

Program Assessment Report Undergraduate Program
Department of Agriculture Economics and Agribusiness
University of Arkansas
2022-2023

Program: **Agriculture Economics and Agribusiness**

Contact Information:

Name: Nathan Kemper

Phone: 575-2697

Email: nkemper@uark.edu

A. Goals

To be the premier agricultural business and applied economics program in Arkansas, provide concentrations and specializations that are responsive to the needs of both students and industry stakeholders, and prepare students for success in the global marketplace.

B. Expected Outcomes

We expect all graduates to have the following skills and competencies:

1. Understand the fundamental principles which describe how markets operate in an economy
2. Ability to comprehend and analyze firm-level problems using basic economic principles, particularly those problems of businesses in the agricultural sector
3. Have the necessary written and oral communication skills to explain economics concepts
4. Have a working understanding of basic quantitative analysis tools and an ability to analyze data
5. Understand the impacts of government policies and general economic conditions on firms, markets and institutions
6. Be prepared for work in agribusiness or for a program of graduate/professional education.

C. Program Assessment

The continued growth of the undergraduate research program is critical to quality educational experiences and in developing leaders for the future. Below are the means in which the programs are assessed.

1. Student performance in courses
2. Curriculum review
3. Electronic and Confidential survey of all students in the program
4. Electronic and Confidential survey of graduating seniors
5. Professional and Faculty Advising
6. Course/instructor teaching evaluations
7. Periodic feedback from alumnae

D. Analysis of Results

1. Student performance. Average enrollment in all undergraduate AGECE courses remains high. Undergraduate classes average 62 students fall 2022 semester and 58 spring 2023 semester. Student performance was assessed by each instructor based on a combination of homework assignments, class projects, papers/presentations, and quizzes/exams. This combination of performance measures enabled each instructor to assess the student's ability to: (a) Grasp fundamental principles and how to apply them to problem solving (papers, projects); (b) Analyze data and apply quantitative tools (homework assignments); and, (c) Master written and oral communication skills, both individually and in a team environment (papers, presentations, projects). Exams in each course provided instructors with a concise measure of each student's ability to successfully master course content including principles, problem-solving skills, and ability to communicate. The average grade point average for undergrads is 3.17.

Assessment of Social Science Core Curriculum Courses

AEAB conducts student assessment of performance in the two campus core courses it teaches, AGECE 1103 (Principles of Agriculture Microeconomics) and AGECE 2103 (Principles of Agriculture Macroeconomics). The assessment consists of ten multiple choice questions asked on the final examination in each class. Class averages on the ten multiple choice questions in AGECE 2103 have ranged from 48% to 68%. The ten questions asked in AGECE 2103 range from basic to very difficult. The class averages on the ten multiple choice questions in AGECE 1103 have ranged from 58% to 86% and cover a similar range of level of difficulty. As would be expected, students do very well on the simple questions and do less well on the more difficult questions. Although efforts are made continually to improve student performance, the faculty are of the opinion that the range of difficulty is a good measure of the level for teaching the course. Since student abilities and aptitudes vary greatly across any given class, the faculty are more interested in uniform shifts up or down in the range of responses. Substantial, across-the-board improvement would likely lead to a more rigorous treatment of the subject.

Pre-and Post-Agribusiness Assessment Quiz

AEAB also conducts a set of questions which serve as a general program assessment. These ten questions are pulled from core and elective courses in our Agribusiness Major. Students are asked to take the assessment quiz as college freshmen in AGECE 1103 before studying the materials; then they are tested on the materials again to evaluate gain in knowledge in the subject matter being evaluated. In the following table, the "Baseline" group (n=90) is made up of students from the Fall 2022 offering of AGECE 1103. Group 1 (n=124) is students from Spring 2023, juniors and seniors who have taken our core courses and some of our upper division electives. This assessment was conducted as a quiz in both groups with a bonus awarded for participation. The weighted average percent correct on the assessment for the baseline was about 29%, while Group 1 answered 91% correct. This indicates positive knowledge gain throughout our students'

time in our Agribusiness Program. The assessment questions can be found in the Appendix.

Table 1. Percent Correct on Ten Program Assessment Questions

| | Group 1 n=124 | Baseline n=90 |
|------|------------------|------------------|
| Q1 | 81.0% | 36.4% |
| Q2 | 75.4% | 12.6% |
| Q3 | 94.1% | 49.2% |
| Q4 | 99.0% | 51.0% |
| Q5 | 88.7% | 25.9% |
| Q6 | 66.4% | 16.7% |
| Q7 | 78.9% | 49.8% |
| Q8 | 78.0% | 25.1% |
| Q9 | 90.1% | 19.6% |
| Q10 | 98.3% | 53.1% |
| Mean | 91.0% | 29.3% |

Assessment of Written and Oral Communication Skills (Includes GELO 6.1)

AEAB also assessed the written and oral communication skills of our students in the AGE 401V - Internship in Agribusiness course, which is part of a new requirement in our curriculum known as the Capstone Requirement. General Education Curriculum Goal 6 is accomplished in the course, partly by the completion of a 1,250 word essay and an oral presentation. The faculty member instructing the course evaluated student essays and oral presentations by use of the rubric attached in the appendix. The students’ performance on the essay and oral presentation are used here to assess the written and oral communication skills of students in the AEAB. 24 undergraduate students were enrolled in the Agribusiness Internship course during the summer, 8 during the fall, and 9 during the spring. Assessment summary scores are reported in Table 2.

Table 2. Written and Oral Communication Assessment

| | Written n=41 | Oral n=41 |
|---------|-----------------|--------------|
| Mean | 3.25 | 3.36 |
| Minimum | 1 | 1 |
| Maximum | 4 | 4 |

Note: student performance was rated on a scale of 1 to 4 (see appendix for details)

Based on the data available on written and oral communication assessment, the data showed that, on average, our students are performing at the 3-Milestone and 4-Capstone level in both written (mean=3.25) and oral (mean=3.36) communication by the time they are juniors and seniors enrolled in our Agribusiness Internship course.

2. Curriculum review. As noted in the Degree Changes section below, we implemented changes during the fall 2022 semester in response to an increasing awareness that some students in our upper division courses were not well prepared to complete these courses successfully. Our new curriculum addresses these issues by making our curriculum more prescriptive with a new pre-requisite core. Students are now monitored much more closely as they complete a set of critical 1000 and 2000 level courses and are offered assistance and guidance when they struggle. We have also continued to add additional sections of online courses to provide flexibility for our students.
3. **Electronic and Confidential survey of all students in the program.** During the spring 2023 semester, a revised program assessment survey was deployed to students in the program. Rather than only seeking feedback from graduating seniors, we sought feedback from our students at large. A summary of some of the key data are presented here.

The following two tables present a summary of the responses of undergraduate Agribusiness Majors to several key satisfaction survey questions. Table 3 summarizes the responses from all classes of students (freshmen to graduating seniors) and shows that, on average, Agribusiness students are highly satisfied with their overall experience at the UA, and with the Agribusiness (AGBS) Program overall. In the teaching of the Agribusiness Program, our students find that the teaching materials, faculty knowledge, program rigor, and the relevance of the program to their career preparation to be highly satisfactory (between 86 and 88 percent satisfaction rate).

Table 3. Undergraduate Agribusiness Students UA and Program Satisfaction

| | Mean | Percent | Obs. |
|--|------|---------|------|
| Overall UA Satisfaction ¹ | 4.4 | 87.2% | 161 |
| AGBS Overall Program Satisfaction ¹ | 4.5 | 89.9% | 161 |
| AGBS Teaching Materials ² | 6.9 | 86.0% | 160 |
| AGBS Faculty Knowledge ² | 7.0 | 87.0% | 159 |
| AGBS Program Rigor ² | 7.0 | 87.0% | 160 |
| AGBS Relevance to Career ² | 7.0 | 87.7% | 158 |

¹ measured on a five-point scale

² measured on a seven-point scale

4. **Electronic and Confidential survey of graduating seniors.** Table 4 breaks down the responses to the same questions as presented in Table 3 but includes only seniors majoring in Agribusiness (seniors and graduating seniors). The responses show that Senior Agribusiness students are also highly satisfied with their overall experience at the UA, with the Agribusiness (AGBS) Program overall, and how the courses in the Program are being instructed in the classroom (between 88 and 96 percent satisfaction rate). The highest rating was for Faculty Knowledge in the Classroom, at 95.8 percent satisfaction rate. When comparing results from Table 3 and Table 4, the differences in satisfaction rates tell an interesting story. The Agribusiness Program satisfaction rates are substantially higher among the seniors compared to the overall group. Considering most of the AGECE course offerings are completed by students in their junior and senior years, this indicates significantly higher satisfaction among our undergraduates when they are enrolled in a higher proportion of AGECE courses.

Table 4. Senior Agribusiness Students UA and Program Satisfaction

| | Mean | Percent | Obs. |
|--|------|---------|------|
| Overall UA Satisfaction ¹ | 4.3 | 86.7% | 69 |
| AGBS Overall Program Satisfaction ¹ | 4.6 | 91.4% | 69 |
| AGBS Teaching Materials ² | 7.5 | 94.0% | 69 |
| AGBS Faculty Knowledge ² | 7.7 | 95.8% | 69 |
| AGBS Program Rigor ² | 7.6 | 94.6% | 69 |
| AGBS Relevance to Career ² | 7.1 | 88.8% | 69 |

¹ measured on a five-point scale

² measured on a seven-point scale

Note: ANOVA results indicate a significant difference at the 0.001 level between groups (student classification) for all six questions included here.

5. Professional and Faculty Advising. The Department takes pride in its advising. Students get a personal touch from the department. We target 1-20 student advisees per faculty member. The Dean's Office has professional academic advisors that assist the department with undergraduate advising. These staff members advise all entering freshmen and transfer students until students have accumulated 60 credit hours. Students are transitioned to faculty advisors for their junior and senior years.
6. Course/instructor teaching evaluations. Course and instructor evaluations were conducted for each course to assess quality of instruction and course content. Summary data forwarded to the Department Head and feedback are shared with faculty during their annual evaluations. Each faculty member may view a copy of the student evaluations to assist in preparation of future classes.
7. Alumnae feedback. We invite alumnae to visit with faculty and students at fall and spring social events and for special occasions throughout the year. We have implemented a new on-line questionnaire for graduating seniors to get feedback on their experiences and to collect data to facilitate future communication with these new alumnae. We send an electronic newsletter to alumni and stakeholders 3-4 times a year. We receive comments and other feedback on items that appear in the newsletter.

E. Changes to Degree Program

Enrollment growth of the past few years has increased average class size and has created difficulties moving students through the program in cohorts. A cohort-based program where students move through the program largely in groups has distinct advantages to both the faculty and students. We have also experienced that over the past several semesters, the number of students taking course out of sequence and, particularly, taking advanced upper division courses for which they are unprepared, has increased. To address these issues, we have reformatted our curriculum with the first major change being the addition of a prerequisite core that students must successfully complete in order to progress.

Agribusiness Prerequisite Core

The Agribusiness Prerequisite Core consists of 21 hours of courses deemed critical to adequately prepare students for upper division work in our program. These courses must be completed before students are able to progress to the upper division courses in our Core and Concentrations. The Pre-Req Core contains courses in mathematics, statistics, micro and macro economics, agribusiness, accounting, and computing competency.

Change to Core Curriculum and Concentrations

In addition to the Pre-Req Core, we also reorganized our degree Core and Concentrations. To introduce more rigor into our program and to give all students in our program highly desirable skills sought by industry, we will require all students to take AGEC 3373 Future and Options and AGEC 4143 Ag Finance as part of the Core. The Concentrations were made more flexible by requiring that students only need choose 1 course from Policy, Marketing, and Management groups.

Addition of an Online Degree Program and New Concentration

During the Summer 2022, we began developing a plan to offer our undergraduate degree program 100% online. In collaboration with the Walton College of Business Department of Finance, as of April 2022, we have officially started the curriculum process to offer our program online. This includes a new degree concentration titled Agribusiness Risk Management, which will be available exclusively online. Our goal is to have our degree program available online by Fall 2023.

F. **Changes to Assessment Process**

During the spring 2023 semester, a revised program assessment survey was deployed to students in the program. Rather than only seeking feedback from graduating seniors, we sought feedback from our students at large. We have also integrated data from our Capstone Experience course, the Agribusiness Internship Program, which includes assessment of the GELO 6.1 learning outcome.

Appendix - AEAB Program Assessment Questions

Instructions: Choose the one alternative that best completes the statement or answers the question.

1. **A call option is said to be “in the money” when**
 - a. the strike price is above the futures price
 - b. **the strike price is below the futures price*
 - c. the futures contract has expired
 - d. the futures contract enters the month of maturity
2. **An import tariff shifts**
 - a. the excess demand curve up
 - b. the excess supply curve up
 - c. **the excess demand curve down*
 - d. the excess supply curve down
 - e. both the excess supply and excess demand curve up
3. **If the income elasticity of demand is -0.5**
 - a. the good is a normal necessity
 - b. **the good is inferior*
 - c. the good is a normal luxury
 - d. the good is a substitute in consumption
4. **The accounting equation states that assets equal liabilities plus**
 - a. depreciation expenses
 - b. accounts receivable
 - c. **equity*
 - d. current-period debt payments
 - e. accrued interest
5. **The quick ratio is computed as**
 - a. total assets to total liabilities
 - b. **current assets less inventories to current liabilities*
 - c. total liabilities to total equity
 - d. total income before taxes to total assets
 - e. current interest to current assets
6. **Trade occurs because**
 - a. of trade disputes
 - b. **autarky prices differ*
 - c. of tariffs imposed by the exporting country
 - d. of good will between two countries
 - e. of political stability
7. **Which best describes a monopsony?**
 - a. A single seller
 - b. An organization with a single headquarters location
 - c. **A single buyer*
 - d. A single regulatory body
8. **Which is the best example of third-degree price discrimination?**
 - a. **student discounts at a movie theater*
 - b. bundle pricing
 - c. access fees
 - d. both (b) and (c)
9. **Which would make both “at-the-money” put and a call options more valuable?**
 - a. an increase in the interest (discount) rate
 - b. **an increase in volatility*
 - c. an increase in the futures price
 - d. passage of time
10. **The rate of return on assets (ROA) uses a ratio to measure a firm’s:**
 - a. liquidity
 - b. solvency
 - c. repayment capacity
 - d. **profitability*

| Rubric for assessing written assignments | | | | |
|---|--|---|---|--|
| Performance Area | Capstone 4 | Milestone 3 | Milestone 2 | Benchmark 1 |
| Context of and Purpose | Demonstrates thorough understanding of context, audience & purpose. Responsive to assigned task(s). Focuses on elements of work | Demonstrates adequate consideration of context, audience and purpose and a clear focus on the assigned task(s) | Demonstrates awareness of context, audience, purpose and to the assigned task. | Demonstrates minimal attention to context, audience, purpose and to the assigned task(s) |
| Content Development | Uses appropriate, relevant and compelling content to illustrate mastery of subject, convey understanding, shaping the whole work. | Uses appropriate, relevant and compelling content to explore ideas within the context of the discipline and shape the whole work. | Uses appropriate and relevant content to develop and explore ideas through most of the work | Uses appropriate and relevant content to develop simple ideas in some parts of the work |
| Disciplinary Conventions | Demonstrates attention to and successful execution of a range of conventions particular to a specific discipline and/or writing task(s) including organization, content, presentation, formatting and style | Demonstrates consistent use of important conventions particular to a specific discipline and/ or writing task(s) including organization, content, presentation and stylistic choices | Follows expectations appropriate to a specific discipline and/ or writing task(s) for basic organization, content and presentation | Attempts to use a consistent system for basic organization and presentation |
| Sources and Evidence | Demonstrates skillful use of high quality, relevant sources to develop ideas that are appropriate for the discipline and genre of the writing | Demonstrates consistent use of credible, relevant sources to support ideas that are situated within the discipline and genre of the writing | Demonstrates an attempt to use credible/ relevant sources to support ideas that are appropriate for the discipline and genre of the writing | Demonstrates an attempt to use sources to support ideas in the writing |
| Syntax and Mechanics | Uses graceful language that skillfully communicates meaning to readers with clarity and fluency, virtually error free | Uses straightforward language that generally conveys meaning to readers. The language has few errors | Uses language that generally conveys meaning to readers with clarity, although writing may include some errors. | Uses language that sometimes impedes meaning because of errors in usage. |
| Critical Thinking | Accurately interprets evidence. Identifies the salient arguments pro and con. Thoughtfully analyzes and evaluates major alternative points of view. Draws warranted conclusions. Justifies results and procedures, explains assumptions and reasons. | Accurately interprets evidence. Identifies relevant arguments pro and con. Offers analyses and evaluations of obvious alternative points of view. Justifies some results, explains reasons. Fairmindedly follows where evidence and reasons lead. | Misinterprets evidence. Fails to identify strong, counter-arguments. Superficially evaluates obvious alternative points of view. Justifies few results, seldom explains reasons. Maintains or defends views based on preconceptions | Offers biased interpretations of evidence. Fails to identify/ dismisses relevant counter-arguments. Superficially evaluates alternative points of view. Argues using false/ irrelevant reasons. Defends views based on preconceptions. |
| Problem Solving | Constructs clear problem statement & multiple ways to solve problems. Thoughtful solution(s) proposed, elegant evaluation. Complete understanding of solution, reviews results thoroughly & specific consideration for further work | Problem statement adequate, some strategies apply. Proposal(s) indicate understanding, evaluations adequate. Implements solution on the surface, some consideration of further work needed | Begins to define problem, identifies only a single approach. Proposal doesn't address problem, evaluation brief. Implements solution but ignores relevant factors, little consideration of further work needed | Limited ability to define problem or strategies. Vague proposal, superficial evaluation. Does not directly address problem statement, superficial review of results |
| Total Points | 40 | 35 | 30 | 25 |

| Rubric for assessing oral presentations | | | | |
|--|--|---|---|--|
| Performance Area | Capstone 4 | Milestone 3 | Milestone 2 | Benchmark 1 |
| Organization | Organizational pattern (introduction, conclusion, sequenced material in the body, transitions) clearly/ consistently observable and make the presentation cohesive. | Organizational pattern (introduction and conclusion, sequenced material in the body, & transitions) clearly and consistently observable within the presentation. | Organizational pattern (introduction and conclusion, sequenced material in the body, & transitions) intermittent within the presentation. | Organizational pattern (introduction and conclusion, sequenced material in the body, & transitions) is not observable within the presentation. |
| Central message | Central message is compelling (precisely stated, repeated, memorable, and strongly supported.) | Central message is clear and consistent with the supporting material. | Central message is understandable but is not often repeated and not memorable. | Central message can be deduced, but is not explicitly stated in the presentation. |
| Delivery & Preparedness | Delivery techniques (posture, gesture, eye contact, expressiveness) make the presentation compelling. Speaker polished, confident, prepared and rehearsed. | Delivery techniques (posture, gesture, eye contact, expressiveness) make the presentation interesting. Speaker comfortable. Speaker satisfactorily prepared and rehearsed. | Delivery techniques (posture, gesture, eye contact, expressiveness) make the presentation understandable. Speaker tentative, adequately prepared and rehearsed. | Delivery techniques (posture, gesture, eye contact) detract from understandability of presentation. Speaker uncomfortable, read from notes, inadequately prepared. |
| Style & Timing | Language choices imaginative, memorable, compelling and enhance the effectiveness of the presentation. Variety of supporting materials effectively utilized. Presentation length appropriate, met criteria. | Language choices thoughtful and generally support effectiveness of the presentation. Supporting materials were satisfactorily utilized. Presentation length appropriate and met criteria. | Language choices are mundane and commonplace and partially support the effectiveness of the presentation. Supporting materials were adequately utilized. Presentation length was appropriate, met criteria. | Language choices are unclear and minimally support the effectiveness of the presentation, not appropriate to audience. Supporting materials were insufficiently utilized. Length was over or under the set criteria. |
| Critical Thinking | Accurately interprets evidence. Identifies the salient arguments pro and con. Thoughtfully analyzes and evaluates major alternative points of view. Draws warranted conclusions. Justifies results and procedures, explains assumptions and reasons. | Accurately interprets evidence. Identifies relevant arguments pro and con. Offers analyses and evaluations of obvious alternative points of view. Justifies some results, explains reasons. Fairmindedly follows where evidence and reasons lead. | Misinterprets evidence. Fails to identify strong, counter-arguments. Superficially evaluates obvious alternative points of view. Justifies few results, seldom explains reasons. Maintains or defends views based on preconceptions | Offers biased interpretations of evidence. Fails to identify/ dismisses relevant counter-arguments. Superficially evaluates alternative points of view. Argues using false/ irrelevant reasons. Defends views based on preconceptions. |
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