

Annual Academic Assessment Report
(MS/Agricultural Economics and Agribusiness)
(April 11, 2023)
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Results of Analysis of the Assessment of Student Learning Outcome

Program Goals: Thesis MS

Given that the majority (>90%) of students in the AgEcon MS program are on a thesis track (thus research-oriented), one output metric can be measured in the form of peer-reviewed publications and peer-reviewed professional presentations by graduate students in AGECE.

Student Learning Outcomes: Acceptable and Ideal Targets

- Students should strive to create quality research that is not only found acceptable for a departmental thesis defense but presentable to a wider academic audience.
- Acceptable: 20% of the graduate cohort present a referred presentation or publish in a refereed journal article each calendar year.
- Ideal: 35% of the graduate cohort present a referred presentation or publish in a refereed journal article each calendar year.

Key Personnel

- MS Theses Advisors (AgEcon Faculty)

Summary of Findings.

There were 14 journal articles published in 2022 with students from the 2022 AGECE cohort as an author. This would mean, on average, that 50% of the cohort had a journal article published last year, surpassing our ideal target assessment of 35% of grad students having *either* a professional presentation or a peer-reviewed publication. Given that the average thesis student is enrolled in our program for two years, this metric would suggest that, on average, we would have one journal publication for each MS student during their two-year career. There were 15 peer-reviewed professional presentations with students from the 2022 cohort as an author. This would mean that, on average, 54% of the cohort had a professional presentation, well above our ideal target of 35%.

Table 1. Research output by 2022 AGECE MS cohort.

Metric	Number*	% of Cohort with Output**
Peer-Reviewed Publications		
First Author	12	43%
Non-First Author	2	7%
Peer-Reviewed Presentations	15	54%

*Total number represents those students who may have multiple outputs for an individual metric.

**Average number of graduate students in 2022 was 28 between all three semesters.

Use of Results

- While the metrics above suggest the graduate program is above the ideal target of 35% of graduate students having *either* a professional presentation or a peer-reviewed publication there is still for improvement. Professors in the AgEcon department who teach graduate courses and require a project are now being encouraged to help students turn those projects into tangible academic outputs, mainly in the form of submissions to professional conferences.

Program Goals: Non-Thesis MS

Problem-solving and communication rubrics were utilized for two non-thesis MS students in AGEC 5011 seminar. Students were evaluated by the seminar instructor (Anderson) based on written assignments, presentation materials, class participation, and personal interaction throughout the semester.

Student Learning Outcomes: Acceptable and Ideal Targets

- Students will be able to successfully frame problems/issues using appropriate economics theory and tools; they will be able to communicate clearly, demonstrating acceptable facility with technical concepts.
- Acceptable: Fifty percent (50%) of students will be able to successfully define a problem and address it using appropriate theories to develop hypotheses.
- Ideal: All students will be able to successfully define a problem and address it using appropriate theories to develop hypotheses and will be able to evaluate conclusions.

Key Personnel

- Seminar Instructor (J. Anderson)

Summary of Findings.

- Students in the Fall 2022 Seminar class were given assignments to provide a basis for assessment. Only two non-thesis students enrolled in Seminar in Fall of 2022. Students in the Fall 2022 Seminar class were asked to complete two writing assignments interacting with peer-reviewed journal articles and two professional presentations. The second of these presentations included an overview of the student's home-country economy and required collection, summary, and basic analysis of data to evaluate the economy's strengths and weaknesses. This is the primary basis for an assessment of the student's analytical abilities summarized in this section.
- The non-thesis students who were assessed generally performed very well in collecting and working with data and in summarizing basic analysis. Students were quite comfortable evaluating the implications of the analysis. Both students demonstrated strong communication skills. One of the students was ESL and managed to express complicated concepts and data descriptions clearly.

Use of Results

- The use of the Fall Seminar class to evaluate non-thesis students through multiple assignments has worked well for the two semesters that this system has been in place. The number of non-thesis students in the program remains minimal and will largely consist of sponsored students. The current approach to assessment works quite well in this situation and should remain the primary means of assessment. The home economy analysis assignment provided a sufficient basis for student assessment; however, students from countries with limited data may need to be given an alternative assignment – perhaps a regional rather than country-level evaluation, for example.
- The Problem-Solving rubric was utilized for the non-thesis student making a home economy presentation in AGEC 5011 seminar. The student was evaluated by the Seminar instructor (Anderson) based on presentation materials as well as on personal interaction through individual meetings with the instructor throughout the semester.
- Non-Thesis Student Problem-Solving Summary results

Table 2. Non-Thesis Students Problem-Solving Summary results

	Excellent (4)	Above Average (3)	Average (2)	Needs Improvement (1)	Average student score on a 1-4 scale
Define Problem	4	0	2	0	3.00
Identify Strategies	0	6	0	0	3.00
Propose Solutions / Hypotheses	0	6	0	0	3.00
Evaluate Potential Solutions	4	3	0	0	3.50
Strategy to Implement Solution	4	3	0	0	3.50
Evaluate (Potential) Outcomes	0	6	0	0	3.00

- Both non-thesis students performed above average or higher.
- Students demonstrated the capability of using data-driven reasoning to define problems and identify strategies.

STUDENT LEARNING OUTCOME 2: COMMUNICATION

Graduates will enhance their ability to prepare, organize, and deliver information to effectively communicate (orally, written, and electronically) with scientific, professional, and non-technical audiences.

Summary of Findings

- The Communication rubric was utilized for the two non-thesis students in AGEC 5011 Seminar. Students were evaluated by the instructor (Anderson) based on a personal introduction presentation, a home economy presentation, in-class participation, and course writing assignments.

Table 3. Non-Thesis Student Communication Summary results

	Excellent (4)	Above Average (3)	Average (2)	Needs Improvement (1)	Average student score on a 1-4 scale
Organization	8	0	0	0	4.00
Language	4	0	2	0	3.00
Delivery	0	3	2	0	2.50
Supporting Material	0	6	0	0	3.00
Central Message	0	6	0	0	3.00

- Non-thesis students scored well on communication. One of the non-thesis students is an ESL speaker but was able to communicate clearly with some effort in oral presentations. Students were both average or better in organizing, conveying, and supporting an oral or written message.

Program Goals: Thesis MS

The Oral Communication Rubric was utilized for five students presenting their final thesis results (Defense). The students were evaluated by the professors constituting their committee (a total of 16 evaluations were submitted by faculty; the number of evaluators ranged from two– five: committees consist of a minimum of three members but not all faculty submitted their assessment). The results are below

Table 4. Thesis Oral Presentation Summary results

	Excellent (4)	Above Average (3)	Average (2)	Needs Improvement (1)	Average student score on a 1-4 scale
Organization	8	3			3.72
Language	8	3			3.72
Delivery	8	3			3.72
Supporting Material	7	2	2		3.45
Central Message	9	2			3.81

- The majority of thesis students are performing “above average” or higher.
- The Problem-Solving Rubric was utilized for five students presenting their final thesis results (Defense). The students were evaluated by the professors constituting their committee (a total of 16 evaluations were submitted by faculty; the number of evaluators ranged from two – five: committees consist of a minimum of three members but not all faculty submitted their assessment). The results are below

Table 5. Thesis Students' Problem-Solving Summary results

	Excellent (4)	Above Average (3)	Average (2)	Needs Improvement (1)	Average student score on a 1-4 scale
Define Problem	11				4.00
Identify Strategies	9	2			3.81
Propose Solutions / Hypotheses	8	3			3.72
Evaluate Potential Solutions	9	2			3.81
Strategy to Implement Solution	7	2	1		3.60
Evaluate (Potential) Outcomes	7	3			3.70

- The majority of thesis students are performing “above average” or higher.

The Written Communication Rubric was utilized for five students presenting their final thesis results (Defense). The students were evaluated by the professors constituting their committee (a total of 11 evaluations were submitted by faculty; the number of evaluators ranged from two– five: committees consist of a minimum of three members). The results are below

Table 6. Thesis Written Communication Summary results

	Excellent (4)	Above Average (3)	Average (2)	Needs Improvement (1)	Average student score on a 1-4 scale
Contest and Purpose	9	2			3.81
Content Development	9	2			3.81
Genre & Disciplinary Conventions	8	3			3.72
Sources & Evidence	7	3	1		3.54
Control of Syntax	7	4			3.63

- The majority of thesis students are performing “above average” or higher.

Program Goals: Combined Thesis and Non-Thesis evaluation

Core content exam

- All students (Thesis and non-thesis) are required to take Microeconomics Principles (AGEC 5103-Huang) and Quantitative Methods (AGEC 5403-Nalley). Students will be examined on key concepts at the beginning of each class and again at the end of each class.
- This will be directly evaluated by the course instructor.
- The change in percentage correct will be report

Student Learning Outcome: Acceptable and Ideal Targets

- Acceptable: Students will show an average increase of 20% after taking the course, i.e. on average, students will correctly answer 35% of the questions at the beginning of the course and 55% or better by the end of the course.
- Ideal: Students will show an average increase of 40% after taking the course, i.e. on average, students will correctly answer 35% of the questions at the beginning of the course and 75% or better by the end of the course.

Summary of Findings.

- For the fall 2022 term, all students in AGEC 5103 Microeconomics principles were administered the basic content quiz at the beginning of the semester and again at the end of the semester. The average result on the quiz was 54% correct at the beginning of the semester and 89% at the end of the semester. The average score improved 35% points.
- For the fall 2020 term, all students in AGEC 5403 Quant Methods for AGEC were administered the basic content quiz at the beginning of the semester and again at the end of the semester. The average result on the quiz was 15% correct at the beginning of the semester and eighty percent (83%) at the end of the semester. The average score improved 68% points.

Program Goals: Mastery of course subject matter

- Students will be assessed as to how well they comprehend material in their course of study.
- Students will be indirectly assessed by the course instructor.
- Students will be given a series of assignments, exams, and/or projects to demonstrate their knowledge of key Agricultural Economic Concepts and demonstrate their ability to use the appropriate concepts in a given situation.
- Students will be assessed grades based on their demonstrated mastery of core concepts and appropriate use.

Student Learning Outcome: Acceptable and Ideal Targets

- Acceptable: At least 50% of the students should complete their course of study with a “B+” average (3.33 GPA on a 4.0 scale)
- Ideal: At least 75% of the students should complete their course of study with a “B+” average (3.33 GPA on a 4.0 scale)

Summary of Findings.

- As seen in the table below, students have averaged over 3.33.

Type of MS Student	Number of Students	Average GPA
Total	34	3.89 (94% > 3.33; 85%>3.75)
Thesis	28	3.9 (100% > 3.33; 89%>3.75)
Non-Thesis	3	3.33 (67% > 3.33; 0%>3.75)

- **Any changes to degree/certificate planned or made on the basis of the assessment and analysis**
None
- **Any changes to the assessment process made or planned.**
None