Poultry Science (POSC)

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Director, Center of Excellence for Poultry Science
Head, Department of Poultry Science
0114 Poultry Science Center
479-575-4952

Department of Poultry Science Website (https://poultry-science.uark.edu/)

The Department of Poultry Science offers a major in poultry science leading to a Bachelor of Science in Agriculture. Students pursuing a major in Poultry Science would select one of two areas of concentration for their degree program: a Pre-Professional Science Concentration or a Poultry Science Industry Concentration. The department also offers coursework for a minor and a certificate of excellence program.

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, genetics, physiology, management, food science, immunology, and disease.

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, 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, management, food science, immunology, and disease.

Requirements for B.S.A. with Poultry Science Industry Concentration
Requirements for a Major in Poultry Science

State minimum core (http://catalog.uark.edu/undergraduatecatalog/gened/stateminimum/) and discipline specific general education requirements: (Course work that meets state minimum core requirements is in bold.)

<table>
<thead>
<tr>
<th>University Requirements (1 hour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIV 1001 University Perspectives</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Communications (12 hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select 6 hours English from state minimum core</td>
</tr>
<tr>
<td>Communication Intensive Elective - 6hrs (see degree audit for approved course list)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>U.S. History or Government</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select 3 hours from U.S. History or Government State Minimum Core</td>
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<table>
<thead>
<tr>
<th>Mathematics and Statistics (6 hours)</th>
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<tbody>
<tr>
<td>MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (or higher)</td>
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</tbody>
</table>

Select one of the following: 3

<table>
<thead>
<tr>
<th>AGEC 2403 Quantitative Tools for Agribusiness</th>
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</table>

<table>
<thead>
<tr>
<th>Physical and Biological Sciences (16 hours)</th>
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<tbody>
<tr>
<td>BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture)</td>
</tr>
<tr>
<td>&amp; BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab)</td>
</tr>
<tr>
<td>BIOL 2013 General Microbiology (ACTS Equivalency = BIOL 2004 Lecture)</td>
</tr>
<tr>
<td>&amp; BIOL 2011L General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab)</td>
</tr>
<tr>
<td>or POSC 2413 Domestic Animal Microbiology &amp; POSC 2411L Domestic Animal Microbiology Laboratory</td>
</tr>
<tr>
<td>CHEM 1073 Fundamentals of Chemistry (ACTS Equivalency = CHEM 1214 Lecture)</td>
</tr>
<tr>
<td>&amp; CHEM 1071L Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab)</td>
</tr>
<tr>
<td>or CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM &amp; CHEM 1121L1424 Lecture)</td>
</tr>
<tr>
<td>and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab)</td>
</tr>
<tr>
<td>CHEM 2613 Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture)</td>
</tr>
<tr>
<td>&amp; CHEM 2611L Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab)</td>
</tr>
<tr>
<td>or CHEM 3603 Organic Chemistry I &amp; CHEM 3601L Land Organic Chemistry I Laboratory</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fine Arts and Humanities (6 hours)</th>
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<tr>
<td>Select 3 hours Fine Arts from state minimum core</td>
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<tr>
<td>Select 3 hours Humanities from state minimum core</td>
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</table>

<table>
<thead>
<tr>
<th>Social Sciences (9 hours)</th>
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<tbody>
<tr>
<td>AGEC 1103 Principles of Agricultural Microeconomics</td>
</tr>
<tr>
<td>or ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203)</td>
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Select 6 hours Social Sciences from State Minimum Core 6

<table>
<thead>
<tr>
<th>Poultry Science Core (35 hours)</th>
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</thead>
<tbody>
<tr>
<td>POSC 1003 Introduction to Poultry Science</td>
</tr>
<tr>
<td>POSC 2343 Poultry Production</td>
</tr>
<tr>
<td>POSC 2353 Poultry Breeder Management</td>
</tr>
<tr>
<td>POSC 3033 Animal Physiology</td>
</tr>
<tr>
<td>POSC 3123 Principles of Genetics</td>
</tr>
<tr>
<td>or BIOL 2323 General Genetics</td>
</tr>
<tr>
<td>POSC 3223 Poultry Diseases</td>
</tr>
<tr>
<td>POSC 3554 Avian Anatomy</td>
</tr>
<tr>
<td>POSC 4314 Egg and Meat Technology</td>
</tr>
<tr>
<td>POSC 4343 Poultry Nutrition</td>
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Select 3 hours from the following: 3

<table>
<thead>
<tr>
<th>POSC 4801 Seminar: Research Topics</th>
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<tbody>
<tr>
<td>POSC 4811 Seminar: Professionalism</td>
</tr>
<tr>
<td>POSC 4821 Seminar: Problem Solving</td>
</tr>
<tr>
<td>POSC 4831 Seminar: Processing Regulations</td>
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</table>

Select 3 hours from the following: 3

<table>
<thead>
<tr>
<th>AFLS 400VH Honors Thesis</th>
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</thead>
<tbody>
<tr>
<td>POSC 401V Internship in Poultry Science</td>
</tr>
<tr>
<td>POSC 402V Research Experience</td>
</tr>
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</table>

Research Experience
General Electives (12 hours)  
Students should discuss recommended electives with academic/faculty adviser

20 hours from concentration requirements (PSID, PSPP) 20

Total Hours 120

Requirements for a Major in Poultry Science with a Poultry Science Industry Concentration

PSID Concentration

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>AGEC 2303</td>
<td>Introduction to Agribusiness</td>
<td>3</td>
</tr>
<tr>
<td>FDSC 4122</td>
<td>Food Microbiology</td>
<td>2</td>
</tr>
<tr>
<td>POSC 4233</td>
<td>Value Added Muscle Foods</td>
<td>3</td>
</tr>
<tr>
<td>POSC 4213</td>
<td>Integrated Poultry Management Systems</td>
<td>3</td>
</tr>
</tbody>
</table>

Select a minimum of 9 hours from the following: 9

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGEC 3503</td>
<td>Agricultural Law I</td>
<td>3</td>
</tr>
<tr>
<td>AGEC 3523</td>
<td>Environmental and Natural Resources Law</td>
<td>3</td>
</tr>
<tr>
<td>POSC 4123</td>
<td>Legal Issues in Animal Agriculture</td>
<td>3</td>
</tr>
<tr>
<td>POSC 4163</td>
<td>Companion Animal Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>POSC 4923</td>
<td>Brain and Behavior</td>
<td>3</td>
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<tr>
<td>Upper Level AGEC Course (3 hrs)</td>
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</table>

Total Hours 20

Poultry Science B.S.A. with Poultry Science Industry Concentration

Eight-Semester Degree Program

Students wishing to follow the degree plan should go to the Eight-Semester Degree Policy (http://catalog.uark.edu/undergraduatecatalog/academicregulations/eightsemesterdegreecompletionpolicy/) for university requirements of the program.

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Fall</th>
<th>Spring</th>
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<tbody>
<tr>
<td>ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013)</td>
<td>(Satisfies General Education Outcome 1.1)</td>
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<tr>
<td>BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) &amp; BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab)</td>
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<td>3</td>
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<tr>
<td>POSC 1003 Introduction to Poultry Science</td>
<td></td>
<td>3</td>
<td>3</td>
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<tr>
<td>Fine Arts/Humanities State Minimum Core Elective (Satisfies General Education Outcome 3.1 or 3.2)</td>
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<td>3</td>
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<tr>
<td>UNIV 1001 University Perspectives</td>
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Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Fall</th>
<th>Spring</th>
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<tbody>
<tr>
<td>POSC 2343 Poultry Production</td>
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<td>3</td>
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<tr>
<td>POSC 3554 Avian Anatomy</td>
<td></td>
<td>4</td>
<td>4</td>
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<tr>
<td>STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) or AGEC 2403 Quantitative Tools for Agribusiness</td>
<td></td>
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<tr>
<td>POSC 4811 Seminar: Professionalism</td>
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<td>3</td>
<td>3</td>
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<tr>
<td>POSC 3033 Animal Physiology</td>
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Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Fall</th>
<th>Spring</th>
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</thead>
<tbody>
<tr>
<td>AGEC 2303 Introduction to Agribusiness</td>
<td></td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 2613 Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) &amp; CHEM 2611L Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) or CHEM 3603 and CHEM 3601L</td>
<td></td>
<td>3</td>
<td>3</td>
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<tr>
<td>FDSC 4122 Food Microbiology</td>
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<td>3</td>
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<tr>
<td>PSID Concentration Elective</td>
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<tr>
<td>Communication Intensive Elective (Recommend COMM 1313 Public Speaking) (Satisfies General Education Outcomes 1.2 and 5.1)</td>
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<td>3</td>
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</tbody>
</table>
The Humanities Elective courses which satisfy General Education

The Social Sciences Elective courses which satisfy General Education

The Fine Arts Elective courses which satisfy General Education

**Total Units in Sequence:** 120

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**POSC 3223 Poultry Diseases**

**POSC 4314 Egg and Meat Technology**

**POSC 4811 Seminar: Professionalism**

or **POSC 4831 Seminar: Processing Regulations**

or **POSC 4821 Seminar: Problem Solving**

or **POSC 4801 Seminar: Research Topics**

**General Elective**

**PSID Concentration Elective**

or **POSC 3123 Principles of Genetics**

or **BIOL 2323 General Genetics**

**POSC 4343 Poultry Nutrition**

**POSC 4233 Value Added Muscle Foods**

**POSC 4213 Integrated Poultry Management Systems (Satisfies General Education Outcome 6.1)**

**POSC 4801 Seminar: Research Topics**

or **POSC 4831 Seminar: Processing Regulations**

or **POSC 4821 Seminar: Problem Solving**

or **POSC 4811 Seminar: Professionalism**

**General Elective (2-3 hours)**

**Year Total:** 16 15

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### Fourth Year

<table>
<thead>
<tr>
<th>units</th>
<th>Fall</th>
<th>Spring</th>
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<tbody>
<tr>
<td>POSC 4314 Egg and Meat Technology</td>
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</tr>
<tr>
<td>POSC 4811 Seminar: Professionalism</td>
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<td></td>
</tr>
<tr>
<td>or POSC 4831 Seminar: Processing Regulations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>or POSC 4821 Seminar: Problem Solving</td>
<td></td>
<td></td>
</tr>
<tr>
<td>or POSC 4801 Seminar: Research Topics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Elective</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PSID Concentration Elective</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>POSC 3123 Principles of Genetics</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>or BIOL 2323 General Genetics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POSC 4343 Poultry Nutrition</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>POSC 4233 Value Added Muscle Foods</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>POSC 4213 Integrated Poultry Management Systems (Satisfies General Education Outcome 6.1)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>POSC 4801 Seminar: Research Topics</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>or POSC 4831 Seminar: Processing Regulations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>or POSC 4821 Seminar: Problem Solving</td>
<td></td>
<td></td>
</tr>
<tr>
<td>or POSC 4811 Seminar: Professionalism</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Elective (2-3 hours)</td>
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<tr>
<td><strong>Year Total:</strong></td>
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<td>13</td>
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**POSC 3223 Poultry Diseases**

**POSC 4314 Egg and Meat Technology**

**POSC 4811 Seminar: Professionalism**

or **POSC 4831 Seminar: Processing Regulations**

or **POSC 4821 Seminar: Problem Solving**

or **POSC 4801 Seminar: Research Topics**

**General Elective**

**PSID Concentration Elective**

or **POSC 3123 Principles of Genetics**

or **BIOL 2323 General Genetics**

**POSC 4343 Poultry Nutrition**

**POSC 4233 Value Added Muscle Foods**

**POSC 4213 Integrated Poultry Management Systems (Satisfies General Education Outcome 6.1)**

**POSC 4801 Seminar: Research Topics**

or **POSC 4831 Seminar: Processing Regulations**

or **POSC 4821 Seminar: Problem Solving**

or **POSC 4811 Seminar: Professionalism**

**General Elective (2-3 hours)**

**Year Total:** 16 15

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**Requirements for B.S.A. in Poultry Science with Pre-Professional Science Concentration**

**Requirements for a Major in Poultry Science**

State minimum core ([http://catalog.uark.edu/undergraduatecatalog/gened/stateminimum/](http://catalog.uark.edu/undergraduatecatalog/gened/stateminimum/)) and discipline specific general education requirements:

(Course work that meets state minimum core requirements is in bold.)

**University Requirements (1 hour)**

UNIV 1001 University Perspectives 1

**Communications (12 hours)**

Select 6 hours English from state minimum core 6

Communication Intensive Elective - 6hrs (see degree audit for approved course list) 6

**U.S. History or Government**

Select 3 hours from U.S. History or Government State Minimum Core 3

**Mathematics and Statistics (6 hours)**

MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (or higher) 3

Select one of the following:

AGEC 2403 Quantitative Tools for Agribusiness 3

STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) 3

**Physical and Biological Sciences (16 hours)**

BIOL 1543 & BIOL 1541L Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) 4

and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab) 4

BIOL 2013 General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) 4

& BIOL 2011L and General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab) 4

or POSC 2413 Domestic Animal Microbiology & POSC 2411L Domestic Animal Microbiology Laboratory 4

CHEM 1073 & CHEM 1071L Fundamentals of Chemistry (ACTS Equivalency = CHEM 1214 Lecture) 4

and Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab) 4

or CHEM 1123 University Chemistry II (ACTS Equivalency = CHEM & CHEM 1121L1142 Lecture) 4

and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab) 4

CHEM 2613 Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) 4

& CHEM 2611L and Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) 4

or CHEM 3603 Organic Chemistry I & CHEM 3601Land Organic Chemistry I Laboratory 4

**Fine Arts and Humanities (6 hours)**

Select 3 hours Fine Arts from state minimum core 3

Select 3 hours Humanities from state minimum core 3

**Social Sciences (9 hours)**

Note, courses cannot be counted twice in degree requirements.
AGEC 1103 Principles of Agricultural Microeconomics 3
or ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203)

Select 6 hours Social Sciences from State Minimum Core 6

Poultry Science Core (35 hours)

POSC 1003 Introduction to Poultry Science 3
POSC 2343 Poultry Production 3
POSC 2353 Poultry Breeder Management 3
POSC 3033 Animal Physiology 3
POSC 3123 Principles of Genetics 3
or BIOL 2323 General Genetics
POSC 3223 Poultry Diseases 3
POSC 3544 Avian Anatomy 4
POSC 4314 Egg and Meat Technology 4
POSC 4343 Poultry Nutrition 3

Select 3 hours from the following:

POSC 4801 Seminar: Research Topics
POSC 4811 Seminar: Professionalism
POSC 4821 Seminar: Problem Solving
POSC 4831 Seminar: Processing Regulations

Select 3 hours from the following:

AFLS 400VH Honors Thesis
POSC 401V Internship in Poultry Science
POSC 402V Research Experience

General Electives (12 hours) 12

Students should discuss recommended electives with academic/faculty adviser

20 hours from concentration requirements (PSID, PSPP) 20

Total Hours 120

Requirements for a Major in Poultry Science with a Poultry Science Pre-Professional Science Concentration

PSP Concentration

BIOL 2533 Cell Biology 3
CHEM 3813 Elements of Biochemistry 3

Select a minimum of 14 hours from the following: 14

ANSC 3143 Principles of Animal Nutrition
BIOL 4333 Biotechnology in Agriculture
CHEM 3613 Organic Chemistry II
& CHEM 3611 Land Organic Chemistry II Laboratory
PHIL 3103 Ethics and the Professions
PHYS 2013 College Physics I (ACTS Equivalency = PHYS & PHYS 2011L 2014 Lecture)
and College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab)
PHYS 2033 College Physics II (ACTS Equivalency = PHYS & PHYS 2031L 2024 Lecture)
and College Physics II Laboratory (ACTS Equivalency = PHYS 2024 Lab)
POSC 3513 Current Approaches in Agricultural Laboratory Research
or POSC 3513H Honors Current Approaches in Agricultural Laboratory Research

POSC 4163 Companion Animal Nutrition
POSC 4923 Brain and Behavior
Upper Level CHEM or BIOL

Total Hours 20

Poultry Science B.S.A. with Poultry Science Pre-Professional Science Concentration

Eight-Semester Degree Program

Students wishing to follow the degree plan should go to the Eight-Semester Degree Policy (http://catalog.uark.edu/undergraduatecatalog/academicregulations/eightsemesterdegreecompletionpolicy/) for university requirements of the program.

First Year

<table>
<thead>
<tr>
<th>Units</th>
<th>Fall</th>
<th>Spring</th>
</tr>
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<tbody>
<tr>
<td>ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Satisfies General Education Outcome 1.1)</td>
<td>3</td>
<td></td>
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<tr>
<td>Satisfies General Education Outcome 3.4: BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) &amp; BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab)</td>
<td>4</td>
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<tr>
<td>POSC 1003 Introduction to Poultry Science</td>
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<tr>
<td>Fine Arts/Humanities State Minimum Core Elective (Satisfies General Education Outcome 3.1 or 3.2)</td>
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<tr>
<td>UNIV 1001 University Perspectives</td>
<td>1</td>
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<tr>
<td>ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (Satisfies General Education Outcome 1.1)</td>
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<td>POSC 2353 Poultry Breeder Management</td>
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<td>MATH 1203 College Algebra (ACTS Equivalency = MATH 1103) (Satisfies General Education Outcome 2.1)</td>
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<tr>
<td>Communication Intensive Elective (3 hrs) (Recommend COMM 1313 Public Speaking) (Satisfies General Education Outcomes 1.2 and 5.1)</td>
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<tr>
<td>Social Sciences State Minimum Core Elective (Satisfies General Education Outcome 3.3)</td>
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<tr>
<td>Year Total:</td>
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<td>15</td>
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Second Year

<table>
<thead>
<tr>
<th>Units</th>
<th>Fall</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>POSC 2343 Poultry Production</td>
<td>3</td>
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</tr>
<tr>
<td>General Elective (Recommend CHEM 1103/1101L University Chemistry I)</td>
<td>4</td>
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<tr>
<td>Satisfies General Education Outcome 3.3: AGEC 1103 Principles of Agricultural Microeconomics or ECON 2023 Principles of Microeconomics (ACTS Equivalency = ECON 2203)</td>
<td>3</td>
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<tr>
<td>U.S. History or Government State Minimum Core Elective (Satisfies General Education Outcome 4.2)</td>
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</table>
POSC 3554 Avian Anatomy 4
STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103) or AGEC 2403 Quantitative Tools for Agribusiness 3
POSC 2413 Domestic Animal Microbiology & POSC 2411L Domestic Animal Microbiology Laboratory or BIOL 2013 and BIOL 2011L 4
POSC 2313 Principles of Genetics 2 or BIOL 2332 General Genetics 3
or AGEC 2403 Quantitative Tools for Agribusiness 3
POSC 2413 Domestic Animal Microbiology & POSC 2411L Domestic Animal Microbiology Laboratory or BIOL 2013 and BIOL 2011L 4
POSC 2313 Principles of Genetics 2 or BIOL 2332 General Genetics 3
or AGEC 2403 Quantitative Tools for Agribusiness 3
Satisfies General Education Outcome 3.4:
CHEM 1073 Fundamentals of Chemistry (ACTS Equivalency = CHEM 1214 Lecture) & CHEM 1071L Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab) or CHEM 1123 and CHEM 1121L 4
PSPP Concentration Elective (Recommend PHYS 3613/3611L Organic Chemistry II) 2
Fine Arts/Humanities State Minimum Core Elective (Satisfies General Education Outcome 3.1 or 3.2) 1
Communication Intensive Elective (Recommend ACOM 3143 Communicating Agriculture to the Public) 3
Year Total: 17

Third Year

POSC 4811 Seminar: Professionalism 1
or POSC 4831 Seminar: Processing Regulations or POSC 4821 Seminar: Problem Solving or POSC 4801 Seminar: Research Topics 4
POSC 3033 Animal Physiology 3
POSC 3223 Poultry Diseases 3
PSPP Concentration Elective (Recommend CHEM 3613/3611L Organic Chemistry II) 3
PSPP Concentration Elective (Recommend PHYS 2033/2031L College Physics II) 4
POSC 402V Satisfies General Education Outcome 6.1: AALS 400VH Honors Thesis 3 or POSC 401V Internship in Poultry Science or POSC 402V Research Experience 3
Year Total: 17

Fourth Year

POSC 4314 Egg and Meat Technology 4
POSC 4811 Seminar: Professionalism 1
or POSC 4831 Seminar: Processing Regulations or POSC 4821 Seminar: Problem Solving or POSC 4801 Seminar: Research Topics 4
CHEM 3813 Elements of Biochemistry 3
POSC 3123 Principles of Genetics 2 or BIOL 2332 General Genetics 3
or AGEC 2403 Quantitative Tools for Agribusiness 3
Satisfies General Education Outcome 3.4:
CHEM 1073 Fundamentals of Chemistry (ACTS Equivalency = CHEM 1214 Lecture) & CHEM 1071L Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab) or CHEM 1123 and CHEM 1121L 4
PSPP Concentration Elective (Recommend PHYS 3613/3611L Organic Chemistry II) 2
Fine Arts/Humanities State Minimum Core Elective (Satisfies General Education Outcome 3.1 or 3.2) 1
Communication Intensive Elective (Recommend ACOM 3143 Communicating Agriculture to the Public) 3
Year Total: 17

Total Units in Sequence: 120

1. The Fine Arts Elective courses which satisfy General Education Outcome 3.1 include: ARCH 1003, ARHS 1003, COMM 1003, DANC 1003, LARC 1003, MLIT 1003, MLIT 1003H, MLIT 1013, MLIT 1013H, MLIT 1333, THTR 1003, THTR 1013, or THTR 1013H.


4. For students completing AALS 400VH or POSC 401V, you must select POSC 4213 as one of your general electives to satisfy Social General Education Outcome 6.1.


Minor in Poultry Science (POSC-M)
A student planning to minor in poultry science should declare the minor with their major dean’s office and consult a departmental adviser to discuss requirements. The minor consists of 16 hours to include the following:

Core Requirements (10 hours)

POSC 1003 Introduction to Poultry Science 3
POSC 2343 Poultry Production 3
Choose 4 hours from the following: 4
POSC 3544  Avian Anatomy
POSC 4314  Egg and Meat Technology

Controlled POSC Electives (6 hours)  
Choose a minimum of 6 hours from the following:
POSC 2353  Poultry Breeder Management
POSC 3033  Animal Physiology
POSC 3223  Poultry Diseases
POSC 3554  Avian Anatomy
POSC 3123  Principles of Genetics
POSC 4314  Egg and Meat Technology
POSC 4343  Poultry Nutrition
POSC 3013  Exotic Companion Birds
POSC 3513  Current Approaches in Agricultural Laboratory Research
POSC 4213  Integrated Poultry Management Systems
POSC 4233  Value Added Muscle Foods
POSC 4923  Brain and Behavior
POSC 4923  Brain and Behavior

Total Hours 16

Requirements for Undergraduate Certificate of Excellence in Poultry Science

Students entering the Certificate of Excellence Program must 1) meet the admission requirements for the University of Arkansas and 2) have completed 90 hours of coursework with a 2.0 or higher from a regionally accredited institution of higher education.

Students who have completed a Bachelor of Science degree may also consider this program. Typical careers include production/processing/allied positions in the poultry industry, graduate studies are also an option.

Curriculum Outline:

POSC 3033  Animal Physiology  3
POSC 3223  Poultry Diseases  3
POSC 3554  Avian Anatomy  4
POSC 4213  Integrated Poultry Management Systems  3
POSC 4314  Egg and Meat Technology  4
POSC 4343  Poultry Nutrition  3
POSC 4801  Seminar: Research Topics  1
or POSC 4823 Seminar: Problem Solving  1

or POSC 4811 Seminar: Professionalism  1
or POSC 4831 Seminar: Processing Regulations  1

POSC 401V  Internship in Poultry Science  3
POSC 410V  Special Topics in Poultry Science  3

Faculty

Alrubaye, Adnan A., Ph.D., M.Ed. (University of Arkansas), M.Sc. (University of Baghdad), Assistant Professor, 2016, 2021.
Bottle, Walter G., Ph.D. (University of Illinois-Urbana-Champaign), M.S. (Southern Illinois University), B.S. (Eastern Illinois University), Professor, 1985, 1993.
Caldwell, David J., Ph.D., M.S., and B.S. (Texas A&M University), Professor, 2019.

Coon, Craig N., Ph.D., M.S., B.S. (Texas A&M University), Professor, 1997.
Donoghue, Annie, Ph.D. (F. Edward Herbert School of Medicine), M.S. (Texas A&M University), B.S. (San Diego State University), Research Professor, 2000.
Dridi, Sami, Ph.D., M.S. (National Polytechnic Institute of Lorraine, France), B.S. (Superior Institute of Mateur, Tunisia), Professor, 2013, 2018.
Erf, Gisela F., Ph.D. (Cornell University), M.S., B.S. (University of Guelph, Canada), Professor, Avian Immunology Professorship, 1994, 2004.
Hanning, Casey Owens, Ph.D., M.S., B.S. (Texas A&M University), Professor, 2000, 2017.
Hargis, Billy M., Ph.D., D.V.M. (University of Minnesota-Twin Cities), M.S. (University of Georgia), B.S. (University of Minnesota), Distinguished Professor, Sustainable Poultry Health Chair, 2000, 2017.
Kidd, Michael T., Ph.D. (North Carolina State University), M.S., B.S.A. (University of Arkansas), Professor, 2010.
Kong, Byungwhi, Ph.D., M.S. (University of Minnesota-Twin Cities), B.S. (Korea University), Associate Professor, 2006, 2012.
Kuenzel, Wayne J., Ph.D. (University of Georgia), M.S., B.S. (Bucknell University), Professor, 2000.
Kwon, Young Min, Ph.D. (Texas A&M University), M.S., B.S. (Seoul National University), Associate Professor, 2002, 2008.
Orlowski, Sara K., Ph.D., M.S. (University of Arkansas), B.S. (Cornell University), Assistant Professor, 2019.
Rath, Narayan C., Ph.D., M.S. (University of Delhi-India), B.S. (Utkal University-India), Research Professor, 1992, 1998.
Rochell, Samuel J., Ph.D. (University of Illinois at Urbana-Campaign), M.S., B.S. (Auburn University), Assistant Professor, 2016.
Sun, Xiaolun, Ph.D., M.S. (Virginia Polytech Institute and State University), B.S. (Southern China Agricultural University), Assistant Professor, 2016.
Tellez-Isaias, Guillermo, Ph.D. (Texas A&M University), Visiting Professor, 2002.
Wideman, Robert F., Ph.D. (University of Connecticut), B.A. (University of Delaware), Professor, 1993.

Courses

POSC 1003. Introduction to Poultry Science. 3 Hours.
To introduce the student to the career opportunities in the poultry science industry. Students will be introduced to biological sciences associated with poultry. Corequisite: Lab component. (Typically offered: Fall)

POSC 1062. Sustainable Integrated Small Animal Farming. 2 Hours.
Practical information on small scale animal production, including practical strategies for farm planning, issues of economic and environmental sustainability, best management practices, biosecurity, disease prevention, and farm safety will be presented. (Typically offered: Spring)
This course is cross-listed with ANSC 1062.

POSC 2343. Poultry Production. 3 Hours.
To develop a basic foundation about the practices utilized to produce broilers and turkeys. Course will highlight hatchery function and management; embryo development and hatching; chick/poultry transportation, preparation and maintenance of facilities for rearing birds, bird environment, nutrition, and health. Also to be covered are the different roles associated with live production in an integrated company. Corequisite: Lab component. (Typically offered: Fall)
POSC 2353. Poultry Breeder Management. 3 Hours.
Students will be introduced to the management practices used in production of young and adult chickens, turkeys, and other poultry with special emphasis on broiler, breeder, and market egg production. Lecture 2 hours, laboratory 3 hours per week. Corequisite: Lab component. (Typically offered: Spring)

POSC 2411L. Domestic Animal Microbiology Laboratory. 1 Hour.
This course is designed for students working on their Poultry Science, Animal Science, and/or Food Science degrees. Students enrolled in this course will learn how to collect samples aseptically from live birds and meat samples, transport samples, and culture samples on a variety of different microbiological media. In addition, students will have the opportunity to visit one of the microbiology labs in the local poultry production facilities. Students will learn how to handle samples, stain bacterial cells, and identify unknown bacteria from field samples. A lab period will be assigned to teaching students on how to use bacteria in food production by teaching students how to prepare and sample yogurt. Corequisite: POSC 2413. (Typically offered: Fall)

This course is cross-listed with ANSC 2411L.

POSC 2413. Domestic Animal Microbiology. 3 Hours.
Basic concepts of domestic animal and poultry microbiology including diversity, genetics, metabolism, growth, control of growth, pathogenesis, and immunology. Prerequisite: (BIOL 1543 and BIOL 1541L) and (CHEM 1073 or CHEM 1103 or CHEM 1123). Corequisite: POSC 2411L. (Typically offered: Fall)

This course is cross-listed with ANSC 2413.

POSC 3013. Exotic Companion Birds. 3 Hours.
Topics include basic care, health, breeding, bird evolution, anatomy, and nutritional management of commonly kept exotic companion birds, including parrots, cockatoos, macaws, finches, canaries, and pigeons. Discussion will include housing and care for individual pet birds and large scale breeding and production. Lecture/discussion 3 hours per week. Prerequisite: BIOL 1543. (Typically offered: Fall Odd Years)

POSC 3033. Animal Physiology. 3 Hours.
Fundamental aspects of central nervous, musculoskeletal, reproductive, digestive, immune, cardiovascular, respiratory and renal systems will be covered. The normal structure and function of these systems will be emphasized. Lecture 3 hours per week. Prerequisite: BIOL 1543 and (CHEM 1123 or CHEM 1073). (Typically offered: Spring)

This course is equivalent to ANSC 3033.

POSC 3123. Principles of Genetics. 3 Hours.
Fundamentals of heredity, with special emphasis on the improvement of farm animals. Lecture 3 hours per week. Prerequisite: BIOL 1543 and MATH 1203 or higher. (Typically offered: Fall)

This course is cross-listed with ANSC 3123.

POSC 3223. Poultry Diseases. 3 Hours.
Common diseases affecting poultry reared under commercial conditions will be covered including diagnosis, therapy and prevention. Immunity, sanitation practices, and chemoprophylaxis will also be covered. Lecture 3 hours per week with some demonstrations, slides and videotapes. Prerequisite: ((BIOL 2013 and BIOL 2011L) or (POSC 2413 and POSC 2411L)), and junior standing. (Typically offered: Spring)

POSC 3381. Poultry Judging and Selection. 1 Hour.
Practice in production judging and flock selection. Laboratory 3 hours per week. (Typically offered: Fall and Spring) May be repeated for up to 4 hours of degree credit.

POSC 3513. Current Approaches in Agricultural Laboratory Research. 3 Hours.
A laboratory course to introduce students to current laboratory research techniques used in agricultural and life sciences. Hands-on laboratory exercises will emphasize current cellular and molecular research techniques, laboratory notebook keeping, data interpretation, and presentation of results. Prerequisite: BIOL 1543. (Typically offered: Spring Even Years)

This course is cross-listed with POSC 3513H, ANSC 3513H.

POSC 3513H. Honors Current Approaches in Agricultural Laboratory Research. 3 Hours.
A laboratory course to introduce students to current laboratory research techniques used in agricultural and life sciences. Hands-on laboratory exercises will emphasize current cellular and molecular research techniques, laboratory notebook keeping, data interpretation, and presentation of results. Prerequisite: BIOL 1543. (Typically offered: Spring Even Years)

This course is cross-listed with ANSC 3513H.

POSC 3554. Avian Anatomy. 4 Hours.
Detailed coverage of the external and internal anatomy of poultry, including formation and development of the egg and embryo. Lecture 3 hours, laboratory 2 hours per week. Corequisite: Lab component. Prerequisite: BIOL 1543. (Typically offered: Fall)

POSC 400V. Special Problems. 1-9 Hour.
Special problems in the poultry sciences for advanced students. (Typically offered: Fall, Spring and Summer) May be repeated for up to 9 hours of degree credit.

POSC 401V. Internship in Poultry Science. 1-6 Hour.
Supervised work experience with private or government organizations to introduce students to professional areas of work in poultry science. Prerequisite: Junior standing. (Typically offered: Fall, Spring and Summer) May be repeated for up to 8 hours of degree credit.

POSC 402V. Research Experience. 1-6 Hour.
An undergraduate research experience should familiarize students with the research process and expand their knowledge in areas of poultry science through scientific literature searches and hands-on experiential learning. (Typically offered: Fall, Spring and Summer) May be repeated for up to 6 hours of degree credit.

POSC 4033. Statistical Process Control in the Food Industry. 3 Hours.
Analysis of processing data related to compliance with regulatory limits, quality & safety limits and internal & external customer specifications. Emphasizes statistical process control chart development, including understanding data and chart selection, calculating statistical limits, and interpreting process performance. Prerequisite: Instructor consent. (Typically offered: Irregular)

POSC 410V. Special Topics in Poultry Science. 1-4 Hour.
Topics not covered in other courses or for a more intensive study of specific topics in poultry science. (Typically offered: Irregular) May be repeated for degree credit.

POSC 4123. Legal Issues in Animal Agriculture. 3 Hours.
An issues-oriented course focusing on the legal issues involved in the production of poultry, swine and livestock. Emphasis will center on the laws, regulations and policy arguments involved in animal confinement, antibiotic use, humane slaughter and veterinary medicine, along with other related issues. The wide range of regulation from local to state to federal, depending on the issue will be studied and discussed. (Typically offered: Spring Odd Years)

This course is cross-listed with AGEC 4123, ANSC 4123.
POSC 4163. Companion Animal Nutrition. 3 Hours.
This course is designed to focus on the digestive anatomy, physiology, and nutrient metabolism of non-herbivorous companion animals, primarily dogs and cats. Topics discussed will also include an overview of the pet food industry, its regulations and commonly utilized ingredients. Students will gain a deeper understanding of nutrition as it relates to life stages and various disease states that can affect both dogs and cats. This course will require a Saturday trip to one or two off campus facilities. Prerequisite: ANSC 3143 or POSC 4343. (Typically offered: Spring)
This course is cross-listed with ANSC 4163.

POSC 4213. Integrated Poultry Management Systems. 3 Hours.
Major managerial systems in the integrated commercial poultry industry. Development of an understanding of the basic decision making processes of poultry companies and the factors influencing those decisions. Prerequisite: POSC 2353 and AGEC 1103 and AGEC 2303. (Typically offered: Spring)

POSC 4233. Value Added Muscle Foods. 3 Hours.
An intense study of muscle structure and how it relates to the development of further processed meat products. Muscle ultrastructure, protein functionality, product development, and quality analysis will be covered. In class hands on activities will also be included to allow students to obtain experience of producing processed meat products. Prerequisite: POSC 4314. (Typically offered: Spring Odd Years)

POSC 4314. Egg and Meat Technology. 4 Hours.
Study of the science and practice of processing poultry meat and egg products; examination of the physical, chemical, functional and microbiological characteristics of value added poultry products; factors affecting consumer acceptance and marketing of poultry products and the efficiency of production. Corequisite: Lab component. Prerequisite: (CHEM 1123 and CHEM 1121L) or (CHEM 1073 and CHEM 1071L) and BIOL 1543 and BIOL 1541L. (Typically offered: Fall)

POSC 4343. Poultry Nutrition. 3 Hours.
Principles of nutrition as applied to the formulation of practical chicken and turkey rations. Lecture 3 hours per week. Prerequisite: CHEM 2613 or CHEM 3603 and junior standing. (Typically offered: Spring)

POSC 4613. Muscle Growth and Development. 3 Hours.
This is an undergraduate level course offering detailed insights into skeletal muscle morphological, physiological, cellular, and molecular factors affecting muscle structure and function, with special emphasis on cellular and molecular regulation of muscle growth and development, such as myo-, fibro-, and adipogenesis. And the relationship between the properties of skeletal muscle and meat quality. ANSC 3033 and(or) CHEM 3813 are recommended as a prerequisite(s). (Typically offered: Fall)
This course is cross-listed with ANSC 4613.

POSC 4801. Seminar: Research Topics. 1 Hour.
Required by all poultry science majors. Prerequisite: Junior or Senior standing and COMM 1313. (Typically offered: Spring Odd Years)

POSC 4811. Seminar: Professionalism. 1 Hour.
Addressing issues associated with preparation for finding and retaining your first job in the poultry industry. Lecture 1 hour per week. Prerequisite: Junior or Senior standing. (Typically offered: Fall Odd Years)

POSC 4821. Seminar: Problem Solving. 1 Hour.
Real world problem solving of poultry production systems. Lecture 1 hour per week. Prerequisite: Junior/ senior standing. (Typically offered: Fall Even Years)

POSC 4831. Seminar: Processing Regulations. 1 Hour.
Processing plant procedures and regulations with an emphasis on problem solving. Lecture 1 hour per week. Prerequisite: Junior or senior standing. (Typically offered: Fall Even Years)

POSC 4923. Brain and Behavior. 3 Hours.
Covers cellular through neural systems, major brain functions and comparative neuroanatomy. Topics include ion channels, membrane and action potentials, synaptic integration, neurotransmitters, major brain regions of mammals and birds, sensory and autonomic nervous systems, neuroendocrine system, and control by the brain of critical functions and behavior. Lecture 3 hours per week. Prerequisite: (ANSC 3033 or POSC 3033) or PSYC 2003, or BIOL 2213, or BIOL 2443, or BIOL 2533. (Typically offered: Fall)
This course is cross-listed with ANSC 4923.