The research, teaching, extension, and regulatory functions of the College of Agriculture are combined into a coordinated, mutually supporting program of undergraduate and graduate education. Teaching in this college is so related to the other functions that the student has a unique opportunity to broaden his or her background in the areas of research and application of scientific findings in laboratories, greenhouses, field plots and feed lots.

**Admission**

All students planning to study any phase of agriculture, including forestry and pre-veterinary medicine, are admitted directly into the College of Agriculture. Application for admission is made through the Undergraduate Admissions Office.

Students interested in the Landscape Architecture program must meet all requirements for admission to the University. In addition, enrollment in the landscape architecture program is determined by a selective admission procedure. Applicants are selected on a competitive basis as determined by potential success in the program.

**Accreditation**

The undergraduate Forestry program at the University of Kentucky is accredited by the Society of American Foresters. The Landscape Architecture program is accredited by the American Society of Landscape Architects and meets all the requirements for licensing of landscape architects in Kentucky and other states. The Food Science program is accredited by the Institute of Food Technologists.

**Undergraduate Programs in Agriculture**

The University of Kentucky grants the following degrees in the College of Agriculture:

- Bachelor of Science in Agricultural Education, Communications, and Leadership
- Bachelor of Science in Animal Sciences
- Bachelor of Science in Food Science
- Bachelor of Science in Forestry
- Bachelor of Science in Landscape Architecture
- Bachelor of Science in Natural Resource Conservation and Management
- Bachelor of Science in Plant and Soil Science

Information on each major program (pre-major, major, and specialty support course requirements) follows. Students may obtain additional information on programs and recommended plans of study from the Associate Dean for Instruction.

Also available to students are minors in agriculture, agricultural economics, animal sciences, food science, pest management, plant and soil science, and rural sociology.

Students in agricultural engineering are enrolled in the College of Engineering.

**Undeclared Majors**

Students who are interested in agricultural study but uncertain about a major should work closely with advisors in the College of Agriculture. With careful course selection, students can work toward fulfilling general requirements while exploring the various areas of study in agriculture and natural resources.

**Scholarships and Financial Aid**

The College of Agriculture offers scholarship awards to students on the basis of academic accomplishment and involvement in extracurricular activities. Many of the departments in the college employ students in laboratories, greenhouses, barns, and field work in connection with the research program in agriculture. Information about scholarships and work opportunities is available in the Office of the Associate Dean for Instruction.

**Academic Advising**

Students in the College of Agriculture are advised by selected faculty in the department of the student’s major. Each student’s academic plan and records are maintained in the Associate Dean for Instruction’s office, N-6 Ag. Science Center. Students needing assistance selecting an advisor or general information about academics may come to the Associate Dean’s office.

Inquiries about programs or majors within the College of Agriculture may be directed to:

**Office of the Associate Dean for Instruction**

N-6 Ag. Science Center
University of Kentucky
Lexington, KY 40546-0091
(859) 257-3469 or (859) 257-3468

**Graduate Work**

The College of Agriculture offers the Master of Science degree in all college depart-
ments.

Doctor of Philosophy degrees are offered in the following areas: agricultural economics, animal sciences, biosystems and agricultural engineering, crop science, entomology, plant pathology, plant physiology, sociology, soil science, and veterinary science. For more information, students should see The Graduate School Bulletin.

REQUIREMENTS FOR THE B.S. DEGREE IN AGRICULTURE

Students pursuing the Bachelor of Science in Agriculture may pursue an individualized program in agriculture such as Entomology.

Graduation Requirements

To earn a Bachelor of Science in Agriculture, the student must have a minimum of 128 credit hours with at least a 2.0 grade-point standing. A minimum of 48 credit hours must be from upper division courses (300 and above). Remedial courses may not be counted toward the total hours required for the degree.

All students pursuing the Bachelor of Science in Agriculture must complete the following requirements:

1. University Studies Program (USP)
2. College requirements
   - Communications: GEN 100 and GEN 200 (6 hours)*
     one course in business or technical writing
3. Agriculture Major (minimum of 24 hours including 3 hours in a 400-level capstone course)
4. Specialty support courses outside major department (minimum of 21 hours)
5. Electives and/or Preprofessional requirements (10-40 hours)
6. Each student is required to develop an acceptable plan of study during the sophomore year that identifies the program of study to be followed in the junior and senior years. The plan is to be approved by the appropriate undergraduate curriculum committee or the Associate Dean for Instruction in situations where there is no undergraduate curriculum committee.

*B.S. in Agriculture with a major in INDIVIDUALIZED PROGRAMS

Individualized program opportunities have been developed to assist students with academic goals that cross several disciplines.

The procedure for entering an individualized program is as follows:

1. Each student must apply to the Associate Dean for Instruction. The student will receive an explanation of the program and its objectives, and the possible risks involved, including prospective employment and acceptance for advanced graduate degree work.
2. Students who continue their interest in the individualized program develop, with the assistance of an advisor, the plan which they propose to follow.
3. This plan must be submitted to the Associate Dean for consideration and possible approval.
4. Approval of the student’s program by the Associate Dean will admit the student to the individual program option.

For more information, contact:

Office of the Associate Dean for Instruction
N-6 Ag. Science Center
University of Kentucky
Lexington, KY 40546-0091
(859) 257-3469 or (859) 257-3468

BACHELOR OF SCIENCE IN AGRICULTURAL BIOTECHNOLOGY

Agricultural biotechnology encompasses cellular and molecular approaches to the manipulation and improvement of agricultural plants, animals and microorganisms, and the control of agricultural pests and diseases. The primary purpose of the baccalaureate degree program in Agricultural Biotechnology is to train students in modern cellular and molecular biology and genetic engineering. Students will be provided with a firm foundation in the principles of genetics and molecular biology of both prokaryotic and eukaryotic organisms. Each student will then specialize in an area appropriate to his or her interest and career objectives, including: microbial, fungal, plant, insect and mammalian biotechnology.

Graduates will be prepared to assume government, university, and industry positions with research and technology applications to agriculture and food production. Employment opportunities include research scientists, laboratory technicians or managers in university, government, industrial, or clinical laboratories using biotechnological tools for research and production. Examples of research areas include: gene cloning, construction of novel pest and disease resistance genes, development of new immunological and nucleic acid types of diagnostic probes for plant and animal disease, genetic engineering of microorganisms for the production of important pharmaceutical agents, and development of new bioengineered strains of microorganisms for fermentation and food production services. Students will also be prepared to enter graduate programs in agriculture, molecular biology, and the biological sciences.

Graduation Requirements

To earn a Bachelor of Science in Agricultural Biotechnology the student must complete 132 semester hours with at least a 2.0 grade-point standing. A minimum of 48 credit hours must be from upper division courses (300 and above). Remedial courses may not be counted toward the total hours required for the degree. In addition to the University Studies requirements, students must complete college, premajor, major, and specialty support requirements, including an independent research project relevant to the student’s interest in biotechnology.

Plan of Study

As an agricultural biotechnology major you are required to develop an acceptable Plan of Study during your sophomore year for your junior and senior years. The plan must be signed by your advisor and returned to the Associate Dean for Instruction’s office.

If you are an upper division transfer student (from another university or from another UK college or department) then you will submit your plan during the first semester you are enrolled in the program.

Consult your academic advisor in developing your Plan of Study.

College Required Hours

ABT 101 Introduction to Biotechnology and ABT 201 Scientific Method in Biotechnology and ABT 301 Writing and Presentations in the Life Sciences .................................................. 4 or
ENG 203 Business Writing .......................................... 3 or
ENG 204 Technical Writing ......................................... 3
*GEN 100 Issues in Agriculture:
- The Development of Modern Agriculture .................. 3
- GEN 200 Issues in Agriculture: Contemporary Problems in Agriculture and Natural Resources ....... 3
† These courses also satisfy the University Studies Oral Communication requirement.
Note: Students transferring into the college with 30 or more hours take only GEN 200 plus one communications course from the approved sequence in University Studies.

Subtotal: College Required Hours ............... 6-10

University Studies Requirements

See “University Studies Program” on pages 68-72 for the complete University Studies requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill University Studies areas. Students should work closely with their advisor to complete the University Studies Program requirements.

Courses marked with an asterisk (*) may also be used to satisfy University Studies requirements.

Inference-Logic

MA 123 Elementary Calculus and
- Its Applications .................................................. 3
or
MA 113 Calculus I .................................................. 4

Natural Sciences

CHE 105 General College Chemistry I ....................... 3
CHE 107 General College Chemistry II ...................... 3
**USP Electives**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 150 Principles of Biology I</td>
<td>3</td>
</tr>
<tr>
<td>BIO 152 Principles of Biology II</td>
<td>3</td>
</tr>
</tbody>
</table>

**Premajor Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>*BIO 150 Principles of Biology I</td>
<td>3</td>
</tr>
<tr>
<td>*BIO 151 Principles of Biology Laboratory I</td>
<td>2</td>
</tr>
<tr>
<td>*BIO 152 Principles of Biology II</td>
<td>3</td>
</tr>
<tr>
<td>*BIO 153 Principles of Biology Laboratory II</td>
<td>2</td>
</tr>
<tr>
<td>CHE 105 General College Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHE 107 General College Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>CHE 115 General Chemistry Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>CHE 250 Organic Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHE 231 Organic Chemistry Laboratory I</td>
<td>3</td>
</tr>
<tr>
<td>CHE 232 Organic Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>CHE 233 Organic Chemistry Laboratory II</td>
<td>2</td>
</tr>
<tr>
<td>MA 123 Elementary Calculus and Its Applications</td>
<td>3</td>
</tr>
<tr>
<td>MA 132 Calculus for the Life Sciences</td>
<td>3</td>
</tr>
<tr>
<td>PHY 211 General Physics</td>
<td>5</td>
</tr>
<tr>
<td>PHY 213 General Physics</td>
<td>5</td>
</tr>
<tr>
<td>(or equivalent with laboratory)</td>
<td></td>
</tr>
</tbody>
</table>

**Subtotal: Premajor Hours** 45-46

**Major Requirements**

**Biotechnology**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABT 101 Introduction to Biotechnology</td>
<td>1</td>
</tr>
<tr>
<td>ABT 201 Scientific Method in Biotechnology</td>
<td>1</td>
</tr>
<tr>
<td>ABT 301 Writing and Presentations in the Life Sciences</td>
<td>2</td>
</tr>
</tbody>
</table>

**Microbiology**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 208 Principles of Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>BIO 209 Principles of Microbiology Laboratory</td>
<td>2</td>
</tr>
</tbody>
</table>

**Biochemistry**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCH 401G Fundamentals of Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>BCH 501 General Biochemistry and</td>
<td></td>
</tr>
<tr>
<td>BCH 502 General Biochemistry</td>
<td>6</td>
</tr>
</tbody>
</table>

**Genetics**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABT/ASC/ENT 360 Genetics</td>
<td>3</td>
</tr>
<tr>
<td>BIO 304 Principles of Genetics</td>
<td>4</td>
</tr>
<tr>
<td>BIO 460 Introduction to Molecular Genetics</td>
<td>3</td>
</tr>
<tr>
<td>BIO 461 Introduction to Population Genetics</td>
<td>3</td>
</tr>
</tbody>
</table>

**Statistics**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>STA 291 Statistical Method</td>
<td>3</td>
</tr>
</tbody>
</table>

**Advanced Practical Skills**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABT 495 Experimental Methods in Biotechnology</td>
<td>4</td>
</tr>
<tr>
<td>BIO 510 Recombinant DNA Techniques Laboratory</td>
<td>4</td>
</tr>
</tbody>
</table>

**Independent Study**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABT 395 Independent Study in Biotechnology</td>
<td>3</td>
</tr>
<tr>
<td>ABT 399 Experimental Learning in Biotechnology</td>
<td>3</td>
</tr>
</tbody>
</table>

All students are expected to undertake an independent study project in an area of their interest for a minimum of 3 credit hours. This requirement can be met by a research project or an internship that is agreed upon by a student’s advisor and approved by the Biotechnology Coordinating Committee prior to initiation of the project. Both written and oral reports are required when the project is completed.

**Subtotal: Major Hours** 31-35

**Specialty Support**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASC 364 Reproductive Physiology of Farm Animals</td>
<td>3</td>
</tr>
<tr>
<td>BIO 315 Introduction to Cell Biology</td>
<td>3</td>
</tr>
<tr>
<td>BIO 350 Animal Physiology</td>
<td>4</td>
</tr>
<tr>
<td>BIO 4306 Plant Physiology</td>
<td>3</td>
</tr>
<tr>
<td>BIO 4760 General Microbial Physiology</td>
<td>4</td>
</tr>
<tr>
<td>BIO/PGY 502 Principles of Systems, Cellular and Molecular Physiology</td>
<td>5</td>
</tr>
<tr>
<td>BIO 515 General Cell Biology</td>
<td>3</td>
</tr>
<tr>
<td>BIO 550 Comparative Physiology</td>
<td>3</td>
</tr>
<tr>
<td>BIO 580 Metabolism of Microorganisms</td>
<td>3</td>
</tr>
<tr>
<td>PGY/MI 590 Cellular and Molecular Physiology</td>
<td>4</td>
</tr>
</tbody>
</table>

**Subtotal: Specialty Support Hours** 21

**Electives**

Electives should be selected to complete the 132 hours required for graduation.

**Subtotal: Electives** minimum of 9

**TOTAL HOURS:** 132

**BACHELOR OF SCIENCE IN AGRICULTURAL ECONOMICS**

The Agricultural Economics program enables graduates to pursue careers in agribusiness and food industries, international marketing and trade, or farm management and production. Opportunities are also available in public policy for agriculture and rural America and environmental economics. These career opportunities may be found in both the private and public sectors. Economic theory is applied to problems concerning the production, marketing, and distribution of agricultural and food products and also to public policy and natural resource and environmental issues facing rural communities.

Students may choose to study in one of the following emphasis areas:

- Agribusiness Management and Food Marketing, International Agricultural Marketing and Trade, Farm Management, Agricultural Financial Management, Agricultural and Rural Public Policy, Environmental and Resource Economics or Individualized Programs.

**Graduation Requirements**

To earn the Bachelor of Science in Agricultural Economics, the student must have a minimum of 128 credit hours with at least a 2.0 grade-point average. A minimum of 48 credit hours must be from upper division courses (300 and above). Remedial courses may not be counted toward the total hours required for the degree. In addition to University Studies requirements, students must complete college, departmental and support requirements.

**Plan of Study**

As an agricultural economics major you are required to develop an acceptable Plan of Study in your chosen area of emphasis for your junior and senior years. Submit the plan for approval to the department’s Undergraduate Program Committee and the Director of Undergraduate Studies during the second semester of your sophomore year. If you are an upper division transfer student (from another university or from another UK college or department) then you will submit your plan for approval during the first semester you are enrolled in the department.

Consult your academic advisor in developing your Plan of Study.

**College Required Hours**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 203 Business Writing or</td>
<td>3</td>
</tr>
<tr>
<td>ENG 204 Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>GEN 100 Issues in Agriculture: The</td>
<td>3</td>
</tr>
<tr>
<td>Development of Modern Agriculture</td>
<td>3</td>
</tr>
<tr>
<td>GEN 200 Issues in Agriculture: Contemporary Problems in Agriculture and Natural Resources</td>
<td>3</td>
</tr>
<tr>
<td>*These courses also satisfy the University Studies Oral Communication requirement. Note: Students transferring into the college with 30 or more hours take only GEN 200 plus one communications course from the approved sequence in University Studies.</td>
<td></td>
</tr>
</tbody>
</table>

**Subtotal: College Required Hours** 6-9

**University Studies Requirements**

See “University Studies Program” on pages 68-72 for the complete University Studies requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill University Studies areas. Students should work closely with their advisor to complete the University Studies Program requirements.

Courses marked with an asterisk (*) may also be used to satisfy University Studies requirements.

**Math**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA 109 College Algebra</td>
<td>3</td>
</tr>
</tbody>
</table>

**Inference-Logic**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA 123 Elementary Calculus and Its Applications</td>
<td>3</td>
</tr>
<tr>
<td>MA 113 Calculus I</td>
<td>4</td>
</tr>
</tbody>
</table>

**Social Sciences**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO 201 Principles of Economics I</td>
<td>3</td>
</tr>
</tbody>
</table>

One course other than economics from University Studies Program list

**Premajor Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>*MA 123 Elementary Calculus and Its Applications</td>
<td>3</td>
</tr>
<tr>
<td>OR</td>
<td></td>
</tr>
<tr>
<td>MA 113 Calculus I</td>
<td>4</td>
</tr>
</tbody>
</table>

**Premajor Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>*MA 123 Elementary Calculus and Its Applications</td>
<td>3</td>
</tr>
<tr>
<td>MA 162 Finite Mathematics and Its Applications</td>
<td>6</td>
</tr>
<tr>
<td>*MA 113 Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>ECO 201 Principles of Economics I</td>
<td>3</td>
</tr>
<tr>
<td>ECO 202 Principles of Economics II</td>
<td>3</td>
</tr>
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</table>

**Subtotal: Premajor Hours** 10-12

**Major Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEC 302 Agricultural Management Principles</td>
<td>4</td>
</tr>
<tr>
<td>AEC 303 Microeconomic Concepts in Agricultural Economics</td>
<td>3</td>
</tr>
<tr>
<td>AEC 304 Macroeconomic Concepts in Agricultural Economics</td>
<td>3</td>
</tr>
<tr>
<td>AEC 305 Food and Agricultural Marketing Principles</td>
<td>3</td>
</tr>
<tr>
<td>AEC 300 Topics in Agricultural Economics</td>
<td>Subtitle required</td>
</tr>
</tbody>
</table>

Depending on the student’s area of interest and subject to his/her academic advisor’s approval, an additional 12 hours in agricultural economics courses at or above the 300-level shall be taken to complete the student’s area of emphasis.

**Subtotal: Major Hours** 28

**Specialty Support**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 201 Financial Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>STA 291 Statistical Method</td>
<td>3</td>
</tr>
<tr>
<td>ECO 391 Economic and Business Statistics</td>
<td>3</td>
</tr>
</tbody>
</table>
Students must complete the following:

**College Required Hours**

ENG 203 Business Writing ............................................. 3
GEN 100 Issues in Agriculture: The Development of Modern Agriculture ............................................. 3
GEN 200 Issues in Agriculture: Contemporary Problems in Agriculture and Natural Resources ........ 3
*These courses also satisfy the University Studies Oral Communication requirement.

Note: Students transferring into the college with 30 or more hours take only GEN 200 plus one communications course from the approved sequence in University Studies.

**Subtotal: College Required Hours ............ 6-9**

**University Studies Requirements**

See "University Studies Program" on pages 68-72 for the complete University Studies requirements. Students should work closely with their advisor to complete the University Studies Program requirements.

Courses marked with an asterisk (*) may also be used to satisfy University Studies requirements.

**Major Requirements**

* AEC 101 The Economics of Food and Agriculture .. 3
* RSO 102 The Dynamics of Rural Social Life ........... 3
ACE 302 Leadership Studies ......................................... 3
ACE 320 Survey of Agriculture and Consumer Media ..................................................................... 3
ACE 362 Practicum in Career and Technical Education, Agricultural Communications, and Leadership .............. 3
ACE 501 Principles of Cooperative Extension ............. 3
*GEN 100 Issues in Agriculture: The Development of Modern Agriculture ................................ 3
*GEN 200 Issues in Agriculture: Contemporary Problems in Agriculture and Natural Resources ........ 3

**Subtotal: Major Hours ........................................ 24**

In addition to the Major Requirements, students choose one of three options:

**Option A: Agricultural Communications**

JOU 101 Introduction to Journalism ................................ 3
or
ISC 161 Introduction to Integrated Strategic Communication ......................................................... 3
JOU 204 Writing for the Mass Media ................................ 3
JOU 301 News Reporting ............................................. 3
JOU 485 Community Journalism .................................... 3
COM/SOC 449 Social Processes and Effects of Mass Communication ........................................... 3
AGC 400 Agricultural Communications Campaigns ... 3
ACE 490 Seminar in Agricultural Communications .... 3

**Subtotal: Option A Hours .................................... 24**

**Specialty Support Requirements**

It is recommended that this specialty area be drawn from (1) news/editorial, (2) advertising/public relations, or (3) electronic media. Students are to take at least twelve hours in the College of Agriculture. The student’s advisor will make recommendations, but the specific courses the student takes will depend on his or her interests and academic goals.

**Subtotal: Option A Specialty Support .......... 24**

**Option B: Agricultural Education**

*CHE 105 General College Chemistry I .................. 3
AED 210 Introduction to Career and Technical Education ......................................................... 3
AED 580 Methods of Teaching Career and Technical Education I .............................................. 3
AED 586 Methods of Teaching Career and Technical Education II ............................................. 3
AED 591 Practicum in Career and Technical Education ............................................................... 12
EDP 203 Teaching Exceptional Learners in Regular Classrooms ................................................. 3
*Satisfies half of the University Studies natural sciences requirement.

**Subtotal: Option B Hours ................................ 27**

**Specialty Support Requirements**

It is recommended that students complete at least two courses from five different agricultural areas. The student’s advisor will make recommendations, but the specific courses the student takes will depend on his or her interests and academic goals.

**Subtotal: Option B Specialty Support .......... 24**

**Teacher Certification**

Besides receiving the B.S. in Agriculture students completing the requirements can obtain a letter of endorsement to teach agricultural education. Requirements for teacher certification are as follows:

To be certified you must be admitted to the teacher education program (TEP). To be admitted, you must have completed, or complete during the semester in which you apply, 60 semester hours of course work and AED 210 Introduction to Career and Technical Education and have at least a 2.5 grade-point standing (on a 4.0 scale).

Applicants are evaluated on an interview, recommendations, scholastic achievement, demonstrated skills, and professional commitment and goals. In addition, you must have three years of agricultural experience since the age of 14.

You must also complete at least 50 hours in agriculture courses, including six hours in each of the following areas: animal sciences, plant sciences, soils, agricultural engineering, and agricultural economics (including Farm Management or Agribusiness Management). A professional education component is also required.

You must successfully complete assessment items and portfolio items as required. Further, you must successfully complete the three basic sections of the PRAXIS Exam and a technical agriculture exam, scoring above cutoff scores specified by the State Board of Education for each exam. After completing these exams, students hired by Kentucky schools will complete a one-year paid internship as a first-year teacher and will be evaluated at least three times by a three-person committee before certification is completed.

Other agriculture majors can also qualify to teach agricultural education provided they meet current certification requirements.

**Subtotal: Option C Specialty Support .......... 24**

**Specialty Support Requirements**

It is recommended that this specialty area be drawn from (1) community and natural resources development, (2) legal and administrative studies, or (3) youth and family studies. Students are to take at least twelve hours in the College of Agriculture. The student’s advisor will make recommendations, but the specific courses the student takes will depend on his or her interests and academic goals.

**Subtotal: Option C Hours ......................... 24**

**Graduation Requirements**

To earn the Bachelor of Science in Agricultural Education, Communications, and Leadership, the student must have a minimum of 128 credit hours with at least a 2.0 grade-point average. A minimum of 48 credit hours must be from upper division courses (300 level and above). Remedial courses may not be counted toward the total hours required for the degree.

**Plan of Study**

As an agricultural education, communications and leadership major you are required to develop an acceptable Plan of Study during your sophomore year for your junior and senior years. The plan must be signed by your advisor and submitted to the Associate Dean for Instruction’s office.

If you are an upper division transfer student (from another university or from another UK college or department) then you will submit your plan during the first semester you are enrolled in the program.
BACHELOR OF SCIENCE IN ANIMAL SCIENCES

Animal Sciences involves studying and applying the basic principles of nutrition, reproduction, and genetics to the production and management of horses, dairy and beef cattle, sheep, swine, and poultry. As a major, you will have the opportunity to pursue specific interests by selecting one of three options in animal production, dairy production, or equine production.

No one program fits all Animal Sciences students. Animal Sciences students come from varied backgrounds. Interests range from livestock and poultry production and management to marketing and public relations; from public education and extension to graduate training in research and teaching and veterinary medicine. No matter what livestock species you have an interest in, the Animal Sciences major will allow you to combine your interest with your desire for an exciting and rewarding career.

Graduation Requirements

To earn the Bachelor of Science in Animal Sciences, the student must have a minimum of 128 credit hours with at least a 2.0 grade-point standing. A minimum of 48 credit hours must be from upper division courses (300 and above). Remedial courses may not be counted toward the total hours required for the degree.

Plan of Study

As an animal sciences major you are required to develop an acceptable Plan of Study during your sophomore year for your junior and senior years. The plan must be signed by your advisor and returned to the Associate Dean for Instruction’s office.

If you are an upper division transfer student (from another university or from another UK college or department) then you will submit your plan to the Associate Dean for Instruction’s office.

Consult your academic advisor in developing your Plan of Study.

College Required Hours

ENG 203 Business Writing or ENG 204 Technical Writing 3
GEN 100 Issues in Agriculture: The Development of Modern Agriculture 3
GEN 200 Issues in Agriculture: Contemporary Problems in Agriculture and Natural Resources 3
Note: These courses also satisfy the University Studies Oral Communication requirement.

Subtotal: College Required Hours 6-9

University Studies Requirements

See “University Studies Program” on pages 68-72 for the complete University Studies requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill University Studies areas. Students should work closely with their advisor to complete the University Studies Program requirements.

Subtotal: Electives 21-22

TOTAL HOURS: 128

BACHELOR OF SCIENCE IN BIOSYSTEMS AND AGRICULTURAL ENGINEERING

The Agricultural Engineering curriculum is administered jointly by the College of Agriculture and the College of Engineering. Agricultural Engineering provides an essential link between the biological sciences and the engineering profession. This linkage is necessary for the development of food and fiber production and processing systems which preserve our natural resource base. Students in the agricultural engineering program can pursue one of four areas of specialization: Bioenvironmental Engineering, Food and Bioprocess Engineering, Machine Systems Automation Engineering, and Thermal Environmental Engineering.

The degree requirements and curriculum are listed in the College of Engineering section of this Bulletin.

BACHELOR OF SCIENCE IN FOOD SCIENCE

Food science is the study of the transformation of biological materials into food products acceptable for human consumption. This requires studying diverse scientific disciplines related to food, including chemistry, engineering, microbiology, biochemistry, toxicology, and management; and effectively applying the industrial and practical aspects to product development, food processing, preservation, and marketing. The program is administered by the Department of Animal Sciences and offers training in the basic sciences and in the fundamentals of food science.

Career opportunities in food industries include: management, research and development of new food products and ingredients, process supervision, quality control, procurement, distribution, sales, and merchandising. Positions include sales and services in allied industries; consulting and trade association activities; and promotional and educational services. Governmental agencies employ food scientists whose work is directed towards research, regulatory control, and the development of food standards.
Graduation Requirements

To earn the Bachelor of Science in Food Science, the student must complete a minimum of 128 semester hours with at least 48 hours from courses at the 300 level and above. A 2.0 grade-point standing (on a 4.0 scale) is necessary and remedial courses may not be counted toward the total hours required for the degree.

The Food Science program meets the requirements for accreditation by the Institute of Food Technologists and the National Organization of Food Science Professionals.

Plan of Study

As a food science major you are required to develop an acceptable Plan of Study during your sophomore year for your junior and senior years. The plan must be signed by your advisor and returned to the Associate Dean for Instruction’s office.

If you are an upper division transfer student (from another university or from another UK college or department) then you will submit your plan during the first semester you are enrolled in the program.

Consult your academic advisor in developing your Plan of Study.

Each student must complete the following:

College Required Hours

ENG 203 Business Writing or ENG 204 Technical Writing ........................................ 3
‡GEN 100 Issues in Agriculture: The Development of Modern Agriculture* .......................... 3
‡GEN 200 Issues in Agriculture: Contemporary Problems in Agriculture and Natural Resources .... 3
†These courses also satisfy the University Studies Oral Communication requirement.
Note: Students transferring into the college with 30 or more hours take only GEN 200 plus one communications course from the approved sequence in University Studies.

Subtotal: College Required Hours ........................................ 6-9

University Studies Requirements

See “University Studies Program” on pages 68-72 for the complete University Studies requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill University Studies areas. Students should work closely with their advisor to complete the University Studies Program requirements.

Courses marked with an asterisk (*) may also be used to satisfy University Studies requirements.

Inference-Logic

MA 123 Elementary Calculus and Its Applications .................................................. 3
Natural Sciences
CHE 105 General College Chemistry I ............................................................ 3
CHE 107 General College Chemistry II ............................................................ 3
CHE 115 General Chemistry Laboratory † ............................................................ 3
Social Sciences
AEC 101 The Economics of Food and Agriculture ............................................. 3
Plus one additional course ........................................................................... 3
USP Electives
BIO 150 Principles of Biology I ....................................................................... 3
BIO 152 Principles of Biology II ..................................................................... 3

Premajor Requirements

MA 132 Calculus for the Life Sciences ................................................................. 3
BIO 208 Principles of Microbiology † ................................................................. 3
BIO 209 Introductory Microbiology Laboratory ........................................... 2
CHE 236 Survey of Organic Chemistry ........................................................... 3

NFS 212 Introductory Nutrition .......................................................... 3
STA 291 Statistical Method ........................................................................ 3

Subtotal: Premajor Hours ........................................................................ 17

Major Requirements

Required:
FSC 107 Introduction to Food Science ............................................................ 3
AEN 340 Principles of Food Engineering .......................................................... 4
NFS 311 Nutritional Biochemistry or BCH 401G Fundamentals of Biochemistry .... 3
FSC 306 Introduction to Food Processing ........................................................... 4
FSC 436G Food Chemistry ........................................................................ 4
FSC 530 Food Microbiology ........................................................................ 4
FSC 535 Food Analysis ............................................................................. 4
FSC 536 Advanced Food Technology .............................................................. 4

Subtotal: Major Hours .............................................................................. 31

Specialty Support

Students must select 22 credits from the following suggested list of support courses:
AEC 201 Introduction to Farm and Natural Resource Finance ................................ 3
AEC 305 Food and Agricultural Marketing Principles ........................................ 3
ASC/ABT/ENT 360 Genetics ........................................................................ 3
CS 101 Introduction to Computing I ................................................................. 3
ECO 201 Principles of Economics I ................................................................ 3
FSC 304 Animal Derived Foods .................................................................. 5
FSC 395 Special Problem in Animal Science/ Food Science ................................ 2
FSC 399 Experiential Learning in Animal Sciences/ Food Science ..................... 1-6
FSC 436G Food Science Evaluation of Foods .............................................. 3
FSC 538 Food Fermentation and Thermal Processing ....................................... 4
FSC 540 Food Sanitation ........................................................................... 3
NFS 304 Experimental Foods .................................................................... 3

Subtotal: Specialty Support ..................................................................... 22

Electives

Elective courses should be selected by the student to lead to the minimum total of 128 hours required for graduation.

Subtotal: Electives minimum of 4

TOTAL HOURS: ................................................................. 128

BACHELOR OF SCIENCE IN FORESTRY

Kentucky boasts many forested areas with famous reputations, such as Natural Bridge, Red River Gorge, Daniel Boone National Forest, and Robinson Forest. Robinson Forest is one of the largest research and educational forests in the eastern United States. It is managed by the Department of Forestry, and as a forestry student at the University of Kentucky all of its resources will be available to you as a unique outdoor laboratory.

The missions of the Department of Forestry are to identify and address the challenges and opportunities facing sustainable management of our renewable natural resources, including forests, soils, water, and wildlife. These missions involve three interconnected functions: research, extension, and education. The research goal of the department is to obtain basic and applied information leading to wise and effective management of our natural resources.

Forestry extension seeks to inform landowners and the general public about forest stewardship. Forestry education prepares students for careers as forestry and natural resource professionals. The objectives of the required courses in the forestry curriculum are to educate and train students in the communication, managerial, scientific, processing, and administrative skills and principles related to the stewardship and utilization of renewable natural resources. Accomplishment of these objectives will ensure a continuing supply of entry-level professionals for Kentucky and the nation.

The undergraduate (B.S.) program leading to the professional degree in forestry is accredited by the Society of American Foresters (SAF). SAF is the specialized accrediting body recognized by the Commission on Recognition of Postsecondary Accreditation as the accrediting agency for forestry in the United States. Additionally, you may become certified by The Wildlife Society if you choose appropriate elective courses.

Career Opportunities

Forestry graduates are employed as professional foresters in private forest industries and organizations, consulting companies, and public agencies, including the U.S. Forest Service, Soil Conservation Service, and state, county, or urban forestry programs. Graduates are also qualified to be research technicians in government, university, and private laboratories, or may continue their studies in specialized graduate programs.

The inclusion in the curriculum of management and processing principles makes UK forestry graduates attractive to the forest products industry; graduates are often employed as technical specialists, managers, and marketing and wood procurement personnel.

Graduation Requirements

The four-year Bachelor of Science program in Forestry consists of 133 semester hours. Eight of these hours are earned while attending a Summer Camp between the third and fourth academic years. This eight-week summer camp at Robinson Forest provides practical, in-the-field training and is required of all forestry students. The camp involves overnight travel and takes place at a number of field locations including but not necessarily limited to Robinson Forest.

The curriculum consists of University Studies program, preprofessional, professional, and specialty support components. FOR 100, Introduction to Forestry, is required of all undergraduates during their first semester. This course provides a broad overview of forestry. Preprofessional, professional, and specialty support courses provide the skills and understanding to manage forest resources. Electives, chosen with the assistance of your advisor, strengthen your knowledge of basic principles in areas of special interest to you.
### University Studies Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR 377 Forest Surveying</td>
<td>1</td>
</tr>
<tr>
<td>FOR 376 Silvicultural Practices</td>
<td>2</td>
</tr>
<tr>
<td>FOR 375 Taxonomy of Forest Vegetation</td>
<td>1</td>
</tr>
<tr>
<td>Forestry Field Camp ¹</td>
<td>5</td>
</tr>
</tbody>
</table>

¹Forestry Field Camp is a required course.

### Major Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHY 151 Introduction to Physics</td>
<td>3</td>
</tr>
<tr>
<td>CHE 105 General College Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>MA 123 Elementary Calculus and Its Applications</td>
<td>3</td>
</tr>
<tr>
<td>CHE 107 General College Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>AEC 101 The Economics of Food and Agriculture</td>
<td>3</td>
</tr>
<tr>
<td>ECO 201 Introduction to Farm and Natural Resource Finance</td>
<td>3</td>
</tr>
<tr>
<td>BIO 150 Principles of Biology I</td>
<td>3</td>
</tr>
<tr>
<td>BIO 151 Principles of Biology Laboratory I</td>
<td>3</td>
</tr>
<tr>
<td>BIO 152 Principles of Biology II</td>
<td>3</td>
</tr>
<tr>
<td>BIO 153 Principles of Biology Laboratory II</td>
<td>3</td>
</tr>
<tr>
<td>CHE 105 General College Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHE 107 General College Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>CHE 115 General Chemistry Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>PHY 151 Introduction to Physics or any other departmentally-approved course of 1 or more credit hours</td>
<td>3</td>
</tr>
<tr>
<td>AEC 101 The Economics of Food and Agriculture</td>
<td>3</td>
</tr>
<tr>
<td>ECO 201 Introduction to Economics I</td>
<td>3</td>
</tr>
<tr>
<td>GEO 210 Pollution, Hazards, and Environmental Management</td>
<td>3</td>
</tr>
<tr>
<td>SOC 260 Population, Resources and Change or one other departmentally-approved course of 1 or more credit hours</td>
<td>3</td>
</tr>
<tr>
<td>STA 291 Statistical Method</td>
<td>3</td>
</tr>
</tbody>
</table>

### Subtotal: Major Hours

- **Hours:** 59

### Specialty Support Requirement

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEC 201 Introduction to Farm and Natural Resource Finance</td>
<td>3</td>
</tr>
</tbody>
</table>

### Subtotal: Specialty Support

- **Hours:** 3

### Electives

- **Hours:** minimum of 13

### TOTAL HOURS: 133

### BACHELOR OF SCIENCE IN LANDSCAPE ARCHITECTURE

The profession of landscape architecture has grown out of the tradition of the great garden designers of Italy, France, England, and China to encompass the art and science of design, planning, and management of the land. The **science** of landscape architecture is concerned with the conservation and management of natural resources. The **art** of landscape architecture is concerned with the creation of more enjoyable, comfortable, and safe outdoor areas where human use requires adaptation of the natural environment.

This five-year professional program is accredited by the American Society of Landscape Architects and meets all the requirements for licensing of landscape architects in Kentucky and other states. Landscape architecture employment opportunities may be found in the designing of urban communities, plazas, university campuses, institutional grounds, parks and recreational areas, commercial and industrial sites, and residential communities, as well as in the areas of historic preservation, regional planning, and mine reclamation.

### Admission Requirements

Admission to the University of Kentucky and to the College of Agriculture does not guarantee admission to the Landscape Architecture program. All applicants must be reviewed by the Landscape Architecture Program Chairperson. The number of applicants ultimately admitted is determined by the resources available to provide high quality instruction. Applicants will be reviewed on a comparative basis. Determination of acceptability into the program is based on the following:

#### Entering freshmen and transfer students from degree programs other than Landscape Architecture must:

1. submit a formal application to the Undergraduate Admissions Office indicating Landscape Architecture as your major;
2. meet the minimum criteria for admission to the University as specified in this Bulletin (The Landscape Architecture program requires a minimum of a 2.0 grade-point average on a 4.0 scale for eligibility to transfer into the program); and
3. successfully complete the aptitude testing designated by the Landscape Architecture program.

If a student transferring from another degree program has a background in related design fields, he or she may submit available work, such as a portfolio or other work examples, as an indication of potential professional ability.

### Transfer students from degree programs in Landscape Architecture at other accredited institutions must:

1. submit a formal application to the Undergraduate Admissions Office indicating Landscape Architecture as your major; and
2. meet the minimum criteria for admission to the University as specified in this Bulletin (The Landscape Architecture program requires a minimum of a 2.0 grade-point average on a 4.0 scale for eligibility to transfer into the program); and
3. submit a portfolio for review which, combined with an evaluation of courses completed, will determine acceptance into the program as well as the level to which the student will be accepted.

### Graduation Requirements

To earn a Bachelor of Science degree in Landscape Architecture, the student must have 145 semester hours with at least a 2.0 grade-point standing (on a 4.0 scale). Remedial courses may not be counted toward the total hours required for graduation. In addition to satisfying the University Studies Program requirements, each student must complete pre-major, professional, and specialty support requirements. The Landscape Architecture program policy requires a student to achieve a **C** grade or better in major design studios in order to advance to the next level.

### University Studies Requirements

See “University Studies Program” on pages 68-72 for the complete University Studies requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill University Studies areas. Students should work closely with their advisor to complete the University Studies Program requirements. Courses marked with an asterisk (*) may also be used to satisfy University Studies requirements.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA 109 College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>Natural Sciences</td>
<td>3</td>
</tr>
<tr>
<td>GGY 111 Laboratory for Physical Geology</td>
<td>4</td>
</tr>
</tbody>
</table>

### Math

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA 109 College Algebra</td>
<td>3</td>
</tr>
</tbody>
</table>

### Natural Sciences

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GGY 111 Laboratory for Physical Geology</td>
<td>4</td>
</tr>
</tbody>
</table>
Social Sciences
ECO 101 Contemporary Economic Issues or ECO 201 Principles of Economics I ................................. 3
One course other than economics from University Studies Program list ................................................. 3

Premajor Requirements 
AEN 103 Basic Principles of Surveying ....................... 2
ARC 828 Computers and Architecture ........................ 3
*ECO 101 Contemporary Economic Issues or ECO 201 Principles of Economics I ................................. 3
*GLY 101 Physical Geology and GLY 111 Laboratory for Physical Geography ......................... 4
or *GLY 220 Principles of Physical Geology ................. 4
*GLY 110 Endangered Planet: An Introduction to Environmental Geology ........................................ 3

Subtotal: Premajor Hours ........................................ 15

Departmental Professional Requirements
LA 205 History of Landscape Architecture ................ 3
LA 206 Contemporary Landscape Architecture ........... 3
LA 821 Landscape Architecture Design Studio I .......... 6
LA 822 Landscape Architecture Design Studio II ....... 6
LA 833 Landscape Architecture Design Studio III ...... 6
LA 834 Landscape Architecture Design Studio IV ...... 6
LA 841 Landscape Architecture Design Studio V ...... 6
LA 842 Landscape Architecture Design Studio VI ...... 6
LA 871 Design Implementation I ............................. 4
LA 872 Design Implementation II ............................. 4
LA 973 Advanced Design Implementation ............... 6
LA 975 Advanced Landscape Architecture Studio ........... 6

Students must complete four courses at the 800 level and two courses at the 900 level from the following:
LA 850 Landscape Architecture Graphics .................. 3
LA 851 Design with Plants ..................................... 3
LA 853 History and Theory of Urban Form .............. 3
LA 854 Historic Landscape Preservation .................. 3
LA 855 Geographic Information Systems and Landscape Analysis ....................................................... 3
LA 857 Design Theories in Landscape Architecture ........ 3
LA 858 Regional Land Use Planning Systems ............ 3
LA 895 Independent Work in Landscape Architecture ................................................................. 1-6
LA 952 Advanced Landscape Architectural Graphic Communication .................................................. 3
LA 956 Advanced Geographic Information Systems (GIS) and Landscape Analysis .......................... 3
LA 959 Advanced Regional Land Use Planning Applications .................................................. 3
LA 971 Senior Project ............................................. 3

Subtotal: Major Hours .......................................... 80

Specialty Support Requirements
ARC 850 Professional Practice ................................ 3
PLS 220 Introduction to Plant Identification ............. 3
PLS 320 Woody Horticultural Plants ........................ 4
BIO 325 Introductory Ecology ................................ 4
or FOR 340 Forest Ecology ..................................... 4
PLS 366 Fundamentals of Soil Science ....................... 3
or FOR 205 Forest and Wildland Soils and Landscapes 4
Select one additional 400-500 level course from an area of study related to landscape architecture, such as GEO, HIS, SOC, PSY, PS, etc., with the approval of the student’s advisor.

Subtotal: Specialty Support ................................. minimum of 19

Electives
Electives should be selected by the student to lead to the minimum total of 145 hours required for graduation.
Subtotal: Electives ................................................ minimum of 3
TOTAL HOURS: .................................................. 145

BACHELOR OF SCIENCE IN
NATURAL RESOURCE CONSERVATION AND MANAGEMENT

The program in Natural Resource Conservation and Management is designed to provide students with the knowledge and skills needed for a career in the rapidly growing fields of environmental science and policy. As the world population grows, and as nations are drawn closer together through technology and trade, the conservation and management of natural resources will become increasingly important to the sustained well-being of all societies. The curriculum provides students with exposure to a broad array of key disciplines involved with natural resources. As a result, graduates have the capacity to integrate different perspectives and diverse bodies of knowledge in dealing with real resource management problems.

Students have the opportunity to specialize in either a science or a policy option. Students in either option share a common core of courses and have the opportunity to examine both the technical and socioeconomic dimensions of resource issues. The remaining courses constitute the Concentration Area and are determined by the student and his or her academic advisor. The courses are expected to be interrelated into a coherent area of concentration.

Graduates of the Natural Resource Conservation and Management degree program are employed as professionals in both the public and private sectors. Industries which have an impact upon the environment maintain a staff of environmental scientists and technicians to ensure compliance with the standards of our society. Government agencies employ broadly trained natural resource scientists to serve in regulatory or management functions for the resources in their jurisdiction. Additional employment opportunities exist in environmental journalism and education, and with the many nonprofit organizations which have environmental concerns. In addition, students in either option are well prepared for graduate programs dealing with resource and environmental issues and in traditional academic disciplines.

Graduation Requirements
To earn a Bachelor of Science in Natural Resource Conservation and Management, the student must complete 128 semester hours with at least a 2.0 grade-point standing. A minimum of 48 credit hours must be from upper division courses (300 and above). Remedial courses may not be counted toward the total hours required for the degree. In addition to the University Studies Program requirements, the student must complete college, premajor, core course, and concentration requirements including an internship. Students will choose an option and a concentration area with the help of the academic advisor.

Plan of Study
As a natural resource conservation and management major you are required to develop an acceptable Plan of Study during your sophomore year for your junior and senior years. The plan must be signed by your advisor and returned to the Associate Dean for Instruction’s office.

If you are an upper division transfer student (from another university or from another UK college or department) then you will submit your plan during the first semester you are enrolled in the program.

Consult your academic advisor in developing your Plan of Study.

College Required Hours
ENG 203 Business Writing or ENG 204 Technical Writing ............................................... 3
*GEN 100 Issues in Agriculture: The Development of Modern Agriculture* ......................... 3
*GEN 200 Issues in Agriculture: Contemporary Problems in Agriculture and Natural Resources .... 3
†These courses also satisfy the University Studies Oral Communication requirement.
Note: Students transferring into the college with 30 or more hours have only GEN 200 plus one communications course from the approved sequence in University Studies.

Subtotal: College Required Hours ............................... 6-9

University Studies Requirements
See “University Studies Program” on pages 68-72 for the complete University Studies requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill University Studies areas. Students should work closely with their advisor to complete the University Studies Program requirements.
Courses marked with an asterisk (*) may also be used to satisfy University Studies requirements.

Inference-Logic
MA 113 Calculus I .............................................. 4
or MA 123 Elementary Calculus and Its Applications .... 3

Natural Sciences
BIO 150 Principles of Biology I ............................ 3
BIO 152 Principles of Biology II ............................ 3

Social Sciences
ECO 201 Principles of Economics I ..................... 3
SOC 260 Population, Resources and Change ............. 3

Option A: Science
Premajor Requirements
*BIO 150 Principles of Biology I ............................ 3
*BIO 151 Principles of Biology Laboratory I .......... 2
*BIO 152 Principles of Biology II .......................... 3
*CHE 104 Principles of Biology Laboratory II ....... 2
*CHE 105 General Chemistry I ............................ 3
*CHE 106 General Chemistry II ............................ 3
CHE 115 General Chemistry Laboratory ................. 3
CHE 226 Analytical Chemistry ............................ 4
or CHE 236/231 Survey of Organic Chemistry/ Organic Chemistry Laboratory I ............ 5
or
CHE 230/231 Organic Chemistry I/ Organic Chemistry Laboratory I .......................... 5
*ECO 201 Principles of Economics I ............................................. 3
MA 113/193 Calculus I/Supplementary Mathematics Workshop I: (Subtitle required) ................................. 5

or
MA 123 Elementary Calculus and Its Applications .......... 3
*SOC 260 Population, Resources and Change .................. 3
GLY 220 Principles of Physical Geology .......................... 4
STA 291 Statistical Methods .................................................. 3

**Recommended laboratory courses.

Subtotal: Option A Premajor Hours .......... 39-42

Major Requirements

Hours
NRC 301 Natural Resource Conservation and Management ........................................... 3
NRC 320 Data Collection Technique .............................................. 3
NRC 330 NEPA Compliance ...................................................... 3
NRC 380 Analysis of Natural Resource Systems .................................. 3
NRC 381 Natural Resource Policy Analysis ................................. 3
NRC 395 Independent Study in Natural Resources or NRC 399 Experiential Education in Natural Resources ........................................... 3
NRC 450G Biogeochimistry ....................................................... 3
NRC 471 Senior Problem in Natural Resources ............................... 3
AEC 445G Introduction to Resource and Environmental Economics .................................. 3
FOR 340 Forest Ecology .................................................................. 3
PRL 366 Fundamentals of Soil Science ........................................ 3
PRL 367 Soil and Water Analysis Laboratory ................................ 3

Subtotal: Option A Major Hours ............... 36

Concentration Area

In addition to the core courses, each student, in consultation with his or her academic advisor, will select 12 hours of courses that will constitute the student’s Concentration Area. These three of these hours must be from a Steering-Committee approved list of applied natural resource courses. The approved list will be revised annually and currently consists of AEC 309, ENT 402, FOR 315, FOR 430, GEO 305, NRC 420G. The remaining courses (15 hours minimum) that constitute the Concentration Area will be determined by the student and his or her academic advisor, but the courses are expected to be interrelated into a coherent area of concentration. Students will be advised that many minors relevant to natural resource conservation and management require 18-21 credit hours. Should a student and his or her advisor decide that the student will pursue a natural resource relevant minor, the minor may become part of the student’s Concentration Area.

During the sophomore year, each student, in consultation with his or her academic advisor, will identify the Concentration Area and develop a Plan of Study that details the course work to be taken during the junior and senior years. The Plan of Study must be approved by the student’s advisor, the Chair of the Steering Committee, and the Associate Dean for Instruction in the College of Agriculture.

Subtotal: Concentration Area ......................... 18

Option B: Policy

Premajor Requirements

*Eco 201 Principles of Economics I ................................. 3
**Bio 151 Principles of Biology Laboratory I .............................. 2
**Bio 152 Principles of Biology II ............................................ 2
**Bio 153 Principles of Biology Laboratory II ............................. 2
*Che 105 General College Chemistry I ................................. 3
*Eco 201 Principles of Economics I ......................... 3
Eco 202 Principles of Economics II ................................. 3
MA 113/193 Calculus I/Supplementary Mathematics Workshop I: (Subtitle required) ................................. 5

BACHELOR OF SCIENCE IN PLANT AND SOIL SCIENCE

The Plant and Soil Science degree program is designed to provide students with the knowledge and skills needed for a career in the production and management of plants and soils for food, fiber, forage, oil, recreation, landscaping and the enhancement of the human environment. Graduates have the technical and scientific skills as well as the communication, computational, leadership, and interpersonal capabilities necessary to function effectively as professionals. Careers are as diverse as they are challenging. Each Area of Emphasis prepares graduates for specific professional opportunities.

Areas of Emphasis

Students pursuing a Plant and Soil Science degree may choose from the following areas:

- Crops and Livestock
- Crops and Soils
- Horticulture Enterprise Management
- Horticultural Science
- Plant Pest Management
- Soil and Water Environmental Science
- Turfgrass Science

Graduation Requirements

Students must complete a minimum of 128 semester credit hours with at least 48 credit hours from courses at the 300 level or above. In addition to the University Studies and college requirements, students must select an Area of Emphasis with the assistance of an advisor and fulfill the area’s program requirements.

Plan of Study

As a plant and soil science major you are required to develop an acceptable Plan of Study during your sophomore year for your junior and senior years. The plan must be approved by your academic advisor and submitted to the Associate Dean for Instruction’s office.

If you are an upper division transfer student (from another university or from another UK college or department) then you will submit your plan during the first semester you are enrolled in the program.

Consult your academic advisor in developing your Plan of Study.

College Required Hours

ENG 203 Business Writing or ENG 204 Technical Writing ......................................... 3
†GEN 100 Issues in Agriculture: The Development of Modern Agriculture* ...................... 3
†GEN 200 Issues in Agriculture: Contemporary Problems in Agriculture and Natural Resources ........... 3
†These courses also satisfy the University Studies Oral Communication requirement.

Note: Students transferring into the college with 30 or more hours take only GEN 200 plus one communications course from the approved sequence in University Studies.

Subtotal: College Required Hours ............. 6-9

University Studies Requirements

See “University Studies Program” on pages 68-72 for the complete University Studies requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill University Studies areas. Students should work closely with their advisor to complete the University Studies Program requirements.

Courses marked with an asterisk (*) may also be used to satisfy University Studies requirements.

Math
MA 123 Elementary Calculus and Its Applications 3

Subtotal: College Required Hours ............. 6-9
MINORS IN AGRICULTURE

Minor in Agriculture

( NOTE: At the time of publication, the minor in agriculture was undergoing revision. Interested students should contact the College of Agriculture for more information.)

Students in this minor must complete 21 credit hours, selected from the following list. Courses must be selected from a minimum of three areas to assure diversity.

General Agriculture
(A maximum of two courses) .............................. Hours
ASC 106 Introduction to Animal Sciences .............. 3

AEC 101 The Economics of Food and Agriculture ........................................... 3
RSO 102 The Dynamics of Rural Social Life ............ 3
PLS 104 Plants, Soils, and People: A Global Perspective ........................................ 3
GEN 105 Engineering Applications in Agriculture .......... 3
FSC 107 Introduction to Food Science ..................... 3

Agricultural Economics
AEC 302 Agricultural Management Principles ............. 4
AEC 303 Microeconomic Concepts in Agricultural Economics ........................................... 3
AEC 305 Food and Agricultural Marketing Principles ........................................... 3
AEC 309 International Agriculture, World Food Needs and U.S. Trade in Agricultural Products .......... 3
AEC 321 Agricultural Futures Markets .................... 3
AEC 422 Agribusiness Management ........................................... 3

Agricultural Engineering
AEN 320 Agricultural Structures ........................................... 3
AEN 340 Principles of Field Engineering ............ 4
AEN 345 Crop Drying and Processing .................... 3

Animal Sciences
ASC 300 Meat Science ........................................... 4
ASC 360 Genetics ........................................... 3
ASC 382 Principles of Livestock Nutrition ............. 4
FSC 306 Introduction to Food Processing ........... 4

Entomology
ENT 310 Insect Pests of Field Crops .................... 3
ENT 320 Horticultural Entomology ........................................... 3
ENT 340 Livestock Entomology ........................................... 2
ENT 402 Forest Entomology* ........................................... 3

Forestry
FOR 402 Forest Entomology* ........................................... 3
FOR 410 Forest Pathology* ........................................... 3
FOR 430 Forest Wildlife Management .................... 3
FOR 440 Forest Resources for Recreation .............. 3
FOR 460G Forest Watershed Management ............ 3

Plant and Soil Science
PLS 352 Nursery Production ........................................... 3
PLS 366 Fundamentals of Soil Science ............ 3
PLS 367 Soil and Water Analysis Laboratory ............ 3
PLS 386 Plant Production Systems ............ 3
PLS 402 Fruit Crop Production .................... 3
PLS 440 Plant Propagation ........................................... 3
PLS 465 Greenhouses and Controlled Environments ........................................... 3
PLS 520 Vegetable Crop Management .................... 3

Plant Pathology
PPA 400G Principles of Plant Pathology ............ 3
PPA 410 Forest Pathology* ........................................... 3

*Cross-listed courses. May satisfy only one departmental requirement.

Minor in Animal Sciences

Minor in Agricultural Economics

Preprofessional Requirement  Hours
ECO 201 Principles of Economics I .................... 3

Minor Requirements
Two courses selected from:
AEC 302 Agricultural Management Principles ............. 4
AEC 303 Microeconomic Concepts in Agricultural Economics ........................................... 3
AEC 305 Food and Agricultural Marketing Principles ........................................... 3

In addition, students should select nine hours from other agricultural economics courses. A maximum of three credit hours from AEC 311, 312, 313, 314, 315, or 341 may be credited to the minor. AEC 399 may not be included.

Minor in Forensic Science

Required Courses  Hours
FSC 535 Food Analysis or ........................................... 4
FSC 434G Food Chemistry ........................................... 4
FSC 530 Food Microbiology ........................................... 5
FSC 536 Advanced Food Technology or ............ 4
FSC 538 Food Fermentation and Thermal Processing ........................................... 4

Elective Courses
Two of the following:
FSC 306 Introduction to Food Processing ............ 4
AEN 340 Principles of Food Engineering ............ 4
FSC 535 Food Analysis* or ........................................... 4
FSC 434G Food Chemistry* ........................................... 4
FSC 536 Advanced Food Technology* or ............ 4
FSC 538 Food Fermentation and Thermal Processing* or ........................................... 4

*If not taken as one of the required courses.

Minor in Animal Sciences

Minor Requirements  Hours
ASC 106 Introduction to Animal Sciences ............. 3
ASC 120 Introductory Animal Science Laboratory .. 1
ASC 360 Genetics ........................................... 3
ASC 364 Reproductive Physiology of Farm Animals ........................................... 3
ASC 378 Animal Nutrition ........................................... 3
ASC 382 Principles of Livestock Nutrition ............. 3

Electives (5 Hours)
Electives must be selected from the following list:
ASC 300 Meat Science ........................................... 4
ASC 310 Equine Anatomy and Conformation ............ 2
ASC 320 Equine Management ........................................... 3
ASC 362 Animal Breeding ........................................... 3
ASC 380 Feeds and Feeding ........................................... 3
ASC 404G Sheep Science ........................................... 4
ASC 406 Beef Cattle Science ........................................... 4
ASC 408G Swine Science ........................................... 3
ASC 410G Equine Science ........................................... 3
ASC 420G Dairy Cattle Science ........................................... 3
ASC 462G Artificial Insemination and Fertility of Farm Animals ........................................... 3
ASC 564 Milk Secretion ........................................... 3

MINORS IN AGRICULTURE

Minor in Animal Sciences

Minor Requirements  Hours
ASC 106 Introduction to Animal Sciences ............. 3
ASC 120 Introductory Animal Science Laboratory .. 1
ASC 360 Genetics ........................................... 3
ASC 364 Reproductive Physiology of Farm Animals ........................................... 3
ASC 378 Animal Nutrition ........................................... 3
ASC 382 Principles of Livestock Nutrition ............. 3

Electives (5 Hours)
Electives must be selected from the following list:
ASC 300 Meat Science ........................................... 4
ASC 310 Equine Anatomy and Conformation ............ 2
ASC 320 Equine Management ........................................... 3
ASC 362 Animal Breeding ........................................... 3
ASC 380 Feeds and Feeding ........................................... 3
ASC 404G Sheep Science ........................................... 4
ASC 406 Beef Cattle Science ........................................... 4
ASC 408G Swine Science ........................................... 3
ASC 410G Equine Science ........................................... 3
ASC 420G Dairy Cattle Science ........................................... 3
ASC 462G Artificial Insemination and Fertility of Farm Animals ........................................... 3
ASC 564 Milk Secretion ........................................... 3

Minor in Entomology

Preminor Requirement  Hours
Two semesters of introductory biology .................. 6

Minor Requirements
Required: ............................................................. 15
ENT 300 General Entomology ........................................... 3
Select the remaining credits (12 hours) from:
ENT 310 Insect Pests of Field Crops ............ 3
ENT 320 Horticultural Entomology ............ 3
ENT 340 Livestock Entomology ............ 2
ENT 360 Genetics ........................................... 3
ENT 395 Independent Work ........................................... 1-3
ENT 402 Forest Entomology ........................................... 3
ENT 530 Integrated Pest Management ............ 3
ENT 561 Medical Entomology ........................................... 4
ENT 563 Parasitology ........................................... 4
ENT 564 Insect Taxonomy ........................................... 4
ENT 568 Insect Behavior ........................................... 3

Minor in Food Science

Required Courses  Hours
FSC 535 Food Analysis or ........................................... 4
FSC 434G Food Chemistry ........................................... 4
FSC 530 Food Microbiology ........................................... 5
FSC 536 Advanced Food Technology or ............ 4
FSC 538 Food Fermentation and Thermal Processing ........................................... 4

Elective Courses
Two of the following:
FSC 306 Introduction to Food Processing ............ 4
AEN 340 Principles of Food Engineering ............ 4
FSC 535 Food Analysis* or ........................................... 4
FSC 434G Food Chemistry* ........................................... 4
FSC 536 Advanced Food Technology* or ............ 4
FSC 538 Food Fermentation and Thermal Processing* or ........................................... 4

*If not taken as one of the required courses.

Minor in Pest Management

Prerequisite  Hours
One course from the following:
ASC 320, 404G, 406, 408G, 420G
PLS 352, 386, 402, 408, 412, 515, 520, 525, 556 .... 3-4
Minor Requirements

ECT 300 General Entomology ................................... 3
PLS 404 Integrated Weed Management ..................... 4
PPA 400G Principles of Plant Pathology .................... 3

Select at least nine hours from the following:

ECT 310 Insect Pests of Field Crops ......................... 3
ECT 320 Horticultural Entomology ............................ 2
ECT 340 Livestock Entomology .................................. 2
ECT 402 Forest Entomology ...................................... 3
ECT 530 Integrated Pest Management ....................... 3
PPA 410 Forest Pathology ...................................... 3
PPA 595 Epidemiology and Control of
Diseases ................................................................ 4
V535 Principles of Animal
Hygiene and Disease Control .................................. 3
PLS 470G Soil Nutrient Management ......................... 3
ASC 378 Animal Nutrition ...................................... 3

Minor in Plant and Soil Science

Preminor Requirement Hours
CHE 105 General College Chemistry I ....................... 3

Minor Requirements

Required: .................................................................. 18
PLS 104 Plants, Soils, and People:
A Global Perspective ........................................... 3
PLS/BBIO 210 The Life Processes of Plants or
BIO 152 Principles of Biology II .............................. 3
PLS 366 Fundamentals of Soil Science ..................... 3

plus nine more hours of plant and soil science courses
chosen from the following prefixes: PLS, PPA.

Minor in Rural Sociology

Prerequisites

Students must complete SOC 101 or RSO 102 and one
other sociology course at the 100 or 200 level.

Any student wishing to minor in rural sociology should
file an application with and be interviewed by the Director
of Undergraduate Studies in sociology prior to entering the
program.

Minor Requirements

Students must complete 15 hours in sociology, at least 12
of which must be at the 300 level or above, including one
of the following six-hour blocks:
SOSC 302 and SOSC 303 or
SOSC 451G and SOSC 452G or
SOSC 302 and SOSC 451G

Pre-Veterinary Medicine

Students interested in becoming veterinarians
may enroll in the College of Agriculture
at the University of Kentucky and complete
their requirements for admission to veterinary school.

Although the Commonwealth of Kentucky
does not have a school of veterinary medicine,
it is a participating member of the Southern
Regional Education Board plan, under which
legal Kentucky residents may attend the
Auburn University School of Veterinary Medicine.
Each year 34 students are chosen from
Kentucky to enter the Auburn program.

There is also a plan whereby two legal
Kentucky residents may be accepted by the
Tuskegee University School of Veterinary Medicine each year.

Under both of the above programs the
students selected are exempt from the out-of-
state tuition that would normally apply to a
Kentucky resident. Admission is on a competi-
tive basis with the final selection being made by
a committee from each of the veterinary schools.

Pre-veterinary studies is not a degree pro-
gram, but a pre-professional curriculum. It is
strongly recommended that all pre-veterinary
students choose a degree goal early in their
college career. Although it is possible to com-
plete pre-vet requirements in three years, the
majority of students accepted to Auburn have
a B.S. or B.A. degree.

A minimum of 72 semester hours with an
overall grade-point average of 2.50 (on a 4.0
basis) is required prior to consideration for
admission. Due to the high level of competi-
tion for admission to any veterinary school, a
student should maintain at least a 3.0 aca-
ademic standing on all college work. The aver-
age overall GPA for students accepted to veterinary schools is approximately 3.45. The
required must have completed all of the required
courses or acceptable substitutes by June 15 of the year of possible acceptance. Courses in certain advanced sciences must be
taken within six years of entry to Auburn. All
required courses must have a grade of “C” or
greater.

Auburn applicants can use the Veterinary
Medical College Application Service (VMCAS) application, or an Auburn application
obtained from Dr. Dwyer after August 1. The
deadline for Auburn applications is Octo-
ber 1. Auburn requires the General Aptitude
portion of the Graduate Record Examination
(GRE). Tuskegee requires a separate applica-
tion form and the GRE, taken within three
years of application.

The following curriculum is designed to
meet the requirements for both Auburn and Tuskegee. However, some changes in the pre-
veterinary curriculum may go into effect dur-
ing the school year. The student has the re-
sponsibility to work closely with his or her
pre-veterinary advisor in making certain that
all requirements are met for consideration for acceptance.

All CLEP and advanced placement credit for
required courses must have prior approval by Dr. Dwyer. Auburn does not accept corres-
pondence credit for required courses.

Pre-Veterinary Curriculum Hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 101 Writing I*</td>
<td>3</td>
</tr>
<tr>
<td>ENG 102 Writing II*</td>
<td>3</td>
</tr>
<tr>
<td>Literature (e.g. ENG 334)**</td>
<td>3 or 6</td>
</tr>
<tr>
<td>Fine Arts (e.g. MUS 100)**</td>
<td>3</td>
</tr>
<tr>
<td>Humanities/Fine Arts electives (e.g. GEN 100/200)**</td>
<td>6</td>
</tr>
<tr>
<td>History (e.g. HIS 108/109)**</td>
<td>3 or 6</td>
</tr>
<tr>
<td>Social sciences electives** (e.g. USP Social Sciences plus anthropology [Cross-Cultural])</td>
<td>9</td>
</tr>
<tr>
<td>MA 123 Elementary Calculus and Its Applications</td>
<td>3</td>
</tr>
<tr>
<td>OR</td>
<td></td>
</tr>
<tr>
<td>MA 113 Calculus I</td>
<td>4</td>
</tr>
</tbody>
</table>

The above courses are waived for students with a B.S. or
B.A. degree.