Poultry Science (POSC)

David J. Caldwell
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, product technology, and poultry health.

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.)

University Requirements (1 hour)		
UNIV 10051	University Perspectives	1
Communications (12 hours)		**12**
Select 6 hours English from state minimum core		
Communication Intensive Elective - 6hrs (see degree audit for approved course list)		
U.S. History or Government		**3**
Select 3 hours from U.S. History or Government State Minimum Core		
Mathematics and Statistics (6 hours)		
MATH 11003	College Algebra (ACTS Equivalency = MATH 1103) (or higher level)	3
Select one of the following:		3
AGEC 24003	Quantitative Tools for Agribusiness	
MATH 21003	Principles of Statistics (ACTS Equivalency = MATH 2103)	
Physical and Biological Sciences (16 hours)		
BIOL 10103 & BIOL 10101	**Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab)**	**4**
BIOL 20003 & BIOL 20001	General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) and General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab)	4
or POSC 24103 & POSC 24101	Domestic Animal Microbiology and Domestic Animal Microbiology Laboratory	
CHEM 12103 & CHEM 12101	**Fundamentals of Chemistry (ACTS Equivalency = CHEM 1214 Lecture) and Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab)**	**4**
or CHEM 1420 & CHEM 14201	**University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab)**	
CHEM 26103 & CHEM 26101	Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) and Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab)	4
or CHEM 36053 & CHEM 36051	Organic Chemistry I and Organic Chemistry I Laboratory	
Fine Arts and Humanities (6 hours)		**6**
Select 3 hours Fine Arts from state minimum core		
Select 3 hours Humanities from state minimum core		
Social Sciences (9 hours)		
AGEC 11003	Principles of Agricultural Microeconomics	3
or ECON 22003	Principles of Microeconomics (ACTS Equivalency = ECON 2203)	
Select 6 hours Social Sciences from State Minimum Core		6
Poultry Science Core (35 hours)		
POSC 10003	Introduction to Poultry Science	3
POSC 23403	Poultry Production	3
POSC 23503	Poultry Breeder Management	3
POSC 30303	Animal Physiology	3
POSC 31203	Principles of Genetics	3
or BIOL 23373	General Genetics	
POSC 32203	Poultry Diseases	3
POSC 35504	Avian Anatomy	4
POSC 43104	Egg and Meat Technology	4
POSC 43403	Poultry Nutrition	3
Select 3 hours from the following:		3
POSC 48001	Seminar: Research Topics	
POSC 48101	Seminar: Professionalism	
POSC 48201	Seminar: Problem Solving	
POSC 48301	Seminar: Processing Regulations	
Select 3 hours from the following:		3
AFLS 400HV	Honors Thesis	

POSC 4010V	Internship in Poultry Science	
POSC 4020V	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 Industry Concentration

PSID Concentration

AGEC 23003	Introduction to Agribusiness	3
FDSC 41202	Food Microbiology	2
POSC 42303	Value Added Muscle Foods	3
POSC 42103	Integrated Poultry Management Systems	3
Select a minimum of 9 hours from the following:		9
AGEC 35003	Agricultural Law I	
AGEC 35203	Environmental and Natural Resources Law	
POSC 41203	Legal Issues in Animal Agriculture	
POSC 41603	Companion Animal Nutrition	
POSC 49203	Brain and Behavior	
Upper Level AGEC Course (3 hrs)		
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	Fall	Spring
ENGL 10103 Composition I (ACTS Equivalency = ENGL 1013) (Satisfies General Education Outcome 1.1)	3	
Satisfies General Education Outcome 3.4:		
BIOL 10103 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) & BIOL 10101 Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab)	4	
POSC 10003 Introduction to Poultry Science	3	
Fine Arts/Humanities University Core Elective (Satisfies General Education Outcome 3.1 or 3.2)[1, 2]	3	
UNIV 10051 University Perspectives	1	
ENGL 10203 Composition II (ACTS Equivalency = ENGL 1023) (Satisfies General Education Outcome 1.1)		3
POSC 23503 Poultry Breeder Management		3
MATH 11003 College Algebra (ACTS Equivalency = MATH 1103) (Satisfies General Education Outcome 2.1)		3
Communication Intensive Elective (Recommend SPCH 10003 Public Speaking) (Satisfies General Education Outcomes 1.2 and 5.1)		3
Social Sciences University Core Elective (Satisfies General Education Outcome 3.3)[3]		3
Year Total:	14	15

Second Year	Fall	Spring
POSC 23403 Poultry Production	3	
Satisfies General Education Outcome 3.4:		
CHEM 12103 Fundamentals of Chemistry (ACTS Equivalency = CHEM 1214 Lecture) & CHEM 12101 Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab)	4	
or CHEM 14203 and CHEM 14201		
AGEC 11003 Principles of Agricultural Microeconomics (Satisfies General Education Outcome 3.3) or ECON 22003 Principles of Microeconomics (ACTS Equivalency = ECON 2203)	3	
U.S. History or Government University Core Elective (Satisfies General Education Outcome 4.2)	3	
POSC 35504 Avian Anatomy	4	
MATH 21003 Principles of Statistics (ACTS Equivalency = MATH 2103) or AGEC 24003 Quantitative Tools for Agribusiness		3
POSC 24103 Domestic Animal Microbiology & POSC 24101 Domestic Animal Microbiology Laboratory or BIOL 20003 and BIOL 20001		4
Fine Arts/Humanities University Core Elective (Satisfies General Education Outcome 3.1 or 3.2)[1, 2]		3
Social Sciences University Core Elective (Satisfies General Education Outcomes 3.3 and 4.1)[4]		3
Communication Intensive Elective (Recommend ACOM 31403 Communicating Agriculture to the Public)		3
Year Total:	17	16

Third Year	Fall	Spring
AGEC 23003 Introduction to Agribusiness	3	
CHEM 26103 Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) & CHEM 26101 Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab)	4	
or CHEM 36053 and CHEM 36051		
FDSC 41202 Food Microbiology	2	
PSID Concentration Elective	3	
General Elective	3	

POSC 48101 Seminar: Professionalism or POSC 48001 Seminar: Research Topics or POSC 48301 Seminar: Processing Regulations or POSC 48201 Seminar: Problem Solving	1	
POSC 30303 Animal Physiology		3
POSC 32203 Poultry Diseases		3
PSID Concentration Elective		3
General Elective		3
AFLS 400HV Honors Thesis or POSC 4010V Internship in Poultry Science or POSC 4020V Research Experience		3
Year Total:	16	15

Fourth Year	**Fall**	**Units Spring**
POSC 43104 Egg and Meat Technology	4	
POSC 48101 Seminar: Professionalism or POSC 48001 Seminar: Research Topics or POSC 48201 Seminar: Problem Solving or POSC 48301 Seminar: Processing Regulations	1	
General Elective	3	
PSID Concentration Elective	3	
POSC 31203 Principles of Genetics or BIOL 23373 General Genetics	3	
POSC 43403 Poultry Nutrition		3
POSC 42303 Value Added Muscle Foods		3
POSC 42103 Integrated Poultry Management Systems (Satisfies General Education Outcome 6.1)		3
POSC 48001 Seminar: Research Topics or POSC 48101 Seminar: Professionalism or POSC 48201 Seminar: Problem Solving or POSC 48301 Seminar: Processing Regulations		1
General Elective (2-3 hours)		2-3
Year Total:	14	13
Total Units in Sequence:		**120**

[1] The Fine Arts Elective courses which satisfy General Education Outcome 3.1 include: ARCH 10003, ARHS 10003ARHS 10003, COMM 10003COMM 10003, DANC 10003DANC 10003, LARC 10003LARC 10003, MUSC 10003MUSC 10003, MUSC 100H3MUSC 100H3, MUSC 10103MUSC 10103, MUSC 101H3MUSC 101H3, MUSC 13303MUSC 13303, THTR 10003THTR 10003, THTR 10103THTR 10103, or THTR 101H3THTR 101H3.

[2] The Humanities Elective courses which satisfy General Education Outcome 3.2 include: AAST 20203, ANTH 10303, ARCH 10103, CLST 10003, CLST 100H3, CLST 10103, COMM 12303, DANC 10003, ENGL 12103, GNST 20003, HIST 11193, HIST 111H3, HIST 11293, HIST 112H3, HIST 20003, HIST 20103, HUMN 112H4, HUMN 22103, LALS 20103, MRST 20103, MUSY 20003, MUSY 200H3, PHIL 20003, PHIL 200H3, PHIL 21003,, PHIL 23003THTR 10003, THTR 10103, THTR 101H3, ENGL 11103, ENGL 11203 or Intermediate-level world language (usually 20003-level).

[3] The Social Sciences Elective courses which satisfy General Education Outcome 3.3 include: AGEC 11003, AGEC 21003, ANTH 10203, COMM 10203, ECON 21003, ECON 22003, ECON 21403, EDST 20003, HDFS 14003, HDFS 24103, HDFS 26003, HIST 11193, HIST 111H3, HIST 11293, HIST 112H3, HIST 20003, HIST 20103, HIST 20903, HUMN 111H4, HUMN 211H4, INST 28103, INST 281H3, PLSC 20003, PLSC 20103, PLSC 21003, PLSC 28103, PLSC 281H3, PSYC 20003, RESM 28503, SOCI 10103 , SOCI 101H3, or SOCI 20103

[4] The Social Sciences Elective courses which satisfy General Education Outcomes 3.3 and 4.1 include: ANTH 10203, COMM 10203, HDFS 14003, HDFS 24103, HIST 11193, HIST 111H3HIST 11293, HIST 112H3, HIST 20903, HUMN 111H4, HUMN 211H4, INST 28103, INST 281H3, PLSC 20103, PLSC 28103, PLSC 281H3, RESM 28503, SOCI 10103, SOCI 101H3, or SOCI 20103.
Note, courses cannot be counted twice in degree requirements.

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/) and discipline specific general education requirements: (Course work that meets state minimum core requirements is in bold.)

University Requirements (1 hour)		
UNIV 10051	University Perspectives	1
Communications (12 hours)		**12**
Select 6 hours English from state minimum core		
Communication Intensive Elective - 6hrs (see degree audit for approved course list)		
U.S. History or Government		**3**
Select 3 hours from U.S. History or Government State Minimum Core		
Mathematics and Statistics (6 hours)		
MATH 11003	College Algebra (ACTS Equivalency = MATH 1103) (or higher level)	3
Select one of the following:		3
AGEC 24003	Quantitative Tools for Agribusiness	
MATH 21003	Principles of Statistics (ACTS Equivalency = MATH 2103)	
Physical and Biological Sciences (16 hours)		
BIOL 10103 & BIOL 10101	**Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab)**	**4**
BIOL 20003 & BIOL 20001	General Microbiology (ACTS Equivalency = BIOL 2004 Lecture) and General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab)	4
or POSC 24103 & POSC 24101	Domestic Animal Microbiology and Domestic Animal Microbiology Laboratory	
CHEM 12103 & CHEM 12101	**Fundamentals of Chemistry (ACTS Equivalency = CHEM 1214 Lecture) and Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab)**	**4**
or CHEM 1420 & CHEM 14201	**University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture) and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab)**	

CHEM 26103 & CHEM 26101	Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) and Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab)	4
or CHEM 36053 & CHEM 36051	Organic Chemistry I and Organic Chemistry I Laboratory	
Fine Arts and Humanities (6 hours)		**6**
Select 3 hours Fine Arts from state minimum core		
Select 3 hours Humanities from state minimum core		
Social Sciences (9 hours)		
AGEC 11003	Principles of Agricultural Microeconomics	3
or ECON 22003	Principles of Microeconomics (ACTS Equivalency = ECON 2203)	
Select 6 hours Social Sciences from State Minimum Core		6
Poultry Science Core (35 hours)		
POSC 10003	Introduction to Poultry Science	3
POSC 23403	Poultry Production	3
POSC 23503	Poultry Breeder Management	3
POSC 30303	Animal Physiology	3
POSC 31203	Principles of Genetics	3
or BIOL 23373	General Genetics	
POSC 32203	Poultry Diseases	3
POSC 35504	Avian Anatomy	4
POSC 43104	Egg and Meat Technology	4
POSC 43403	Poultry Nutrition	3
Select 3 hours from the following:		3
POSC 48001	Seminar: Research Topics	
POSC 48101	Seminar: Professionalism	
POSC 48201	Seminar: Problem Solving	
POSC 48301	Seminar: Processing Regulations	
Select 3 hours from the following:		3
AFLS 400HV	Honors Thesis	
POSC 4010V	Internship in Poultry Science	
POSC 4020V	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

PSPP Concentration		
BIOL 25473	Cell Biology	3
CHEM 38103	Elements of Biochemistry	3
Select a minimum of 14 hours from the following:		14
ANSC 31433	Principles of Animal Nutrition	
BIOL 43373	Biotechnology in Agriculture	
CHEM 36203 & CHEM 36201	Organic Chemistry II and Organic Chemistry II Laboratory	
PHIL 31003	Ethics and the Professions	
PHYS 20103 & PHYS 20101	College Physics I (ACTS Equivalency = PHYS 2014 Lecture) and College Physics I Laboratory (ACTS Equivalency = PHYS 2014 Lab)	
PHYS 20203 & PHYS 20201	College Physics II (ACTS Equivalency = PHYS 2024 Lecture) and College Physics II Laboratory (ACTS Equivalency = PHYS 2024 Lab)	
POSC 35103	Current Approaches in Agricultural Laboratory Research	
or POSC 35103H	Honors Current Approaches in Agricultural Laboratory Research	
POSC 41603	Companion Animal Nutrition	
POSC 49203	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	**Units**	
	Fall	**Spring**
ENGL 10103 Composition I (ACTS Equivalency = ENGL 1013) (Satisfies General Education Outcome 1.1)	3	
Satisfies General Education Outcome 3.4:		
BIOL 10103 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) & BIOL 10101 Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab)	4	
POSC 10003 Introduction to Poultry Science	3	
Fine Arts/Humanities University Core Elective (Satisfies General Education Outcome 3.1 or 3.2)[1,2]	3	
UNIV 10051 University Perspectives	1	
ENGL 10203 Composition II (ACTS Equivalency = ENGL 1023) (Satisfies General Education Outcome 1.1)		3
POSC 23503 Poultry Breeder Management		3
MATH 11003 College Algebra (ACTS Equivalency = MATH 1103) (Satisfies General Education Outcome 2.1)		3
Communication Intensive Elective (3 hrs) (Recommend SPCH 10003 Public Speaking) (Satisfies General Education Outcomes 1.2 and 5.1)		3
Social Sciences University Core Elective (Satisfies General Education Outcome 3.3)[3]		3
Year Total:	14	15

Second Year	Units	
	Fall	Spring
POSC 23403 Poultry Production	3	
General Elective (Recommend CHEM 14103/14101L University Chemistry I)	4	
AGEC 11003 Principles of Agricultural Microeconomics (Satisfies General Education Outcome 3.3) or ECON 22003 Principles of Microeconomics (ACTS Equivalency = ECON 2203)	3	
U.S. History or Government University Core Elective (Satisfies General Education Outcome 4.2)	3	
POSC 35504 Avian Anatomy	4	
MATH 21003 Principles of Statistics (ACTS Equivalency = MATH 2103) or AGEC 24003 Quantitative Tools for Agribusiness		3
POSC 24103 Domestic Animal Microbiology & POSC 24101 Domestic Animal Microbiology Laboratory or BIOL 20003 and BIOL 20001		4
CHEM 12103 Fundamentals of Chemistry (ACTS Equivalency = CHEM 1214 Lecture) & CHEM 12101 Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab) or CHEM 14203 and CHEM 14201		4
Fine Arts/Humanities University Core Elective (Satisfies General Education Outcome 3.1 or 3.2)[1, 2]		3
Communication Intensive Elective (Recommend ACOM 31403 Communicating Agriculture to the Public)		3
Year Total:	17	17

Third Year	Units	
	Fall	Spring
BIOL 25473 Cell Biology	3	
CHEM 36053 Organic Chemistry I & CHEM 36051 Organic Chemistry I Laboratory or CHEM 26103 and CHEM 26101	4	
PSPP Concentration Elective (Recommend PHYS 20103/20101L College Physics I w/lab)	4	
General Elective	3	
POSC 48101 Seminar: Professionalism or POSC 48001 Seminar: Research Topics or POSC 48201 Seminar: Problem Solving or POSC 48301 Seminar: Processing Regulations	1	
POSC 30303 Animal Physiology		3
POSC 32203 Poultry Diseases		3
PSPP Concentration Elective (Recommend CHEM 36203/36201 Organic Chemistry II)		4
PSPP Concentration Elective (Recommend PHYS 20203/20201 College Physics II)		4
AFLS 400HV Honors Thesis (OSC 4020V - Satisfies General Education Outcome 6.1)[4] or POSC 4010V Internship in Poultry Science or POSC 4020V Research Experience		3
Year Total:	15	17

Fourth Year	Units	
	Fall	Spring
POSC 43104 Egg and Meat Technology	4	
POSC 48101 Seminar: Professionalism or POSC 48001 Seminar: Research Topics or POSC 48201 Seminar: Problem Solving or POSC 48301 Seminar: Processing Regulations	1	
CHEM 38103 Elements of Biochemistry	3	
PSPP Concentration Elective	2	
POSC 31203 Principles of Genetics or BIOL 23373 General Genetics	3	
General Elective	2	
POSC 48001 Seminar: Research Topics or POSC 48101 Seminar: Professionalism or POSC 48201 Seminar: Problem Solving or POSC 48301 Seminar: Processing Regulations		1
POSC 43403 Poultry Nutrition		3
Social Sciences University Core Elective (Satisfies General Education Outcomes 3.3 and 4.1) [5]		3
General Electives[4]		3
Year Total:	15	10

Total Units in Sequence:	120

1 The Fine Arts Elective courses which satisfy General Education Outcome 3.1 include: ARCH 10003, ARHS 10003, COMM 10003, DANC 10003, LARC 10003, MUSC 10003, MUSC 100H3, MUSC 10103, MUSC 101H3, MUSC 13303, THTR 10003, THTR 10103, or THTR 101H3.

2 The Humanities Elective courses which satisfy General Education Outcome 3.2 include: AAST 20203, ANTH 10303, ARCH 10103, CLST 10003, CLST 100H3, CLST 10103, COMM 12303, DANC 10003, ENGL 12103, GNST 20003, HIST 11193, HIST 111H3, HIST 11293, HIST 112H3, HIST 20003, HIST 20103, HUMN 112H4, HUMN 22103, LALS 20103, MRST 20103, MUSY 20003, MUSY 200H3, PHIL 20003, PHIL 200H3, PHIL 21003, PHIL 23003, THTR 10003, THTR 10103, THTR 101H3, ENGL 11103, ENGL 11203 or Intermediate-level world language (usually 20003-level).

3 The Social Sciences Elective courses which satisfy General Education Outcome 3.3 include: AGEC 11003, AGEC 21003, ANTH 10203, COMM 10203, ECON 21003, ECON 22003, ECON 21403, EDST 20003, HDFS 14003, HDFS 24103, HDFS 26003, HIST 11193, HIST 111H3, HIST 11293, HIST 112H3, HIST 20003, HIST 20103, HIST 20903, HUMN 111H4, HUMN 211H4, INST 28103, INST 281H3, PLSC 20003, PLSC 20103, PLSC 21003, PLSC 28103, PLSC 281H3, PSYC 20003, RESM 28503, SOCI 10103, SOCI 101H3, or SOCI 20103

4 For students completing AFLS 400HV or POSC 4010V, you must select POSC 42103 as one of your general electives to satisfy General Education Outcome 6.1.

5 The Social Sciences Elective courses which satisfy General Education Outcomes 3.3 and 4.1 include: ANTH 10203, COMM 10203,

HDFS 14003, HDFS 24103, HIST 11193, HIST 111H3, HIST 11293, HIST 112H3, HIST 20903, HUMN 111H4, HUMN 211H4, INST 28103, INST 281H3, PLSC 20103, PLSC 28103, PLSC 281H3, RESM 28503, SOCI 10103, SOCI 101H3, or SOCI 20103.
Note, courses cannot be counted twice in degree requirements.

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 10003	Introduction to Poultry Science	3
POSC 23403	Poultry Production	3
Choose 4 hours from the following:		4
POSC 35504	Avian Anatomy	
POSC 43104	Egg and Meat Technology	
Controlled POSC Electives (6 hours)		**6**
Choose a minimum of 6 hours from the following:		
POSC 23503	Poultry Breeder Management	
POSC 30303	Animal Physiology	
POSC 32203	Poultry Diseases	
POSC 35504	Avian Anatomy	
POSC 31203	Principles of Genetics	
POSC 43104	Egg and Meat Technology	
POSC 43403	Poultry Nutrition	
POSC 30103	Exotic Companion Birds	
POSC 35103	Current Approaches in Agricultural Laboratory Research	
POSC 42103	Integrated Poultry Management Systems	
POSC 42303	Value Added Muscle Foods	
POSC 49203	Brain and Behavior	
POSC Elective (3 hours)		
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	3
POSC 3223	3
POSC 3554	4
POSC 4213	3
POSC 4314	4
POSC 4343	3
POSC 4801	1
or POSC 4821	
POSC 4811	1
or POSC 4831	
POSC 401V	3
POSC 410V	3

Faculty

Alrubaye, Adnan A., Ph.D., M.Ed. (University of Arkansas), M.Sc. (University of Baghdad), Assistant Professor, 2016, 2021.
Bottje, 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.
Clark, Fred D., Ph.D., D.V.M., M.S., B.S. (Texas A&M University), Extension Professor, 1994, 2007.
Coon, Craig N., Ph.D., M.S., B.S. (Texas A&M University), Professor, 1997.
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.
Gilstrap, Joshua, M.S. (Southern Nazarene University), B.S. (University of Arkansas), Instructor, 2024.
Graham, Danielle, Ph.D., M.S., B.S. (University of Arkansas), Assistant Professor, 2022.
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, 2019.
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), Professor, 2002, 2016.
Orlowski, Sara K., Ph.D., M.S. (University of Arkansas), B.S. (Cornell University), Associate Professor, 2019, 2024.
Owens, Casey, Ph.D., M.S., B.S. (Texas A&M University), Professor, 2000, 2017.
Parsons, Benjamin, Ph.D. (University of Arkansas), M.S., B.S. (University of Illinois at Urbana Champaign), Assistant Professor, 2024.
Sun, Xiaolun, Ph.D., M.S. (Virginia Polytech Institute and State University), B.S. (Southern China Agricultural University), Associate Professor, 2016, 2023.
Tellez-Isaias, Guillermo, Ph.D. (Texas A&M University), Research Professor, 2002, 2021.
Weimer, Shawna, Ph.D. (University of Arkansas), M.S., B.S. (Iowa State University), Assistant Professor, 2022.
Williams, Zac, Ph.D. (Auburn University), M.S., B.S. (Mississippi State University), Assistant Professor, 2023.

Courses

POSC 10003. 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 10602. 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 10602.

POSC 23403. 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 23503. 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 24101. 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 24103. (Typically offered: Fall)
This course is cross-listed with ANSC 24131.

POSC 24103. 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 10103 and BIOL 10101) and (CHEM 12103 or CHEM 14103 or CHEM 14203). Corequisite: POSC 24101. (Typically offered: Fall)
This course is cross-listed with ANSC 24133.

POSC 30103. 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 10103. (Typically offered: Fall Odd Years)

POSC 30303. 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 10103. Pre- or corequisite: CHEM 14103 or CHEM 12103. (Typically offered: Spring)
This course is cross-listed with ANSC 30303.

POSC 31203. Principles of Genetics. 3 Hours.
Fundamentals of heredity, with special emphasis on the improvement of farm animals. Lecture 3 hours per week. Prerequisite: BIOL 10103 and MATH 11003 or higher. (Typically offered: Fall)
This course is cross-listed with ANSC 31203.

POSC 32203. 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 20003 and BIOL 20001) or (POSC 24103 and POSC 24101)), and junior standing. (Typically offered: Spring)

POSC 33801. 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 35103. 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 10103. (Typically offered: Spring Even Years)

POSC 351H3. 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 10103. (Typically offered: Spring Even Years)
This course is equivalent to POSC 35103.

POSC 35504. 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 10103. (Typically offered: Fall)

POSC 4000V. 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 4010V. 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 4020V. 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 40303. 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 4100V. 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 41203. 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 41203, ANSC 41203.

POSC 41603. 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 31433 or POSC 43403. (Typically offered: Spring)
This course is cross-listed with ANSC 41603.

POSC 42103. 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 23503 and AGEC 11003 and AGEC 23003. (Typically offered: Spring)

POSC 42303. 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 43104. (Typically offered: Spring Odd Years)

POSC 43104. 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 14203 and CHEM 14201) or (CHEM 12103 and CHEM 12101) and BIOL 10103 and BIOL 10101. (Typically offered: Fall)

POSC 43203. Applied Poultry Parasitology. 3 Hours.
This course introduces students to the principles, diseases, and diagnostic tools related to parasitology with an emphasis on animal agriculture, specifically poultry. Corequisite: Lab component. Prerequisite: Junior standing, BIOL 10103 and (BIOL 20003 or POSC 24103). (Typically offered: Spring)

POSC 43403. 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 26103 or CHEM 36053 and junior standing. (Typically offered: Spring)

POSC 44103. Animal Welfare. 3 Hours.
This multi-disciplinary course introduces students to the principles and application of animal welfare and will emphasize farm animal welfare and production issues. (Typically offered: Spring)
This course is cross-listed with ANSC 44103.

POSC 44203. Applied Poultry Food Safety. 3 Hours.
This course is a three-hour lecture emphasizing on food safety, microbiology, and sanitation during poultry/meat production and processing, including government regulations influencing meat and poultry processing in the United States. Prerequisite: BIOL 20003 or POSC 24103. Pre- or corequisite: POSC 43104. (Typically offered: Fall)

POSC 46103. 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 adipo-genesis. And the relationship between the properties of skeletal muscle and meat quality. ANSC 30303 and(or) CHEM 38103 are recommended as a prerequisite(s). (Typically offered: Fall)
This course is cross-listed with ANSC 46103.

POSC 48001. Seminar: Research Topics. 1 Hour.
Required by all poultry science majors. Prerequisite: Junior or Senior standing and SPCH 10003. (Typically offered: Spring Odd Years)

POSC 48101. 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 48201. Seminar: Problem Solving. 1 Hour.
Real world problem solving of poultry production systems. Lecture 1 hour per week. Prerequisite: Junior/ senior standing. (Typically offered: Spring Even Years)

POSC 48301. 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 49203. 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 30303 or POSC 30303) or PSYC 20003, or BIOL 24103, or BIOL 24003, or BIOL 25473. (Typically offered: Fall)
This course is cross-listed with ANSC 49203.