

Annual Academic Assessment Report

(BS/POULTRY SCIENCE)

(May 20, 2022)

Report annually to the Dean of the college/school the following:

2. Results of analysis of assessment of Student Learning Outcome

Assessment Measure 1. Students will demonstrate knowledge of the basic principles of production, anatomy, physiology, genetics, nutrition, health, and disease identification as related to poultry.

Pre-test/Post-test: Initially, this measure was assessed in the spring of 2022 for the freshman in POSC 2353. The average was 57%. The post-test was administered in POSC 4343 Poultry Nutrition spring of 2022 for seniors and the average was 86.6%. The post-test showed significant growth amongst students between spring 2022 for lower-classmen and spring of 2022 for upper-classmen.

Table 1. Senior Exit Survey: Student Self-Assessment of Core Competencies

Curriculum Competence Areas							
Semester	Anatomy & Physiology	Genetics	Nutrition	Meat Bird Production	Animal Welfare	Poultry Processing	Food Safety
Spring 2022 ¹	4	4	4.2	4.6	4.8	3.8	4

¹n=5 respondents

Scale: 1=does not meet expectations

2=needs improvement

3=meets expectations

4=above average

5=exceeds expectations

Summary and Conclusions: Self-assessment by recent graduates receiving a B.S. in Poultry Science from our department ranked their competency in six of these seven curriculum emphasis areas as “above average” and one competence area as “meets expectation”.

- The lowest ranking is in the discipline of Poultry Processing with a 3.8 ranking for Spring 2022 graduates. We attribute this score to a relatively small sample size (n=5) and a

group of students who may have been more oriented in other discipline areas. With a larger sample size, we fully expect the Poultry Processing emphasis area to be rated similarly to other emphasis areas. Historically, this has been a consistent observation.

- The two highest ranking curriculum emphasis areas (well “above average”) for our recent graduates were Meat Bird Production and Animal Welfare. This is likely reflective of our undergraduate curriculum offering three independent courses in live production of poultry (Poultry Production, Poultry Breeder Management, and Integrated Poultry Management Systems).

Table 2. Senior Exit Survey: Student Self-Assessment of Degree Program Satisfaction

Degree Program Satisfaction Areas						
Semester	Curriculum	Advising	Faculty	Extracurricular Activities	Scholarships	Employment Opportunities
Spring 2022 ¹	4.6	4.4	4.6	4.4	4.6	4.8

¹n=5 respondents

Scale: 1=does not meet expectations

2=needs improvement

3=meets expectations

4=above average

5=exceeds expectations

Summary and Conclusions: Self-assessment by recent graduates receiving a B.S. in Poultry Science from our department ranked their overall satisfaction rating with our degree program was easily rated between “above average” and “exceeds expectations” in all categories, indicating an overall high degree of satisfaction with the B.S. in Poultry Science degree programs at the University of Arkansas.

Table 3. Senior Exit Survey: Student Placement at Graduation

Placement Categories					
Semester	Number of Graduates (B.S. POSC)	Industry	Professional School	Graduate School	Uncertain
Spring 2022 ¹	11	5 (45%)	2 (18%)	3 (28%)	1* (9%)

Summary and Conclusions: Table 3 reports placement data for our May 2022 graduates receiving a B.S. in Poultry Science. All students have been placed either directly into positions in the commercial industry or they are pursuing post-graduate studies in either graduate school or professional school. The one senior identified in the “uncertain” category has one more class to complete and has not shared her career plans. As such, our “known” placement rate stands at 91% for the May class of 2022; however, 100% of the students completing degrees (excludes the student who has one remaining class) have placement in industry or in pre-professional/graduate school.

Table 4. Senior Exit Survey: Student Self-Assessment of Core Competencies

Competence Area	Spring 2022
Technical Competency	4.4
Environmental Awareness	4.6
Ethical Responsibility	5
Leadership Ability	4.8
Oral Communication	4.4
Written Communication	4.8
Critical Thinking / Problem Solving	4.8
Basic / Applied Research Understanding	4.8
Creativity	4.6
Writing / Presenting Scientific Information	4

¹n=5 respondents

Scale: 1=does not meet expectations

2=needs improvement

3=meets expectations

4=above average

5=exceeds expectations

Summary and Conclusions: Self-assessment by recent graduates receiving a B.S. in Poultry Science from our department ranked their competency in these 10 interpersonal or communication skills between “above average” and “exceeds expectations” ratings. This is an improvement over data collected in previous years, indicating progress.

Assessment Measure 2: Students develop critical-thinking skills that apply to issues and problems faced by the poultry industry.

Integrated Poultry Management Systems—Capstone (POSC 4213): Spring, 2022

Assessment rubrics: the semester ending capstone project, which integrates all course objectives into on final comprehensive project for each student, were assessed using POSC assessment rubrics for undergraduate oral presentations and undergraduate written papers.

Capstone Oral Presentations

Student	Presentation Quality	Presentation Breadth	Response to Questions	Overall
1	3	3	3	3
2	2	2	2	2
3	3	3	3	3
4	3	3	3	3
5	3	3	3	3
6	2	2	2	2
7	2	2	2	2
8	3	2	2	2
9	3	3	3	3
Mean:	2.67	2.55	2.55	2.55

Scale: 1=Does not meet expectations; 2=meets expectations; 3=exceeds expectations

Capstone Written Essay

Student	Essay Quality	Essay Quality and Style	Overall
1	2	2	2
2	2	2	2
3	3	3	3
4	2	2	2
5	2	2	2
6	2	3	3
7	2	2	2
8	2	3	3
9	3	3	3
Mean:	2.22	2.44	2.44

Scale: 1=Does not meet expectations; 2=meets expectations; 3=exceeds expectations

Summary and Conclusions

Mean rankings from the chosen rubrics for both individual student oral presentations and writing assignment for semester ending capstone projects in the Spring 2022 semester ranged between “meets expectations” and “exceeds expectations” categories (means exceeding 2.2 on a scale of 3 in all categories). These observations are very positive and indicated our students were well prepared to respond to the challenges of these capstone projects.

Assessment Measure 3: Students will be able to communicate summaries of lab activities, interpret results of problem-solving activities and summarize results of research in written and oral communication.

POSC 4821 Seminar-Problem Solving (Spring 2022)

Module 3: Problem Solving & Communication on the Farm (Contract Producer / Service Tech)

Objective: Problem solving and communication involving potentially difficult dialogue. Students will be placed by Dr. Caldwell into 4 groups of 4-5 students per group. Each group will be presented a management related problem in the commercial live production environment that will require representatives of the production company (service tech) to implement solutions with the contract producer (family farmer). This problem was conceived and delivered to each group by an industry representative (live production manager) of a broiler integrator in NWA. On occasions, difficult dialogue resulted when the contract producer was asked to implement solutions to the observed problem that are either contradictory to normal operating procedures or require significant financial investment. In addition to problem solving, each group engaged in role play for either company personnel and/or family farmers (poultry growers). **Deliverables:** 1) Each group had individual members engage in difficult dialogue while role playing company personnel (e.g. broiler or breeder service techs) engaged in discussions with family farmers (growers) related to relevant issues currently facing the industry (house equipment, annual grower contracts, following biosecurity protocols, and other relevant SOPs); and 2) each student submitted a one-page written overview of the discussions from both perspectives. **Assessment rubrics:** for this module, POSC assessment rubrics for problem solving, oral communication, and written communication will be used.

Problem Solving Rubric

	Define Problem	ID Strategies	Provide Solutions	Evaluate Solutions	Implement Solutions	Evaluate Outcomes
Group 1	3	3	4	4	3	3
Group 2	3	3	3	3	4	4
Group 3	3	3	3	3	4	4
Group 4	4	3	3	3	3	4
Mean	3.25	3	3.25	3.25	3.5	3.75

Scale: 1=Benchmark; 2=Milestones (low); 3=Milestones (high); and 4=Capstone

Oral Communication Rubric

	Organization	Language	Delivery	Supporting Materials	Central Message
Group 1	3	3	3	4	3
Group 2	3	3	3	3	4
Group 3	3	3	3	4	4
Group 4	4	4	4	3	3
Mean	3.25	3.25	3.25	3.5	3.5

Scale: 1=Benchmark; 2=Milestones (low); 3=Milestones (high); and 4=Capstone

Written Communication Rubric

Student	Context and Purpose	Content Development	Genre	Sources and Evidence	Syntax and Mechanics
1	3	3	3	3	3
2	3	4	3	4	3
3	3	4	3	4	3
4	3	3	3	3	3
5	3	2	2	3	3
6	2	3	3	1	3
7	3	3	2	2	3
8	2	3	2	3	2
9	3	3	3	3	3
10	4	4	3	4	3
11	3	4	3	4	3
12	4	3	3	3	3
13	3	3	2	3	3
14	3	3	3	3	3
15	3	2	2	3	2
16	3	3	3	3	3
17	3	4	3	3	2
18	3	3	3	3	2
19	3	3	3	3	3
Mean	3.05	3.16	2.74	3.05	2.79

Scale: 1=Benchmark; 2=Milestones (low); 3=Milestones (high); and 4=Capstone

Module 4: Problem Solving & Communication in Further Processing (Food Technologist)

Objective: Problem solving, and communication related to further processing and food technology. Students will be placed by Dr. Caldwell into 4 groups of 4-5 students per group. Each group was presented a problem to solve in a further processing facility dealing primarily with prepared beef or poultry products for food service establishments in NWA. This problem required members of each group to solve the problem and recommend solutions to the company producing both products for the food service industry. **Deliverables:** 1) Each group was responsible for presenting a detailed assessment of the specific problem, identifying potential causes, recommending solutions to the company for correcting each problem, recommending strategies for implementing these solutions, and assessing the effectiveness of the proposed solutions; and 2) each student submitted a one-page written overview of the module.

Problem Solving Rubric

	Define Problem	ID Strategies	Provide Solutions	Evaluate Solutions	Implement Solutions	Evaluate Outcomes
Group 1	3	4	4	4	4	4
Group 2	4	3	3	3	4	4
Group 3	3	3	4	3	4	4
Group 4	4	4	3	4	3	4
Mean	3.5	3.5	3.5	3.5	3.75	4

Scale: 1=Benchmark; 2=Milestones (low); 3=Milestones (high); and 4=Capstone

Oral Communication Rubric

	Organization	Language	Delivery	Supporting Materials	Central Message
Group 1	4	3	3	4	4
Group 2	4	4	4	4	4
Group 3	3	4	4	4	4
Group 4	4	4	4	3	4
Mean	3.75	3.75	3.75	3.75	4

Scale: 1=Benchmark; 2=Milestones (low); 3=Milestones (high); and 4=Capstone

Written Communication Rubric

Student	Context and Purpose	Content Development	Genre	Sources and Evidence	Syntax and Mechanics
1	3	3	3	3	3
2	4	4	4	4	4
3	3	4	3	4	3
4	4	4	4	4	4
5	3	2	2	3	3
6	3	3	3	3	3
7	3	3	2	2	3
8	3	3	3	3	3
9	3	3	3	3	3
10	4	4	4	4	4
11	3	4	4	4	3
12	4	3	4	3	4
13	3	3	3	3	3
14	3	3	4	3	4
15	3	3	3	3	3
16	3	3	3	3	3
17	3	4	3	3	3
18	3	4	4	3	3
19	3	3	3	4	4
Mean	3.21	3.32	3.26	3.26	3.32

Scale: 1=Benchmark; 2=Milestones (low); 3=Milestones (high); and 4=Capstone

Summary and Conclusions: POSC 4821 Seminar-Problem Solving (Spring 2022)

Mean rankings from the chosen rubrics for both group oral presentations, group problem solving, and individual writing assignment for both problem-solving modules that were evaluated in the Spring 2022 semester ranged between “milestones (low)”, “milestones (high)”, and capstone categories. While we did not observe a single category on any rubric with a mean that ranked in the “Capstone” range, several “Capstone” ratings were awarded. Importantly, we saw ratings improve in all groups as they progressed from Module 3 to Module 4. Performance by all groups in Module 4 was impressive overall. We will continue to strive to achieve rankings for all students and groups that range between “milestones (high)” and “capstone” categories, as this is the goal for this course which stresses problem solving, communication, and critical thinking.

3. Any changes to degree/certificate planned or made based on the assessment and analysis

In Fall of 2021, the department added an undergraduate industry track and preprofessional science track option to better serve students. Lastly, POSC 402V Undergraduate Research was added to the curriculum, effective Fall 2021. This new offering should provide additional opportunities for our undergraduates to get experience with formal research projects and we expect enrollment to grow for this class as students progress through the next degree plans.

4. Any changes to the assessment process made or planned.

- The pre-test and post-test were updated in the previous year. No other updates have been made at this time.
- Inclusion of other data (e.g. job placement) from exit interviews was included.