provided prerequisites for those courses have been satisfied outside the minor. Students interested in postgraduate study in agricultural economics may obtain adjustments to these requirements to accommodate graduate admission requirements.

Minor in Global Agricultural, Food and Life Sciences

The Bumpers College offers a minor in global agricultural, food and life sciences to provide students throughout the college opportunities to complement their major field of study with an international component. It is designed to provide learning skills and international experiences leading to greater understanding of global issues in agriculture, human and environmental sciences and the ability to participate effectively.

Requirements for a minor in global agricultural, food and life sciences (AFLS):

18 semester hours to include AGECE 2003;
 3 to 6 hours study abroad;
 AGECE 4163 or AGECE 4613 or AGECE 402V (international topic approved by student's adviser and IAP director);
 6 hours to be selected from the following:

ANTH 1023	ANTH 3123	ANTH 4253
FIIR 2813	GEOG 2023	GEOG 4783
GEOG 4033	GEOG 4013	GEOG 4243
GEOG 4793	HIST 3043	HIST 3203
HIST 4103	PLSC 2813	PLSC 3803
PLSC 3813		

And 3 hours of elective from the following (for students only taking 3 hours study abroad):

AGECE 4163	AGECE 4613	AGECE 402V
COMM 4343	ECON 4633	ECON 4643
ECON 4653	FINN 3703	PLSC 3853

or other courses with an international focus.

SEE PAGE 250 FOR AGRICULTURAL ECONOMICS AND AGRIBUSINESS (AGECE) COURSES

AGRICULTURAL, FOOD AND LIFE SCIENCES (AFLS)

Director of Honors Program
 E108 Dale Bumpers College of Agricultural, Food,
 and Life Sciences Building
 575-4446

The Bumpers College Honors Program provides students with opportunities for intellectual enrichment beyond the traditional undergraduate experience. This is accomplished through special honors courses, completion of an undergraduate honors thesis and other significant activities including interactions with students in honors programs in other colleges. Students must maintain a GPA of 3.25 to remain in the program.

Honors courses in the college may be chosen from the following:

AFLS 1011 – Freshman Orientation
 AFLS 102VH – Honors Special Topics for Freshmen
 AFLS 400H – Honors Thesis
 AFLS 401VH – Honors Special Topics

ANIMAL SCIENCE (ANSC)

Keith Lusby

Head of the Department

B114 Dale Bumpers College of Agricultural, Food,
 and Life Sciences Building
 575-4351

- University Professors Emeriti Brown (C.J.), Stallcup
- Professors Brown (A.H.), Kellogg, Lusby, Maxwell, McNew, Roeder, Yazwinski
- Professors Emeriti Daniels, Lewis, Loe, Noland, Perkins, Rakes, Piper, Westing
- Adjunct Professors Brown (M.A.), Davis, Chewning, Jennings, McPeake, Nugent, Pennington, Swiderski, Troxel
- Associate Professors Apple, Coblenz, Coffey, Gunter, Johnson, Kegley, Kreider, Rorie, Rosenkrans
- Assistant Professors, Pohlman
- Assistant Professors Emeriti Heck, Peterson
- Instructors Jack, Kutz

The animal science major is designed to provide the scientific and technical education to prepare students for positions of leadership and responsibility. Students gain valuable experience pertaining to the production of beef and dairy cattle, swine, horses and sheep. In addition, extensive study is offered in the specialized areas of animal health, breeding and genetics, meat science, nutrition, and physiology.

Students majoring in animal science are prepared for a variety of careers. Pre-veterinary, pre-medical and pre-professional course requirements may be fulfilled while meeting degree requirements. Specific career opportunities include positions and services related to the production, merchandising, processing and distribution of meat, milk and related products. Additional opportunities include field persons, farm and herd managers and other agribusiness-related positions. With additional academic training, animal science majors may become extension livestock specialists, nutritionists, geneticists and physiologists.

Requirements for a B.S.A. degree with a major in animal science:

(See page 44 for University Core and page 75 for B.S.A. requirements)

35 hours of **University Core requirements** to include the following:

BIOL 1543/1541L
 CHEM 1074/1071L

University Advanced Composition Requirement:

ENGL 2003 – exemption possible

College Requirements:

COMM 1313 and
 3 hours communication elective (See adviser for approved course.)
 Electives: 20 hours

Departmental Requirements:

58 hours to include the following:
 CHEM 2613/2611L
 MBIO 2013/2011L and the following animal science courses:
 ANSC 1001L – Intro Animal Sci. Lab

ANSC 1032 – Intro Animal Sciences
 ANSC 1041 – Intro Companion Animal Industry
 ANSC 1051 – Intro Livestock Industry
 ANSC 2252L – Intro to Livestock and Meat Evaluation
 ANSC 2781 – Career Preparation and Development
 ANSC 3133 – Animal Breeding/Genetics
 ANSC 3143 – Principles of Animal Nutrition
 ANSC 3433 – Reproductive Physiology

Select 7 hours from the following:

ANSC 4252 – Cow-Calf Management
 ANSC 4263 – Swine Production
 ANSC 4272 – Sheep Production
 ANSC 4283 – Horse Production
 ANSC 4452 – Milk Production
 ANSC 4652 – Stocker-Feedlot Cattle Management

Select 13 hours from the following:

ANSC 3032 – Animal Physiology I
 ANSC 3042 – Animal Physiology II
 ANSC 3123 – Principles of Genetics
 ANSC 3151L – Applied Animal Nutrition Lab
 ANSC 3152 – Applied Animal Nutrition
 ANSC 3613 – Meat Science
 ANSC 3003 – Applied Animal Parasitology
 ANSC 3013 – Parasitisms of Domestic Non-Herbivores
 ANSC 3333 – Diseases of Livestock

Select 15 hours from the following discipline-related electives:

ANSC 2003, ANSC 2213, ANSC 2303, ANSC 2482,
 ANSC 3282, ANSC 3291, ANSC 3491, ANSC 3691,
 ANSC 3722, ANSC 400V, ANSC 401V, ANSC 410V,
 ANSC 4291
 ACCT 2013, ACCT 2023
 AGECE 1103, AGECE 2103, AGECE 2303
 AGME 2903
 CSES/HORT 1203
 BIOL 2533/2531L
 CHEM 1103/1101L, CHEM 1123/1121L,
 CHEM 2262, CHEM 2272
 AFLS 2013
 FDSC 2503
 MBIO 2013/2011L
 PHYS 2013/2011L, PHYS 2033/2031L
 POSC 2353, POSC 2363, POSC 2554
 ZOOL 1613/1611L and

any upper-division course in AGECE, AGED, CSES, AGST,
 BIOL, CHEM, FDSC, HORT, MBIO, POSC, ZOOL.

Students should consult an animal science adviser for specific course selections in the elective areas. With appropriate advising, students have an opportunity to complete at least one minor within the 124-hour degree program.

Requirements for a minor in animal science (ANSC):

20 hours to include ANSC 1001L, ANSC 1032, ANSC 1041 or
 ANSC 1051, ANSC 2252L, ANSC 3133, ANSC 3143,
 ANSC 3433, and

5 hours from the following production and management courses:
 ANSC 4252, ANSC 4263, ANSC 4272, ANSC 4283,
 ANSC 4452, and ANSC 4652.

Students wishing to minor in animal science must consult with an animal science adviser.

Requirements for a minor in global agricultural, food and life sciences (AFLS):

Students must successfully complete 18 hours of regular courses, including 15 hours of required courses and 3 hours of elective courses as described on page 80. No other program component is required for this minor.

SEE PAGE 252 FOR ANIMAL SCIENCE (ANSC) COURSES.

BIOLOGICAL ENGINEERING (BENG)

Lalit Verma
Head of the Department
203 Engineering Hall
575-2351

- Professors Griffis, Loewer, Verma
- Professors Emeriti Bryan, Nelson
- Adjunct Professors Clausen
- Associate Professors Carrier, Costello, Li, Vories
- Adjunct Associate Professors Beitle, Deaton
- Assistant Professors Bajwa, Chaubey, Kim, Matlock, Osborn
- Adjunct Assistant Professors Haggard, Howell, Wimberly, Yang
- Research Professor Gardisser
- Research Associate Professors Huitink, Tacker, VanDevender
- Research Assistant Professor Murphy

The curriculum leading to the professional degree in biological engineering is under the joint supervision of the deans of the Dale Bumpers College of Agricultural, Food and Life Sciences and the College of Engineering. The engineering degree, Bachelor of Science in Biological Engineering (B.S.B.E.), is conferred by the College of Engineering and is described on page 197. Students who wish to receive this degree enroll in the College of Engineering.

SEE PAGE 259 FOR BIOLOGICAL ENGINEERING (BENG) COURSES.

CROP, SOIL, AND ENVIRONMENTAL SCIENCE (CSES)

J. L. Barrentine
Head of the Department
115 Plant Sciences Building
575-2354

- Distinguished Professor Oosterhuis
- Distinguished Professors Emeriti Caviness, Frans, Waddle
- University Professors Oliver, Talbert, Wolf
- University Professor Emeritus Lavy
- Professors Bacon, Barrentine, Bourland, Daniel, Gbur, Miller, Moldenhauer, Norman, Phillips, Rutledge, Stewart, West
- Professors Emeriti Gilmour, Hinkle, Thompson
- Visiting Professor Gealy
- Adjunct Professors Dilday, Johnston, Rutger
- Associate Professors Counce, Longer, Mauromoustakos, McConnell, Muir, Purcell
- Visiting Associate Professor Moore
- Research Associate Professor Davis
- Assistant Professors Brye, Burgos, Chen, de los Reyes, Savin, Sheng, Slaton, Srivastava
- Adjunct Assistant Professor Aiken
- Research Assistant Professors Anders, Gibbons, Mattice, Mozaffari, Tingle, Widick, Wilson

Courses in the department of crop, soil, and environmental sciences provide fundamental and applied studies in two majors: crop management (CPMG) and environmental, soil, and water science (ESWS). Areas studied within the crop management major include plant breeding and genetics, crop and forage production, pest management (weeds, insects, and plant diseases), and soil fertility. The Environmental, Soil, and Water Science major includes courses in areas such as environmental science, water quality, soil science, soil and water conservation, and the sustainable productivity of natural resources. Supporting education in the basic sciences complements courses in the Crop Management and Environmental, Soil and Water Science majors.

Opportunities for employment and post-graduate study are numerous for graduates of the Department of Crop, Soil and Environmental Sciences. Crop Management graduates become involved in crop production or find employment in public agencies providing support services for agriculture (e.g., Extension Service, State Plant Board, Natural Resources Conservation Service), as consultants serving production agriculture, in the agrichemical and seed industries, and in agricultural research programs. Environmental, Soil, and Water Science graduates find jobs with environmental consulting companies, environmental education organizations, state agencies (e.g., Extension Service, Department of Environmental Quality, Health Department), federal agencies (e.g., Environmental Protection Agency, Natural Resources Conservation Service), municipalities and local environmental services (e.g., waste management and recycling, water and wastewater treatment facilities, parks and tourism departments), and a wide variety of private businesses. Many graduates from both majors also choose to continue their education in graduate programs in a wide variety of disciplines both related and complementary to the B.S. degrees.

Requirements for a B.S.A. degree with a major in crop management.

(See page 44 for University Core and page 75 for B.S.A. requirements)

35 hours of **University Core requirements** to include
CHEM 1103/1101L and
CHEM 1123/1121L
AGEC 1103
AGEC 2103 (For students wishing to minor in Ag Business)

University Advanced Composition Requirement:
ENGL 2003. If exempt, ENGL 3053 is required.

College Requirements:

COMM 1313 and Communication Elective CSES 3023
Electives: 17 hours

Departmental Requirements: 63 hours**General Agronomy:**

CSES/ENSC 1012 – Orientation to Crop, Soil and Environmental Sciences
AGME 2903 or CSCE 1003 – Applications of Microcomputers or Survey of Computer Concepts or
AGST 4023 or STAT 2303 – Principles of Experimentation or Principles of Statistics
(students wishing to minor in AG Business should not choose CSES 1003)
BIOL 1543/1541L – Principles of Biology/Lab
BOTY 1613/1611L – Plant Biology/Lab
BOTY 4304 – Plant Physiology or
ANSC/POSC 3123 or

BIOL 3323 – Principles of Genetics or General Genetics
 CHEM 2613/2611L – Organic Physiological Chemistry/Lab
 ENTO 3013 – Intro to Entomology
 PLPA 3004 – Principles of Plant Pathology
 CSES 2103/2101L – Crop Science/Lab
 CSES 2203/2201L – Soil Science/Lab
 CSES 4013 – Advanced Crop Science
 CSES 4133/4130L – Weed ID, Morphology and Ecology/Lab
 CSES 4143/4140L – Principles of Weed Control/Lab
 CSES 4224 – Soil Fertility
 CSES 462V – Internship or
 CSES 400V – Special Problems (1-3 hrs)

Select a total of 8 hours from groups A and B
 (at least 2 courses from Group A)

Group A:

CSES 3113 – Forage Management
 CSES 3312 – Cotton Production
 CSES 3322 – Soybean Production
 CSES 3332 – Rice Production
 CSES 3342 – Cereal Grain Production
 CSES 400V – (SP: CCA Review/Certification (1 hr)
 HORT 2303 – Intro to Turfgrass Mgmt.

Group B:

CSES 3214 – Intermediate Soil Science
 CSES 4103 – Plant Breeding
 CSES 4234 – Plant Anatomy
 CSES 4253 – Soil Classification and Genesis
 CSES 355V – Soil Profile Description (1–2 hrs)
 CSES 400V – Special Problems (1–6 hrs)
 PLPA 4333 – Introduction to Biotechnology

Select an additional 9 hours from one of the following two groups of courses. Taking 9 hours from the first group will complete the requirements for a Minor in Agricultural Business. Taking 9 hours from the second group will complete the requirements for a Minor in Pest Management. Students should retain a second adviser in the minor field of study from the appropriate department.

Minor in Agricultural Business:

AGEC 2303 – Introduction to Agribusiness
 AGECE 3403 – Farm Business Management
 AGECE 3303 – Food and Agricultural Marketing or
 AGECE 3373 – Futures and Options Markets or
 AGECE 3413 – Principles of Environmental Economics or
 AGECE 4313 – Agricultural Business Management

Minor in Pest Management:

CSES 4143 – Principles of Weed Control
 PLPA 4103 – Plant Disease Control
 ENTO 4123 – Insect Pest Management I or
 ENTO 4133 – Advanced Applied Entomology

Requirements for a B.S.A. degree with a major in environmental, soil, and water science:

(See page 44 for University Core and page 75 for B.S.A. requirements)

35 hours of **University Core requirements** to include:
 CHEM 1103/1101L and
 CHEM 1123/1121L

University Advanced Composition Requirement:

ENGL 2003 – exemption possible

College Requirements:

Comm 1313 and

3 hours communication elective selected from the following:

AGED 3142/3141L

CSES 3023 or any course from ENGL, JOUR, or COMM

Electives: 28 to 31 hours

Departmental Requirements: 55-56 hrs

CSES/ENSC 1012 – Orientation to Crop, Soil and Environmental Sciences

MATH 2043 – Survey of Calculus

BOTY 1613/1611L or

CSES 1203 – Plant Biology/Lab or Intro Plant Sciences

CHEM 2613/2611L – Organic Physiological Chem/Lab

MBIO 2013/2011L – General Microbiology/Lab

AGST 4023 or

STAT 2023 or

STAT 2303 – Prin of Experimentation or

Biostatistics or

Principles of Statistics

PHYS 2013/2011L – College Physics I/Lab

Select 9 hours from Environmental Sciences:

ENSC 1003 – Environmental Science (required)

AGEC 3413 – Principles of Environmental Economics

AGEC 4413 – Econ of Environmental Management

BIOL 3863/3861L – General Ecology

BIOL 4503 – Ecosystem Ecology

BIOL 485V – Field Ecology

ENSC 3253 – Septic Systems

ENSC 400V – Special Problems

GEOL 1113/1111L – General Geology/Lab

GEOG 3003 – Conservation of Natural Resources

GEOG 4543 – Geographic Info. Sys.

Select 11 hours from Soil Science:

CSES 2203/2201L – Soil Science/Lab (required)

CSES 3214/3210D – Intermediate Soil Science/Disc

CSES 355V – Soil Profile Description (1–2 hours)

CSES 4224/4220L – Soil Fertility/Lab

CSES 4253/4250L – Soil Classification and Genesis/Lab

CSES/ENSC 4263 – Env. Soil Sci.

Select 9 hours from Water Science:

ENSC 4023/4020L – Water Quality/Lab (required)

ENSC 3263/3260L – Envir. Soil and Water Conservation/Lab

AGME 4973 – Irrigation

AGME 4983 – Agricultural Meteorology

GEOL 4033 – Hydrogeology

GEOL 4043 – Water Resource Issues

GEOG 4353 – Elements of Weather

ZOOL 4814 – Limnology

Environmental science courses transferred from Northwest Arkansas Community College, Westark Community College and the University of Arkansas at Little Rock can be used to fulfill selected ESWS requirements. Consult an academic adviser to verify transfer applicability.

Requirements for a minor in crop management (CPMG):

18 semester hours of 2000-level courses or above including CSES 2103 and CSES 2203 and an additional 12 hours from the courses listed below, including at least two courses from Group A.

Group A:

CSES 3113, CSES 3312, CSES 3322, CSES 3332, CSES 3342

Group B:

CSES 2003, CSES 3214, CSES 4013, CSES 4103, CSES 4133, CSES 4143, CSES 4224 and CSES 4234.

A student planning to minor in crop management must notify the department of crop, soil, and environmental sciences and consult an adviser.

Requirements for a minor in environmental, soil, and water science (ESWS):

18 semester hours of courses to be selected from the following three categories

Category 1: Environmental science (6 hours)

to include ENSC 1003 and
3 additional hours from AGECE 3413, AGECE 4413,
BIOL 3863/3861L, BIOL 4503, BIOL 485V, ENSC 3253,
ENSC 400V, GEOL 1113/1111L, GEOG 3003, GEOG 4543

Category 2: Soil science (6-7 hours)

to include CSES 2203 and
3 to 4 additional hours from CSES 3214, CSES 4224,
CSES 4253, CSES/ENSC 4263

Category 3: Water science (6 hours)

to include ENSC 4023 and
3 additional hours from AGME 4973, AGME 4983,
ENSC 3263, GEOL 4033, GEOL 4043, GEOG 4353,
ZOO 4814.

A student planning to minor in environmental, soil, and water science should notify the department of crop, soil, and water sciences and consult with an academic adviser.

Requirements for a minor in pest management (PMGT):

See page 90 for requirements.

Requirements for a minor in global agricultural, food and life sciences (AFLS):

Students must successfully complete 18 hours of regular courses, including 15 hours of required courses and 3 hours of elective courses as described on page 80. No other program component is required for this minor.

SEE PAGE 274 FOR CROP, SOIL AND ENVIRONMENTAL SCIENCE (CSES) COURSES AND SEE PAGE 285 FOR ENVIRONMENTAL SCIENCE (ENSC) COURSES .

ENTOMOLOGY (ENTO)

Frederick M. Stephen
Interim Head of the Department
320 Agriculture Building
575-2451

- University Professors Meisch, Stephen
- University Professor Emeritus Musick, Phillips, Yearian
- Professors Johnson (D.T.), Kring, Luttrell, McLeod, Steelman, Steinkraus, Young
- Professors Emeriti Lancaster, Mueller, Tugwell, Warren
- Adjunct Professors Burleigh, Hendrix, Johnson (D.R.), Katayama, Teague, Thompson
- Assistant Professors Goggin, Szalanski
- Adjunct Assistant Professor Lorenz
- Research Assistant Professor Bernhardt

Entomology is the branch of science concerned with the study of insects and related organisms. It involves studies of their biology, structure, identification, economic significance, and population management. The major emphasis of the curriculum is an integrated approach to insect-pest management leading to ecologically and economically sound solutions to complex insect pest problems.

Entomology is a graduate degree. Undergraduate students interested in entomology should pursue a B.S.A. in pest management. See page 75 for degree requirements. A minor in entomology is also available.

Requirements for a minor in entomology (ENTO):

A minimum of 19 semester hours in entomology to include ENTO 3013, ENTO 4024 and ENTO 4123. Select three additional courses from ENTO 4013, ENTO 4033, ENTO 4043, ENTO 4053 and ENTO 4133.

Requirements for a minor in global agricultural, food and life sciences (AFLS):

Students must successfully complete 18 hours of regular courses, including 15 hours of required courses and 3 hours of elective courses as described on page 80. No other program component is required for this minor.

SEE PAGE 285 FOR ENTOMOLOGY (ENTO) COURSES.

ENVIRONMENTAL, SOIL, AND WATER SCIENCE (ENSC)

Department of Crop, Soil, and Environmental Sciences
J.L. Barrentine
Head of the Department
115 Plant Science Building
575-2354

David M. Miller
Program Coordinator
106 Agriculture Building
575-2354

Students interested in a B.S.A. degree in environmental, soil, and water science will find the requirements listed in the department of crop, soil, and environmental sciences section.

SEE PAGE 285 FOR ENVIRONMENTAL, SOIL, AND WATER SCIENCE (ENSC) COURSES.

FOOD SCIENCE (FDSC)

R. Buescher
 Head of the Department
 Food Science Building
 575-4605

- Distinguished Professor Morris (J.)
- University Professor Emeritus Kattan
- Professors Buescher, Crandall, Hettiarachchy, Howard, Johnson, Proctor, Siebenmorgen
- Professors Emeriti Davis, Gonzales, Sistrunk, Snyder
- Associate Professor Meullenet
- Adjunct Associate Professors Brady, Freeman, Howell, Li, Morris (M.), Prior, Pohlman
- Assistant Professor Wang
- Research Assistant Professor Yang
- Adjunct Assistant Professor Lehigh

Food Science is the discipline in which the engineering, biological and physical sciences are used to study the nature of foods, the causes of deterioration, the principles underlying food processing and the improvement of foods for the consuming public. Food Technology is the application of Food Science to the selection, preservation, processing, packaging, distribution, and use of safe, nutritious and wholesome food. A major in Food Science prepares students for a wide variety of interesting and challenging career opportunities with food companies and governmental agencies.

Students may choose one of two areas of concentration for their degree program: Food Science (FDSC) or Food Technology (FDTN). The Food Science concentration at the University of Arkansas is one of only 45 programs in the United States and the only one in Arkansas that provides a curriculum that is approved by the Institute of Food Technologists (IFT).

The Food Science concentration provides students with a strong background in the basic sciences and in advanced Food Science, which prepares them for graduate studies and careers in processing, research and development, quality control and assurance, value-added product development, sensory analysis, and food control and assurance, and food safety.

The Food Technology concentration provides students with an integrated background in food science and agribusiness and business. Students in the Food Technology concentration can readily complete a minor in agribusiness or business.

Ample elective hours exist in both concentrations to allow the selection of a minor in the Bumpers, Fulbright or Walton colleges.

Requirements for a B.S.A. degree with a major in food science:

(See page 44 for University Core and page 75 for B.S.A. requirements)

35 hours of **University Core requirements** to include:
 BIOL 1543/1541L
 CHEM 1103/1101L
 ECON 2143 or AGECE 1103 and
 AGECE 2103 for Food Science and Industry

University Advanced Composition Requirement:
 ENGL 2003 - exemption possible

College Requirements:

COMM 1313 and
 3 hours communication selected from
 AGED 3142/3141L

ENGL 3053 for Food Science Concentration
 Electives: 18 to 19 hours

Departmental Requirements: 72-73 hours

MBIO 2013/2011L
 CHEM 1123/1121L and CHEM 2613/2611L
 AFLS 1011 – Freshman Orientation
 FDSC 1011 – Food Science Orientation
 FDSC 3103/3100L – Principles of Food Processing/Lab
 FDSC 4713/4710L – Food Product Development/Lab

Requirements for Food Science Concentration (FDSC):

CHEM 3813 – Intro to Biochemistry
 MATH 1213 – Trigonometry
 MATH 2554 – Calculus I
 PHYS 2013/2011L – College Physics I
 ISYS 2013 or STAT 2303 or
 AGST 4023 – Statistics
 HESC 3204 – Nutrition for Health Professionals and Educators
 FDSC 4114/4110L – Food Analysis/Lab
 FDSC 4124/4120L – Food Microbiology/Lab
 FDSC 4201/4200L – Quality Evaluation and Control/Lab
 FDSC 4304/4300L – Food Chemistry/Lab
 FDSC 4413/4410L – Sensory Evaluation of Food/Lab
 FDSC 4754/4750L – Engineering Principles of Food Processing/Lab

Requirements for Food Technology Concentration (FDTN):

MATH 2043 – Survey of Calculus
 MATH 2053 – Finite Math
 FDSC 1103 – Introduction to Food Science
 FDSC 2503 – Food Safety and Sanitation
 FDSC 3202 – Introduction to Food Law
 FDSC 4302/4200L – Quality Evaluation and Control/Lab
 FDSC 431V(3) – Internship
 FDSC 4413/4410L – Sensory Evaluation of Food/Lab
 ACCT 2013 – Intro to Acct Info I
 ISYS 1121L – Intro to Computer Information Systems
 ISYS 2013 – Business Statistics
 MGMT 3563 – Mgmt. Concepts and Organizational Behavior or
 AGECE 4313 – Agricultural Business Management
 MKTT 3433 – Principles of Marketing or
 AGECE 3303 – Food and Agricultural Marketing
 and select 6 hours from:
 ACCT 2023 – Intro to Acct Info II
 MGMT 3743 – Human Resource Mgmt.
 AGECE 2303 – Intro to Agribusiness
 TLOG 3613 – Business Logistics
 AGECE 4143 – Agricultural Finance or
 any 3000 – 4000 Walton College of Business course

Requirements for a minor in food science (FDSC):

18 hours to include FDSC 3103, FDSC 4124, FDSC 4304 and 7 hours from FDSC 2503, FDSC 3202, FDSC 4114, FDSC 4203 or HESC 1213.

A student planning to minor in food science must consult a department of food science adviser.

Requirements for a minor in global agricultural, food and life sciences (AFLS):

Students must successfully complete 18 hours of regular courses, including 15 hours of required courses and 3 hours of elective courses as described on page 80. No other program component is required for this minor.

SEE PAGE 287 FOR FOOD SCIENCE (FDSC) COURSES

HORTICULTURE (HORT)

David L. Hensley
 Head of the Department
 316 Plant Sciences Building
 575-2603

- Distinguished Professor Emeritus Moore
- University Professor Emeritus Rom (R.)
- Professors Klingaman, Morelock, Murphy, Clark
- Professors Emeriti Bradley, Einert, Huang, McFerran, Martin
- Associate Professors Rom (C.), Evans, Richardson
- Associate Professors Emeriti King, Wheeler
- Research Associate Professors Robbins, Striegler
- Assistant Professors, Andersen, Cole, Karcher, Lindstrom, Richardson, Srivastava
- Assistant Professor Emeritus McDaniel

The department of horticulture offers two major degree plans: horticulture (HORT) and turf and landscape horticulture (TLHT).

Horticulture involves production, management, marketing, and use of ornamental crops (shrubs, trees, flowers and turf) and edible crops (vegetables and fruits) for the economic, aesthetic and nutritional well being of society. The horticulture major provides education in basic and applied sciences, arts and humanities, communication and leadership, business and economics, to provide an understanding of the underlying principles in plant growth and development, development and use of new technologies, and the actual operation of a horticultural enterprise. An internship in the industry to gain practical, hands-on experience is required. Job opportunities for horticulturists include horticulture crop production and management, horticulture merchandising and business, consulting, inspection, research, teaching, communications, allied industries serving horticultural producers, and developing private business. Advanced study may be required for some careers. Students pursuing the horticulture degree may choose to concentrate studies in one of three areas:

1. Horticulture Management and Production (HMAP)
2. Horticulture Science (HSCI)
3. Horticulture Merchandising (HMER).

The turf and landscape horticulture (TLHT) major blends broad training in turf and ornamental horticulture with a strong basis in science. This major also requires an internship in the industry to gain practical, hands-on experience. Students interested in careers related to golf course or sports turf management, or to the diverse landscaping industries have two concentration options:

- A) Turf Management (TMGM)
- B) Landscape Horticulture (LHRT).

Turf management students will be exposed to the many aspects of the turfgrass industry and receive specific training in horticulture, environmental sciences, pest management, business and communications. Landscape horticulture students will receive instruction in selection, care and use of plant materials as well as the skills of management for the residential, commercial or public landscapes.

Job opportunities for turf management graduates include golf course superintendent, sports field manager, turfgrass service companies, seed or sod production, green industry journalism, research, teaching or private consulting. Landscape horticulture graduates will be prepared for careers in the landscape management industry, landscape nurseries, landscape architectural firms, private and public gardens, and public agencies such as parks and recreation.

Requirements for a B.S.A. degree with a major in horticulture:

(See page 44 for University Core and page 75 for B.S.A. requirements)

35 hours of **University Core requirements** to include:

BOTY 1613/1611L

CHEM 1074/1071L (except HSCI concentration –
 CHEM 1103/1101L)

3 hours from ECON 2143, ECON 2013, ECON 2023, or
 AGEC 1103, AGEC 2103

University Advanced Composition Requirement:

ENGL 2003 - exemption possible

College Requirements:

COMM 1313 and

3 hours Communication Elective. See adviser for suggested list of courses.

Electives: 9-20 hours

Departmental Requirements: 53-63 hrs

AFLS 1011,

CSES 2203/2201L,

BOTY 4304/4300L

Select 3 hours from:

AGED 3142/3141L, AGED 4003,

COMM 2323, COMM 2351, COMM 3303 or COMM 3703

Select 3-4 hours from:

PHYS 1023/1021L, PHYS 2013/2011L, PHYS 2054 or

PHYS 1044, BIOL 3323/3321L or ANSC 3123

(Note: students must take the accompanying lab to courses)

Select 3 hours of environmental science, earth science, or geology: See adviser for suggested list of courses.

Select 3 hours from:

AGEC or BADM:

See adviser for suggested list of courses.

Select 3 hours from

CSES 2003, ENTO 3013 or PLPA 3004

14 hours of horticulture courses to include the following:

HORT 2003 – Principles of Horticulture

HORT 4403 – Plant Propagation

HORT 462V, HORT 463V, HORT 464V or

HORT 465V – Internship (3 hrs)

HORT 3901 – Horticultural Career Development

Select 3 hours from:

HORT 3103 - Woody Landscape Plants or

HORT 3113 - Herbaceous and Indoor Plant Materials

Additional Requirements for Concentration A:
Horticulture Management and Production (HMAP)

CHEM 2613/2611L

Select 3 hours from Turf and Landscape:

HORT 2303, HORT 4603 or HORT 4043

Select 3 hours from Edible Crops:

HORT 3303, HORT 4103/4100L

Select 6 hours from Plant Materials/Floriculture/Nursery/
Greenhouse Crops:
HORT 3103, HORT 3133, HORT 4503, HORT 4703, or
HORT 4803

Select 3 hours from Pest Management:
CSES 2003, ENTO 3013, or PLPA 3004

Additional Requirements for Concentration B: Horticulture Science (HSCI)

CHEM 1123/1121L, CHEM 2613/2611L
MATH 2043 or MATH 2554

Select 3 to 4 hours from:
BIOL 3323/3321L, ANSC 3123, PHYS 2013/2011L, PHYS 2054
(a genetics and physics class are required in the HSCI
concentration)

9 hours of HORT classes 3000 level or above

Additional Requirements for Concentration C: Horticulture Merchandising (HMER)

Select 12 hours from horticulture management and production:
HORT 2303, HORT 3113, HORT 3303, HORT 3403,
HORT 4033, HORT 4043, HORT 4103, HORT 4503,
HORT 4703 or HORT 4803

Select 3-4 hours from
ANSC 3123 or CSES 2003, ENTO 3013, PLPA 3004,
AGME 3153, AGME 3102/3101L, AGME 4973, AGME 4983

Select 3-4 additional hours from the preceding areas or from
BOTY 4104, CHEM 2613, PHYS 2013/2011L,
PHYS 2054/2050L, BIOL 3323/3321L or any HORT course

Select 6 hours of business courses from:
AGEC 2303, AGECE 3403, AGECE 3303, AGECE 3413,
MGMT 3563,
FINN 3043, FINN 3623,
BLAW 2013,
ACCT 2013,
MKTT 3433, MKTT 3533, MKTT 4033, MKTT 4533,
MKTT 4933, MKTT 4943,
JOUR 3723,
ISYS 2232, ISYS 3603,
TLOG 3613 or TLOG 3623

Select 12 hours from AGECE, ACCT, BLAW, ECON, FINN,
ISYS, MGMT or MKTT
Students are encouraged to pursue an agricultural business or
business minor.

Requirements for a B.S.A. degree with a major in turf and landscape horticulture.

(See page 44 for University Core and page 75 for B.S.A, require-
ments)

35 hours of **University Core requirements** to include:
BOTY 1613/1611L
CHEM 1074/1071L

3 hours from:
AGEC 1103, AGECE 2103,
ECON 2013, ECON 2023, ECON 2143

University Advanced Composition Requirement:
ENGL 2003 – exemption possible

College Requirements:

COMM 1313 and
3 hours communication elective selected: See adviser for sug-
gested list of courses
Electives: 20-25 hours

Departmental Requirements: 60-61 hrs

AFLS 1011
CHEM 2613/2611L
CSES 2203/2201L
BOTY 4304/4300L

Select 3-4 hours from:
PHYS 1023/1021L, PHYS 2013/2011L, PHYS 2054,
PHYS 1044,
BIOL 3323/3321L or ANSC 3123
(Note: students must take accompanying lab to courses)

Select 3 hours from AGECE or BADM:
See adviser for suggested list of courses

10 hours of Horticulture
HORT 2003 – Principles of Horticulture
HORT 3103 – Woody Landscape Plants or
HORT 3113 – Herbaceous and Indoor Plants
HORT 3901 – Horticulture Career Development
HORT 462V or HORT 464V – Internship (3 hrs)

Additional Requirements for Concentration A: Turf Management (TMGM)

21 hours from Turf Management and Soils to include:
HORT 2303 – Intro to Turfgrass
HORT 3403/3400L –Turfgrass Management
HORT 4033/4030L – Landscape Installation
HORT 4043 – Landscape Management
HORT 4903/4900L – Golf and Sports Turf
CSES 4224/4220L – Soil Fertility
PLPA 3004/3000L – Plant Pathology
AGME 3102/3101L – Turf Equipment or
AGME 4973/4970L – Irrigation

Additional Requirements for Concentration B: Landscape Horticulture (LHRT)

HORT 2303 – Intro to Turfgrasses
HORT 4033 – Landscape Installation
HORT 4043 – Landscape Management
HORT 4603 – Practical Landscape Planning
HORT 3103/3100L – Woody Plants
HORT 3133/3130L – Advanced Woody Plants or
HORT 3113/3110L – Herbaceous Plants
AGME 3153 – Surveying or
AGME 3102/3101L – Turf and Landscape Equipment
AGME 4973/4970L – Irrigation

Select 6 hours of Pest Management:
CSES 2003/2000L
ENTO 3013/3010L or PLPA 3004/3000L

Requirements for a minor in horticultural production (HORT):**18 hours to include the following:**

HORT 2003/2000L, HORT 4403.

Select 9 hours from:

HORT 2303, HORT 4803, HORT 3303, HORT 4103,
HORT 4503, or
HORT 4703, HORT 401V.

Select 3 hours from

HORT 3103, HORT 3113 or HORT 3133

Requirements for a minor in landscape design and urban horticulture (LHRT):

18 hours to include HORT 2003, HORT 3103 or HORT 3113,
HORT 4043, HORT 4603 or LARC Studio Course

Select 6 additional hours from:

HORT 2303, HORT 3103, HORT 3113, HORT 3403,
HORT 4033, HORT 400V (MAXIMUM 3 HRS),
HORT 4703, HORT 4503 or HORT 4403 or LARC 3734

Requirements for a minor in turf management (TURF):

19 hours to include the following:

CSES 2203/2201L.

Select 6 hours from HORT 2303, HORT 3403, 4033 or
HORT 4903;

6 hours from ENTO 400V or HORT 3103 or HORT 4043.

Select 3 hours from AGME 4973/4970L, AGME 3102/3101L

Requirements for a minor in global agricultural, food and life sciences (AFLS):

Students must successfully complete 18 hours of regular courses, including 15 hours of required courses and 3 hours of elective courses as described on page 80. No other program component is required for this minor.

SEE PAGE 298 FOR HORTICULTURE (HORT) COURSES.

PEST MANAGEMENT (PMGT)

Interdepartmental Major
Randy Luttrell, Program Coordinator
321 Agriculture Building
575-3154

- University Professors Kim, Meisch, Oliver, Riggs, Stephen, Talbert, Yearian
- Professors Barrentine, Correll, Gergerich, Johnson (D.T.), Kirkpatrick, Kring, Lee, Lim, Luttrell, McLeod, Rothrock, Rupe, Steinkraus, TeBeest, Tugwell, Young
- Associate Professors Fenn, Milus
- Assistant Professor Burgos
- Extension Specialists Cartwright, Coker, Lorenz
- Extension Specialist Spradley
- Extension Specialists Boyd, Johnson
- Extension Specialist Baldwin

The pest management major is an interdisciplinary program of study in the Departments of Crop, Soil, and Environmental Sciences, Entomology and Plant Pathology in the Bumpers College. The major

is coordinated by an interdepartmental steering committee. Although students may be advised by faculty in any of the three departments referenced above, they should contact the program coordinator to be assigned an appropriate adviser. The program is designed for those students seeking employment with various agriculturally related industries such as chemical, seed or biotechnology companies, state and federal research institutions, extension and regulatory agencies, private and public consulting firms, farmer's cooperatives, nurseries, home and garden centers, green house production firms and corporate farms. This degree program prepares students to work in an increasingly technical, rapidly growing segment of agriculture.

Effective management of pest problems requires a broad base of knowledge in the pest disciplines (entomology, plant pathology and weed science), in biological/physical sciences and crop management as well as practical field experience. This knowledge and experience is provided in the undergraduate pest management major. A broad range of electives allows students to personalize their program to fit specific interests. The program is also designed to prepare students who wish to pursue graduate studies (master's and doctoral degrees). Additional information is available on the pest management Web site.

Requirements for a B.S.A. degree with a major in pest management.

(See page 44 for University Core and page 75 for B.S.A. requirements)

35 hours of **University Core requirements** to include:

BIOL 1543/1541L
CHEM 1103/1101L

University Advanced Composition Requirement:

ENGL 2003 - exemption possible

College Requirements:

COMM 1313 and

3 hours Communication elective selected from the following:

AGED 3142/3141L – Agri Communications/Lab
CSES 3023 – Agronomy Colloquium
ENGL 3053 – Technical and Report Writing
COMM 2351 – Parliamentary Procedure
COMM 2323 – Interpersonal Communication
AGED 4003 – Issues in Agriculture
COMM 2303 – Public Speaking
Electives: 21-26 hours

Departmental Requirements: 58-60 hrs

AGST 4023 – Principles of Experimentation
CHEM 1123/1121L – University Chemistry II/Lab and
CHEM 2613/2611L – Organic Physiological Chem/Lab
BIOL 3323/3321L – General Genetics/Lab or
ANSC/POSC 3123 – Principles of Genetics

Select 12 hours from:

BOTY 1613/1611L – Plant Biology/Lab or
CSES/HORT 1203 – Introduction to Plant Sciences
MBIO 2013/2011L – General Microbiology/Lab
PHYS 2013/2011L – College Physics I/Lab
BOTY 4304 – Plant Physiology
CSES 4013 – Advanced Crop Sciences

And the following courses in pest management:

CSES 2103 – Crop Science or
HORT 2003 – Principles of Hort.
CSES/ENTO/PLPA 4093 – Issues in Pest Management
CSES/ENTO/PLPA 462V (3 hrs) – Internship in Pest Mgmt.

CSES 2203/2201L – Soil Science/Lab
 CSES 2003 – Intro to Weed Science
 ENTO 3013 – Intro to Entomology
 PLPA 3004 – Principles of Plant Path

Select 9-10 hours from the following, with at least one course from each area (CSES, ENTO and PLPA)

CSES 4133 – Weed ID, Morphology and Ecology
 CSES 4143 – Prin of Weed Control
 ENTO 4024 – Insect Diversity and Taxonomy
 ENTO 4053 – Insect Ecology
 ENTO 4123 – Insect Pest Mgmt I
 ENTO 4133 – Advanced Applied Entomology
 PLPA 4103 – Plant Disease Control

Requirements for a minor in pest management (PMGT):

20-21 hours to include CSES 2003, ENTO 3013 and PLPA 3004.

In addition, students must select one course from each area: CSES 4143 or CSES 4133; ENTO 4024, ENTO 4123 or 4133; and PLPA 4103. Students planning to minor in pest management must declare their intention to the Program Coordinator.

PLANT PATHOLOGY (PLPA)

Sung M. Lim
 Head of the Department
 217 Plant Sciences Building
 575-2446

- University Professor Riggs
- University Professor Emeritus Scott
- Professors Correll, Gergerich, Kirkpatrick, Lee, Lim, Robbins, Rothrock, Rupe TeBeest, Weidemann
- Professors Emeriti Dale, Fulton, Jones, Kim, Scott
- Associate Professors Fenn, Milus, Yang
- Assistant Professor Korth
- Research Associate Professor Cartwright
- Adjunct Assistant Professors Jia, Vann

Plant pathology as a discipline seeks to understand the interrelationships of plants with the abiotic and biotic agents that affect plant health and productivity with the goal of minimizing the impacts of plant diseases on agricultural production and human health. Scientific training within the department focuses on the nature, cause and management of plant diseases caused by fungi, bacteria, viruses and nematodes.

Plant pathology is a graduate degree program. Undergraduate students interested in plant pathology should pursue a B.S.A. degree in pest management. See page 75 for degree requirements. A minor in plant pathology is also available to undergraduate students.

Requirements for a minor in plant pathology (PLPA):

19 hours to include PLPA 3004, PLPA 400V and PLPA 4103. The remaining 9 hours to be selected from the following: BIOL 4353, BOTY 4304, BOTY 4424, and MBIO 4233, MBIO 4753. A student planning to minor in plant pathology should notify the department of plant pathology and consult an adviser.

SEE PAGE 322 FOR PLANT PATHOLOGY (PLPA) COURSES

POULTRY SCIENCE (POSC)

Walter G. Bottje
 Interim Head of the Department
 0114 Poultry Center
 575-3699

- Distinguished Professor Emeritus Forsythe
- University Professor Waldroup (P.W.)
- University Professors Emeriti Gyles, Nelson
- Professors Anthony, Bottje, Chapman, Coon, Denton, Hargis, Kirby, Kuenzel, Slavik, Wideman
- Professors Emeriti Andrews, Beasley, Harris
- Research Professors Donoghue (A.), Huff (W.), Jones, Rath
- Adjunct Professors Bristol, Keck, Plue, Porter, Rhoades, Steelman, Waldroup (A.)
- Associate Professors Emmert, Erf, Goodwin, Li, Parcels
- Research Associate Professors Clark, Marcy, Watkins
- Adjunct Associate Professors Story, Meullenet
- Assistant Professors Donoghue (D.), Kwon, Okimoto, Owens
- Research Assistant Professors Balog, Bramwell, Huff (G.), Newberry
- Adjunct Assistant Professors Breeding, Cook, Davis, Fussell
- Adjunct Research Assistant Professor Pumford

A major in poultry science is designed to provide the scientific and technical education to prepare students for positions of leadership and responsibility in the expanding fields of production, processing, marketing and distribution of meat, eggs and related poultry products. The curriculum also prepares students for career opportunities in specialized areas of nutrition, breeding and genetics, physiology, management, food science, immunology and disease.

Ample elective hours allow students to select a minor and thus personalize their degree. Elective hours can also be used to emphasize areas of business, production, processing or science. Pre-veterinary medicine or pre-medical or pre-pharmacy requirements may be fulfilled while meeting degree requirements.

Curricula are designed to permit the student to obtain the necessary foundation to pursue graduate study for the master's and doctoral degrees. Advanced degrees are offered but not limited to the areas of nutrition, genetics, physiology, product technology and poultry health.

Requirements for a B.S.A. with a major in poultry science.

(See page 44 for University Core and page 75 for B.S.A. requirements)

35 hours of **University Core Requirements** to include:

BIOL 1543/1541L
 CHEM 1103/1101L

University Advanced Composition Requirement:

ENGL 2003 – exemption possible

College Requirements:

COMM 1313 and 3 hours Communication electives chosen from any of the following:

AGED 3142/3141L
 COMM 2303, COMM 2323, COMM 3303, COMM 3703,
 COMM 4323 or COMM 4343
 ENGL 1213, ENGL 2013, ENGL 2023, or ENGL 3053
 JOUR 1033

Departmental Requirements: 48 hours to include

CHEM 1123/1121L, CHEM 2613/2611L

STAT 2303
 MBIO 2013/2011L
 and the following poultry science courses:
 POSC 1002L – Intro to Poultry Careers Lab
 POSC 2353 – Broiler/Turkey Production
 POSC 2363 – Breeder/Layer Management
 POSC 2554 – Poultry Biology
 POSC 3032 – Animal Physiology I
 POSC 3042 – Animal Physiology II
 POSC 3123 – Principles of Genetics
 POSC 3223 – Poultry Diseases
 POSC 4213 – Integrated Poultry Mgmt.
 POSC 4314 – Egg and Meat Tech.
 POSC 4343 – Poultry Nutrition
 POSC 4901 – Undergraduate Seminar

Requirements for a minor in poultry science (POSC):

19 semester hours in courses above the freshman level to include POSC 2353 or POSC 2363 and POSC 3223, POSC 4314, POSC 4213, POSC 4343 and 3 hours POSC elective. A student planning to minor in poultry science should consult a departmental adviser.

Requirements for a minor in global agricultural, food and life sciences (AFLS):

Students must successfully complete 18 hours of regular courses, including 15 hours of required courses and 3 hours of elective courses as described on page 80. No other program component is required for this minor.

SEE PAGE 324 FOR POULTRY SCIENCE (POSC) COURSES

SCHOOL OF HUMAN ENVIRONMENTAL SCIENCES (HESC)

Mary M. Warnock
 Director
 118 Home Economics Building
 575-4305

- Professors Anderson, Farmer, Martin, Warnock, Whan
- Professors Emeritae Burton, Carroll, Cotton, Kenney, McCoy, Voth
- Associate Professors Bailey, Gentry, Noble, Turner
- Assistant Professors Apple, Fitch-Hilgenberg, Foote, Gloeckler, Killian, Miller, Myres, Takigiku, Webb
- Assistant Professors Emeritae Cunningham, Noyce, Raymond
- Instructors Baldwin, Crandall, Loewer, Smith, Young

The School of Human Environmental Sciences at the University of Arkansas prepares students for a wide variety of professional careers in education, industry, business, government and community services. The School is concerned with improving the quality of life for individuals and families as they exist and function in society. Human environmental sciences draws knowledge from its own research, from the physical, biological, and social sciences, and from arts and humanities. It relates this knowledge to an understanding of individuals' and families' needs and goals for food, clothing, shelter, management of resources, and human development and relationships. The School of Human Environmental Sciences has made a substantial contribution to the development of individuals and families through undergraduate and graduate preparation of human envi-

ronmental scientists and through research in human nutrition, foods, human development, family sciences, interior design, clothing and textiles.

Human Environmental Sciences Majors and Minors

Students pursuing the bachelor of science degree in human environmental sciences (B.S.H.E.S.) may choose one of four majors. These programs have been accredited by the Council for Professional Development of the American Association of Family and Consumer Sciences. The four majors are as follows:

1. Food, Human Nutrition and Hospitality (FHNH)

Concentration A: Dietetics (DIET)

Concentration B: General Foods and Nutrition (GFNU)

Concentration C: Hospitality & Restaurant Mgmt. (HRMN)

2. Apparel Studies (APST)

3. General Human Environmental Sciences (HESC)

4. Human Development, Family Sciences & Rural Sociology (HDFS)

Concentration A: Child Development (CDEV)

Concentration B: Lifespan (LSPN)

Interior Design (IDES)

Students pursuing the bachelor of interior design (B.I.D.) degree must major in interior design (IDES). This program is accredited by the Foundation for Interior Design Education Research (FIDER).

Two minors are offered in human environmental sciences: human development, family sciences and human nutrition. Specific course requirements for the minors are listed at the end of the curriculum sections. Students may also minor in journalism as well as other select minors in the J. William Fulbright College of Arts and Sciences or the Sam M. Walton College of Business.

For information concerning graduate programs in human environmental sciences, consult the Graduate School Catalog. The Global Agricultural, Food and Life Sciences minor is offered in Dale Bumpers College of Agricultural, Food and Life Sciences.

Requirements for a bachelor of science in human environmental sciences (B.S.H.E.S.)

	HOURS
1. A total of 124 semester hours with a 2.00 cumulative GPA.	
2. A minimum of 39 hours of courses 3000 level or above	
3. University Core Requirements	35
See page 44 for requirements. Check requirements for each major. Some require specific core courses.	
NOTE: ENGL 2003 will not count as part of the total number of hours for a degree in the food, human nutrition and hospitality curriculum.	
4. Other University Requirements	3
Advanced Composition Requirement (see page 43)	
If exempt from advanced composition, 3 hours of ENGL, COMM, JOUR or Foreign Language are required. See specific major requirements	
5. College Requirements	3
COMM 1313	
6. Electives	4 - 23
Electives can be used to develop a minor	
7. School Requirements	64 - 78
See specific majors and concentrations	

FOOD, HUMAN NUTRITION AND HOSPITALITY (FHNH)

The curriculum in food, human nutrition and hospitality allows students to prepare for a career in a specialized area of foods and nutrition by completing a common set of basic courses and one of the concentrations:

- A: dietetics (DIET);
- B: general foods and nutrition (GFNU) and
- C: hospitality and restaurant management (HRMN).

Interest and aptitude for the biological and physical sciences that support nutrition science are needed to complete concentrations A and B successfully. Concentration C is the best choice for those students who have an interest in management and who enjoy working with people.

Concentration A - Dietetics (DIET): This concentration is for the student whose goal is to become a registered dietitian (RD). Courses required include those necessary as prerequisites to a dietetic internship. An internship is required for eligibility to take the national registration examination and for eligibility for licensure. Students who complete the program with a minimum grade point average of 3.0 may apply for an internship. Upon licensure, students practice as registered dietitians in the health care field or as consulting dietitians in private practice, sports nutrition or in wellness and health maintenance centers. Students with lower GPAs may apply for supervised practice programs leading to the dietetic technician registered (DTR) certification.

Concentration B - General Foods and Nutrition (GFNU): Students taking this concentration are encouraged to select an approved minor from the Bumpers, Walton or Fulbright colleges or plan other combinations of courses to prepare for non-traditional vocations including work in community or government sponsored programs, wellness and health maintenance centers, public relations in the food industry, TV/media outlets for food and nutrition information, and international food or nutritional programs.

Concentration C - Hospitality and Restaurant Management (HRMN): Students in the hospitality and restaurant management concentration prepare themselves for managerial positions in the restaurant and hospitality industry. This dynamic curriculum provides students with skills in foods and business, as well as hospitality and restaurant management. Students have the opportunity to manage and operate a restaurant on campus. Students obtain hands-on experience by completing 1,000 hours of satisfactory, verifiable work experience in the hospitality and restaurant industry, usually completed during the summer and on part-time jobs during the school year. This noncredit work experience must be completed prior to graduation. A management internship, which allows students to acquire practical management experience and specialized knowledge from supervised work in a hotel, restaurant or other hospitality-related business, is also part of this degree. Students in this program can complete a minor in business.

Requirements for a B.S.H.E.S. degree with a major in food, human nutrition and hospitality.

See page 44 for University Core and page 94 for B.S.H.E.S. requirements.

- 35 hours of **University Core requirements** to include:
HESC 2413
PSYC 2003

Concentration A (DIET) and B (GFNU) to include:
CHEM 1103/1101L
CHEM 1123/1121L
MATH 1203 or MATH 1213

Concentration C (HRMN) to include:
Either the two chemistry classes listed above or
CHEM 1074/1071L
BIOL 1543/1541L

University Advanced Composition Requirement:
ENGL 2003 – exemption possible

College Requirement:
COMM 1313
Electives: 5 - 19 hours
(Highly recommended for Concentration B: EXED 3023;
for Concentration C: foreign language and HLSC 3633.)

School Requirements: 68 - 81 hours
PEAC or DEAC – 2 hrs
HESC 1501 – Orientation to HESC
HESC 1213 – Nutrition in Health
HESC 2112/2111L – Foods I/Lab
HESC 3604 – Food Prep for Hospitality Industry
HESC 3653 - Food Systems Mgmt.
HESC 4103 - Experimental Foods
HESC 4303 - Professional Development in HESC

Requirements for Concentrations A: Dietetics and B: General Foods and Nutrition
ENGL 3053 or JOUR 3123 or AGED 3142/3141L
MBIO 2013/2011L
CHEM 2613/2611L and CHEM 3813
ISYS 1121L
ZOO 2213/2211L and ZOO 2443/2441L or
BIOL 1543/1541L and ANSC 3032 and ANSC 3042
HESC 3204 – Nutrition for Health Professionals and Educators
HESC 3213 – Dietetic and Nutrition Practice
HESC 4213 – Advanced Nutrition
HESC 4223 – Nutrition/Life Cycle
HESC 4243 – Community Nutrition
HESC 425V (1 hr) – Seminar

Additional Requirements for Concentration A: Dietetics
HESC 1201 - Introduction to Diet and Nutrition
AGST 4023 and MGMT 3563
HESC 4264/4260L - Medical Nutrition Therapy I/Lab
HESC 4273 - Medical Nutrition Therapy II
HESC 4613 - Food Service Purchasing
HESC 4623 - Selection and Layout of Food Service Equipment
MGMT 3563 - Mgmt. Concepts and Organizational Behavior

Additional Requirements for Concentration B: General Foods and Nutrition

HESC 1201 - Introduction to Diet and Nutrition and/or
HESC 1603 - Introduction to Hospitality

Requirements for Concentration C: Hospitality and Restaurant Management

HESC 1603 - Introduction to Hospitality
BLAW 2013 and AGED 3142/3141L
ECON 2013 and ECON 2023 or
AGEC 1103 and AGECE 2103
MATH 2043 and MATH 2053

(Math 1203, prerequisite for MATH 2043 and MATH 2053, required for hospitality and restaurant management students who do not have the required math proficiency.)

ACCT 2013 and ACCT 2023

ISYS 1121L and ISYS 2232 and ISYS 2013

FINN 3043 and MGMT 3563 and MGMT 3743 and MKTT 3433

FDSC 2503 - Food Safety/Sanitation

HESC 2120L - Catering for Healthy Lifestyles Lab

HESC 2123 - Catering for Healthy Lifestyles

HESC 4613 - Food Service Purchasing

HESC 4623 - Selection and Layout of Food Service Equipment

HESC 4693 - Hospitality Internship

Requirements for a minor in nutrition (General Foods and Nutrition): 18-19 hrs

HESC 1213, HESC 2112/2111L, HESC 3204 and HESC 4213.

Select 5-6 hours from HESC 4223, HESC 4243 and HESC 425V
(1 hour may be taken twice)

APPAREL STUDIES (APST)

The apparel studies program opens the door to careers in the fashion industry. Buyer, product development specialist, fashion coordinator, sales consultant, visual display artist, and quality assurance technician are only a few of the possibilities. Classes in business, retailing, apparel production, science, social science, and the liberal arts give students a basic knowledge about the textile and apparel industries. By selecting from a variety of minors, students can tailor this program to meet their goals. Program strengths include guest speakers who provide insight into today's careers, tours of major fashion centers and internships which provide valuable career experience.

Requirements for a B.S.H.E.S. degree with a major in apparel studies.

(See page 44 for University Core and page 94 for B.S.H.E.S. requirements)

35 hours of **University Core requirements** to include:

CHEM 1074, 1071L and BIOL 1543, 1541L

(Two semesters of chemistry, CHEM 1103/1101L and CHEM 1123/1121L, may be substituted for CHEM 1074/1071L.)

PSYC 2003

ECON 2143

ANTH 1023 or SOCI 2013

ARTS 1003

Select 3 hours from University Core Humanities (section B, C, or D)

University Advanced Composition Requirement:

ENGL 2003 – exemption possible

College Requirement:

COMM 1313

Electives: 15 hours (Suggested elective minor areas are marketing, journalism, drama, art or art history.)

School Requirements: 64 hours

MATH 2053

MKTT 3433

Select 3 hours from the following:

ISYS 1121L and ISYS 2232 or AGME 2903 or CSCE 1003

Select 6 hours of any Foreign Language (not to be used as exemption for ENGL 2003)

Select 52 hours of HESC courses:

HESC 1501 – Orientation

HESC 1013 – Intro to Clothing Concepts

HESC 1023 – Intro to Apparel Production

HESC 1053 – Computer Based Methods

HESC 2013 – Quality Assess of Apparel

HESC 2023 – Visual Merchandising

HESC 2053 – Intro to Textile Science

HESC 3003 – Apparel Production

HESC 3013 – Intro Fashion Merchandising

HESC 3033 – Apparel Merchandising

HESC 4023 – Merchandising Methods

HESC 4043 – History of Apparel

HESC 4053 – Contemporary Apparel

HESC 4063 – Advanced Apparel Production

HESC 4073 – Internship

HESC 4303 – Professional Development

HESC 1213 – Nutrition in Health

HESC 2413 – Family Relations

GENERAL HUMAN ENVIRONMENTAL SCIENCES (GHES)

The general human environmental sciences curriculum serves students seeking a background in all of the subject-matter areas of human environmental sciences. The general curriculum prepares students for careers in social services, business and the Cooperative Extension Service. Liberal elective hours allow students to select courses and programs to meet individual needs.

Students may be certified by the Arkansas State Board of Education to teach family and consumer sciences in Arkansas public schools by combining the pre-professional education courses as electives and completing the master of arts in teaching (M.A.T.) degree requirements. (See M.A.T., page 171). At the beginning of the sophomore year, students should consult with their adviser to schedule the general education and pre-professional education courses.

Requirements for a B.S.H.E.S. degree with a major in general human environmental sciences.

See page 44 for University Core and page 94 for B.S.H.E.S. requirements.

35 hours of **University Core Requirements** to include:

CHEM 1074/1071L

(Two semesters of chemistry, CHEM 1103/1101L and CHEM 1123/1121L, may be substituted for CHEM 1074/1071L.)

BIOL 1543, 1541L

PSYC 2003

Plus two courses to meet state minimum social sciences core

ARTS 1003

Select 3 hours from

PHIL 2003, PHIL 2103, PHIL 2203 or WLIT 1113, WLIT 1123

ENGL 1013, ENGL 1023

University Advanced Composition Requirement:

ENGL 2003 - exemption possible

College Requirement:

COMM 1313

Electives – 12-14 hours

HIST 2003, HIST 2103, or PLSC 2003

MATH 1203 or MATH 1213

(Students wishing to qualify for the M.A.T. need six hours of English, World Literature or American Literature and three hours of Western Civilization or World Civilization.)

School Requirements: 46 hours

General Electives: 31-33 hours
CHEM 2613/2611L
1- to 3-hour computer class
PEAC 1621
HLSC 1002

Select 43 hours of HESC courses:

HESC 1013 – Intro to Clothing Concepts
HESC 1023 – Intro to Apparel Prod
HESC 1213 – Nutrition in Health or
HESC 3204 – Nutrition Health Prof. And Ed.
HESC 1403 – Lifespan Development
HESC 1501 – Orientation
HESC 2053 – Intro Textile Science
HESC 2112/2111L – Foods I/Lab
HESC 2123/2120L – Catering/Healthy Lifestyles/Lab
HESC 2413 – Family Relations
HESC 3402 – Child Guidance
HESC 4753 – Family as Consumers
HESC 3763L – Family Resources Mgmt. Lab
HESC 4813 – Human Factors in ID
HESC 4303 – Professional Development
HESC 4453 – Parenting/Family Dynamics

**HUMAN DEVELOPMENT, FAMILY SCIENCES
AND RURAL SOCIOLOGY (HDFSRS)**

Students majoring in human development and family sciences prepare for one of the fastest growing employment opportunities in the country. The human services area includes jobs that serve people from conception through the last stages of life. Students develop skills for working with individuals and families in governmental, private, and nonprofit organizations. Two concentrations are offered:

Concentration A: Child Development (CDEV)

This concentration is for students who desire in-depth knowledge of children and programs for children from birth to age 12. The focus on children covers issues from the prenatal to early adolescent period in the lifespan. Graduates are working as preschool teachers, daycare directors, specialists in the field of child life and as child advocates.

Concentration B: Lifespan (LSPN)

This area of study covers the care issues faced by families and individuals in contemporary society. The knowledge and skills developed in this program will prepare the student to work in areas such as aging, parent education, financial and consumer counseling, youth services and other human service type careers.

Requirements for a B.S.H.E.S. degree with a major in human development and family sciences.

See page 44 for University Core and page 94 for B.S.H.E.S. requirements.

35 hours of **University Core Requirements** to include:

BIOL 1543/1541L
4 hours from ASTR, CHEM, GEOL or PHYS
PSYC 2003
SOCI 2013 or RSOC 2603

University Advanced Composition Requirement:
ENGL 2003 - exemption possible

College Requirement:

COMM 1313
Electives: 15 - 16 hours

School Requirements: 67 - 68 hours

3 hours from AGECE 1103, AGECE 2103, ECON 2013,
ECON 2143 or ECON3053
3 hours from ISYS 1121L and ISYS 2232, AGME 2903
or ETEC 2001/2002L
HLSC 3633

Select 22 hours of HESC courses:

HESC 1501 – Orientation
HESC 1213 – Nutrition in Health
HESC 2413 – Family Relations
HESC 2433 – Child Development
HESC 3423 – Adolescent Development
HESC 4423 – Adult Development
HESC 4753 – Family as Consumers
HESC 4303 – Professional Dev in HESC
HESC 4453 – Parenting/Family Dynamics

Additional Requirements for Concentration A:

Child Development

HESC 2402/2401L – Infant and Toddler Development/Lab
HESC 3402/3401L – Child Guidance
HESC 4463 – Admn and Evaluation of Child Dev Programs
HESC 4472/4472L – Child Development Practicum/Lab
CIED 3023 – Survey of Exceptionalities
CIED 3103 – Children’s Literature
CIED 3113 – Emergent and Developmental Literacy
SCWK 3633 – Problems of Child Welfare

Select 12 hours from the following:

HESC 3443 – Families in Crisis
HESC 3763 L – Family Resource Management
HESC 4433 – Dynamic Family Interaction
HESC 4483 – Internship in HDFS
(requires a GPA of 2.75 or higher)
HESC 4493 – Public Policy Advocacy
HESC 4223 – Nutrition/ Life Cycle
CIED 3263 – Language Development for the Educator
Any courses in HDFSRS not listed in this concentration or in the HDFS core may also be included as electives in this section.

Additional Requirements for Concentration B: Lifespan

HESC 1403 – Lifespan Development
HESC 3443 – Families in Crisis
HESC 4433 – Dynamic Family Interaction
HESC 4443 – Gerontology
HESC 4493 – Public Policy Advocacy
SCWK 3163 – Death and Dying

Select 3 hours of statistics from PSYC 2013 or
SOCI 3303/3301L or ISYS 2013

Select 3 hours research methods from PSYC 3073 or SOCI 3313

Select 12 hours from HESC 3763L, HESC 4483

(requires a GPA of 2.75 or higher), SOCI 3233,

SOCI 4133, CNED 3053, CDIS 4273 or COMM 3433

Any courses in HDFSRS not listed in this concentration or in the HDFS core can also be included as electives in this section.

Requirements for a minor in human development and family sciences (HDFS): 18 hours

HESC 1403 and HESC 2413

Select 12-13 hours from the following:

HESC 2402/2401L, HESC 2433,
HESC 3402/3401L, HESC 3423, HESC 4423, HESC 4753,
HESC 4443, HESC 4453, HESC 4463 or HESC 4472**INTERIOR DESIGN (IDES)**

Interior design, a FIDER accredited program, combines an excellent foundation of professional courses that are enhanced by classes in human environmental sciences, art, architecture and business. A goal of the program is to foster a sense of personal and professional responsibility. Students are actively involved in national design competitions and domestic and international travel. Field trip opportunities are offered on a regular basis, and students are expected to participate. Graduates are placed in residential, contract, and institutional interior design firms, architectural firms, art galleries, set design and contract and residential sales.

A sophomore portfolio review is an important component of the academic program. The review of studio work will occur in December of the sophomore year. The submitted materials will follow guidelines prepared by the interior design faculty and will include examples of work from Design I, Design II, Studio I, and Introduction to Presentation Media. All full-time interior design faculty will review portfolios. Students will receive a pass or probation. If the portfolio is acceptable (pass), the student may continue, without remediation or additional required work, to junior-level studios. To be removed from probationary status, the student must comply with faculty recommendations that may include repeating a course(s), taking supplemental courses to strengthen a weakness, or submission of reworked studio projects. Students on probation must resubmit a portfolio at the end of the spring semester following the initial review. In the event that skills are not improved, the student will not be permitted to progress into upper-level studios.

The studio sequence increases in complexity throughout the curriculum. The rigor of the program requires a significant commitment of time and energy. Students can expect to spend a minimum of 3 hours out of class for each hour of studio time to complete projects. Participation in an annual senior portfolio exhibition and a supervised internship experience are requirements for graduation. The faculty reserve the right to retain student work for accreditation and recruitment purposes.

Transfer students seeking advanced placement must submit a portfolio for faculty review prior to beginning any studio course. Review of portfolio will allow appropriate placement based on demonstrated skills. Students may be required to wait a semester for the appropriate studio sequence. Transfer students placed into the program prior to sophomore portfolio review will be required to participate in the sophomore review process.

A professional advisory board supports the program, and faculty and students participate in professional design association activities. The faculty are well qualified educators and practitioners who foster an attitude of inquiry and learning based on their individual skills and interest. Intellectual development of students is stimulated and leadership qualities enhanced throughout the four-year curriculum. The student chapter of the American Society of Interior Designers (ASID) allows for interaction with professionals in interior design and allied professions.

In response to industry demands, the program requires laptop computers. Students must acquire a laptop for use in studio courses that are taught in the spring semester of the second year of the pro-

gram. Specifications for laptops must be obtained from interior design faculty prior to purchase by the student.

Requirements for a bachelor of interior design (B.I.D.)

HOURS

1. A total of 124 semester hours with a 2.00 cumulative GPA.
2. A minimum of 39 hours of courses 3000-level or above
3. University Core Requirements 35
See page 44 for core courses.
Must include 3 hours from
ECON 2013 or ECON 2023 or
ECON 2143 or AGECE 1103 or
AGECE 2013
PSYC 2003
SOC 2013
Fine Arts (3 hours)
4. Other University Requirements 3
ENGL 2003 Advanced Composition Requirement
(see page 43).
If exempt, must take 3 hours from
COMM, JOUR, or ENGL courses
5. College Requirements 3
COMM 1313
6. Electives 1
7. School Requirements 82

One ARTS studio elective and ARCH 4433
6 hours of business courses to be selected from
ACCT 2013, ISYS 1121L, ISYS 2232, FINN 3003,
MGMT 3563, or BLAW 2013, MKTT 3433, FINN 3933

NOTE: At least two of the three courses in studio art and business must be 3000- or 4000-level to meet the college requirement of 39 upper-division hours.

69 hours of HESC courses to include:

HESC 1501 – Orientation to HESC
HESC 2053 – Intro to Textile Science
HESC 2413 – Family Relations
HESC 4303 – Professional Development in HESC
HESC 1031 – Design I
HESC 1034 – Design I Studio
HESC 1041 – Design II
HESC 1044 – Design II Studio
HESC 2803 – Studio I: Development of Interior Space
HESC 2813 – Studio II: Design Process & Application
HESC 2823 – ID Materials & Resources
HESC 2833 – Introductory Presentation Media
HESC 2841 – Lighting Studio
HESC 2842 – Lighting Systems
HESC 2883 – History of ID I
HESC 2893 – Principles of Computer-Aided Design
HESC 3803 – Studio III: Working Drawings and Building Sys
HESC 3813 – Studio IV: Interiors for Public Use
HESC 3823 – Human Factors in ID
HESC 3863 – Advanced Presentation Media
HESC 3883 – History of ID II
HESC 4803 – Studio V – Advanced Residential Design
HESC 4811 – Internship for ID
HESC 4823 – Professional Practices
HESC 4843 – Internship Preparation
HESC 4863 – Studio VI – Commercial Design
HESC 4891 – Senior Portfolio

SEE PAGE 292 FOR HUMAN ENVIRONMENTAL SCIENCES (HESC) COURSES.

