

Annual Assessment Report for 2020-2021 AY

Reports completed on assessment activities carried out during the 2020-2021 AY will be due September 30th 2021 and must be e-mailed to the Director of Assessment, Dr. Douglas Fraleigh (douglasf@csufresno.edu).

Provide detailed responses for each of the following questions within this word document. Please do NOT insert an index or add formatting. For purposes of this report, you should only report on two or three student learning outcomes (department's choice) even if your external accreditor requires you to evaluate four or more outcomes each year. Also be sure to explain or omit specialized or discipline-specific terms.

Department/Program: Agricultural Business Degree BS

Assessment Coordinator: Pei Xu / Serhat Asci

1. Please list the learning outcomes you assessed this year.

The outcome assessed during the 2019-20 & 2020-2021 academic years were:

- Graduating Senior Survey: A senior exit survey will be implemented each spring semester. The instrument is designed to measure the level of satisfaction with the quality of education within the major and the degree to which learning outcomes have been achieved. To keep faculty current with respect to graduating senior's career ambitions, students are also asked about professional goals. Data will be analyzed and tabulated for faculty discussion at subsequent retreats.

Benchmark Goal: A 70% response rate with 75% of our graduates believing they are prepared with respect to our learning outcomes.

- Learning Outcome 1.1 (Knowledge): Students will apply economic concepts, as well as statistical and quantitative analyses, to agribusiness and/or consumer issues and interpret the results.

Examinations and Quizzes

Benchmark Goal: 70% of our students achieve a score of 70% or better.

Homework/Problem Sets

Benchmark Goal: 75% of our students achieve a score of 75% or better.

Courses to be assessed:

Accounting and Finance Related Lower and Upper Division Core Courses:

- I. AGBS 31 Farm Accounting (faculty – Dr. Patrick Berends)
 - Introduce the knowledge on agricultural finance and accounting

Catalog Description:

Basic concepts and principles of financial accounting systems applied to farm operations; mechanics of recording single and double entry transactions under cash and accrual accounting methods; preparation and analysis of enterprise records and financial statements to generate management information.

- II. AGBS 32 Agribusiness Managerial Accounting (faculty – Dr. Pei Xu)
– Introduce and reinforce the knowledge on agricultural finance and accounting

Catalog Description:

Prerequisite: AGBS 31 or ACCT 4A. Application and analysis of accounting information for farm and agribusiness management; integration of economic, and financial principles in preparing business plans; equipment cost control and crop enterprise accounting methods; capital investment and profit performance; introduction to computerized farm accounting systems.

- III. AGBS 130 Agricultural Finance (faculty – Dr. Todd Lone)
– Advanced or mastered the knowledge on agricultural finance

Catalog Description:

Prerequisites: AGBS 2, AGBS 32, AGBS 76. Prerequisite or corequisite: AGBS 100 or instructor's permission. Analysis of farm financial statements; institutional sources of farm credit; time value of money and capital budgeting for agricultural investment; cost of debt and equity capital; risk management strategies; insurance, tax, and farm estate planning.

Student knowledge on accounting and finance related lower and upper division core courses were evaluated using homework and exam results. Such information, when combined with results obtained from indirect assessment measures, will help assess success in students' capacity in applying one of the main economic concepts (Accounting and Finance knowledge) to agribusiness issues.

2. **What assignment or survey did you use to assess the outcomes and what method (criteria or rubric) did you use to evaluate the assignment? Please describe the assignment and the criteria or rubric used to evaluate the assignment in detail and, if possible, include copies of the assignment and criteria/rubric at the end of this report.**

Graduating Senior Survey:

We used graduating senior survey to assess the outcomes and looked at the mean response of the responses to evaluate the results of the survey. The total students responded to the senior survey in 2018 fall was 55 students and in 2019 spring was 40 students for a total of 95 students. Detailed questions asked in the survey are included in the survey reports for both semesters.

The criteria set up by the department is as below:

Benchmark Goal: A 70% response rate with 75% of our graduates believing they are prepared with respect to our learning outcomes.

We assessed the level of satisfaction and the quality of education by looking at the responses on two items in Section I. The questions in these two items are listed below:

SECTION I - General Instruction & Course Content	
1) Please evaluate the following statements regarding general instruction of the Department of Agricultural Business:	
	The variety of courses offered was satisfactory.
	The instructors in the program were helpful.
	The assignment requirements in the courses were helpful in facilitating understanding of course material.
	The work required in the courses was challenging.
	The opportunity to take more courses in the major would have been helpful.
	The opportunity to take more courses outside the major would be helpful.
	The sequencing of coursework worked well.
	The course prerequisites made sense.
2) How well did the Department of Agricultural Business prepare you in the following areas?	
	Basic agricultural knowledge
	Basic economic knowledge
	Management concepts
	Marketing concepts
	Financial concepts
	Computer applications' preparation
	Quantitative skills
	Agricultural policy
	Agricultural law
	Oral communication
	Written communication

Learning Outcome 1.1 (Knowledge):

I. AGBS 31 Farm Accounting

Outcome 1.1: The outcome was assessed by student performance on two summative instruments.

- a. *Exams.* Three units exams were given during each semester. The midterms are typically scheduled in manner which breaks down the semester in three, equal-length (roughly) periods. While the exact material for each exam may be slightly different from one semester to the next, the overall material covered by all three exams is the same. As it is an introductory course, the exams focus primarily on definitions, principles and basic concepts. There are some problems and analysis questions, but they are in the minority on the exams. Each exam is 50 questions, worth 2 points each. While last year (20/21),

the exams were conducted online, I have included a similar type exam form an earlier semester for reference in the appendix.

- b. *Homework.* Homework assignments are constructed to measure students' ability to utilize and implement introductory financial accounting procedures for a production farm. Points vary for each homework assignment, but they do build upon each other. For example, the techniques covered in homework 2 (transactions analysis) is vital for the work needed for homework 3 (recording journal entries). An example homework and rubric is included in the appendix.

Feedback is provided during class discussion of all returned items and students also receive individual feedback. I hope that the feedback improves future performance and facilitates learning.

Performance comparison across instruments, and semesters, should provide an indication of the level of student proficiency with regard to achieving the learning outcome.

II. AGBS 32 Agribusiness Managerial Accounting

Outcome 1.1: The outcome was assessed by student performance on chapter homework, quizzes, and three exams.

- a. *Homework.* A total of 15 homework assignments were assigned to measure students' abilities to: 1) learn and understand accounting principles and apply the principles to analyze agribusiness related accounting situations; and 2) craft agribusiness related accounting management decisions and make recommendations to upper-level agribusiness management. Students were given opportunity to resolve the homework after the instructor went over the computational steps during lecture and the resolved homework were graded. Percentage grade were given according to the quality of the work submitted. An example homework is shown in the appendix.
- b. *Quizzes.* A total of 7 quizzes were assigned to assess students' ability to 1) strengthen their understanding of the accounting principles and use the principles to analyze budget, capital investment, and profit performance related agribusiness situations; 2) construct profits and costs reports as guided by accounting management principles; 3) based on the results, propose managerial related decisions for the upper-level management. For most quizzes, students were given opportunity to resolve them after the instructor goes over the computational steps during lecture and the resolved version were graded. Quizzes were graded as percentage grade and students' grade were assigned according to the quality of the work submitted. Results with major calculation errors earned lower points. A rubric and an example quiz is shown in the appendix.
- c. *Exams.* A total of 3 exams were given to assess students ability to 1) demonstrate their understanding of the accounting principles; 2) apply the principles to analyze budget, capital investment, and profit performance related agribusiness situations; and 3) construct profits and costs reports as guided by accounting management principles. Exams had two sections: a multiple-choice section that contains concept questions and computation questions, and a step-by-step problem-solving session that requires students to demonstrate problem solving procedures. To prepare students for the exam, review sessions were provided and the instructor explained selected example questions step-by-step and held help sessions outside of regular meeting sessions to provide further help to students who needed additional assistance. An example exam is shown in the appendix.

Once the item was graded and grade was posted, I would always provide feedback during class. Students requested further clarification of grade or requested help for makeup items were provided individual help. Due to COVID, makeup items were allowed to accommodate absence with legitimate reasons. After each exam, I collected students feedback survey on Qualtrics to understand how they liked the instruction and how they wanted me to improve the instruction to meet their needs. Students said in the survey that the grading feedback improves communication and facilitates next stage of the learning.

III. AGBS 130 Agricultural Finance

Outcome 1.1: The outcome was assessed by student performance on two summative instruments.

- a. *Weekly quizzes*. Fourteen weekly quizzes replaced the midterm examinations to assess performance based on smaller chunks of course material. Each quiz is worth 15 points and is structured to measure students' abilities to: 1) apply the appropriate agricultural finance concept, principle, or analysis technique, 2) calculate the correct quantitative result, and 3) interpret the result from a management perspective. Quiz questions are worth three or five points, depending on the abilities measured, and students may earn all or some of the points based on their responses. For example, minor calculation errors and incomplete interpretations earn partial points. The rubric and an example quiz appear in the appendix.
- b. *Homework*. Homework assignments are constructed to measure students' abilities to: 1) integrate multiple financial principles and analysis techniques to identify feasible decision alternatives for the scenario described; and 2) support a final recommendation to management. Like the quizzes, points are allocated in relation to the abilities students should demonstrate. An example homework appears in the appendix.

This assessment provides feedback during class discussion of all returned items; students also receive individual feedback. It is hoped that the feedback improves future performance and facilitates learning. Performance comparison across instruments, and semesters, should provide an indication of the level of student proficiency with regard to achieving the learning outcome.

3. What did you learn from your analysis of the data? Please include sample size (how many students were evaluated) and indicate how many students (number or percentage instead of a median or mean) were designated as proficient. Also indicate your benchmark (e.g. 80% of students will be designated as proficient or higher) and indicate the number of students who met that benchmark.

Graduating Senior Survey:

	2018	2019	Benchmark	Response Rate 4 and above
1. Satisfaction				
The variety of courses offered was satisfactory.	4.4	4.4	75% (3.7)	>70%
The instructors in the program were helpful.	4.3	4.3	75% (3.7)	>70%
The assignment requirements in the courses were helpful in facilitating understanding of course material.	4.3	4.1	75% (3.7)	>70%
The work required in the courses was challenging.	4.1	4.2	75% (3.7)	>70%
The opportunity to take more courses in the major would have been helpful.	3.9	4.1	75% (3.7)	>70%
The opportunity to take more courses outside the major would be helpful.	3.6	3.8	75% (3.7)	55%
The sequencing of coursework worked well.	4.0	4.1	75% (3.7)	>70%
The course prerequisites made sense.	3.9	4.2	75% (3.7)	>70%
2. Quality				
Basic agricultural knowledge	4.2	4.4	75% (3.7)	>70%
Basic economic knowledge	4.3	4.3	75% (3.7)	>70%
Management concepts	4.4	4.3	75% (3.7)	>70%
Marketing concepts	4.4	4.4	75% (3.7)	>70%
Financial concepts	4.4	4.5	75% (3.7)	>70%
Computer applications' preparation	4.2	4.4	75% (3.7)	>70%
Quantitative skills	4.2	4.3	75% (3.7)	>70%
Agricultural policy	4.0	3.9	75% (3.7)	>70%
Agricultural law	3.7	3.6	75% (3.7)	60%
Oral communication	4.2	4.3	75% (3.7)	>70%
Written communication	4.1	4.0	75% (3.7)	>70%

Compare the results for the two years, we found:

- 1) In both semesters, we found students ranked these five statements the highest, with a score of above 4 out of 5 in both semesters, meaning that they were very much satisfied with these aspects of learning:
 - a. The variety of courses offered by the department were satisfactory (mean value: 4.4 out of 5 in both semesters)

- b. The instructors in the department were helpful: (mean value: 4.3 out of 5 in both semesters)
 - c. The assignments requirements in the courses were helpful in facilitating understanding of course materials (mean value: 4.3 in 2018 and 4.1 in 2019).
 - d. The work required in the courses was challenging (mean value 4.1 in 2018 and 4.2 in 2019)
 - e. The sequencing of coursework worked well. (mean value 4 in 2018 and 4.1 in 2019).
- 2) Students were found less satisfied but were comfortable with the following statements:
- a. The opportunity to take more courses in the major would have been helpful (mean value 3.9 in 2018 and 4.1 in 2019).
 - b. The course prerequisites made sense (mean value 3.9 in 2018 and 4.2 in 2019)
- 3) Students in both semesters ranked one statement lower than 4 out of 5 in both semesters. Even with this average 3.6 out of 5, we received only a few scores of below 75% of the department benchmark goal.
- a. The opportunity to take more courses outside the major would be helpful. (mean value 3.6 in 2018 and 3.8 in 2019).

Learning Outcome 1.1 (Knowledge):

I. AGBS 31 Farm Accounting

Outcome 1.1: For this outcome, 70% of students are expected to achieve a score of 70% on each summative instrument.

- a. *Exams.* Student performance on the exams met the department standard when compared across semesters and course sections. Although performance dipped a bit in the Spring 2021 semester, the performance standards were met (see Table 3.1). In determining the proficiency, only students who completed all exams were considered. After all, it is difficult to assess student’s knowledge when there is no submission. Since the purpose of the exams is more conceptual in nature (definitions, understanding basic principles and concepts) the results indicate students are proficient in the basic terminology and concepts of farm accounting.

Table 3.1 – Proportion of students scoring $\geq 70\%$ on exams (average for all exams)

Semester	Fall ‘20		Spring ‘21	
Course Section & Number of Students	Sec. 01 (32)	Sec. 02 (28)	Sec. 02 (33)	Sec. 03 (33)
Number > 70%	28	23	26	26
Proportion > 70%	87.5	82.1	78.7	78.7

- b. *Homework.* Performance on homework was inconsistent when comparing sections and semesters. Only one section met the department standard (See Table 3.2). Student proficiency in the use and implementation of introductory financial accounting procedures for a production farm were not up to expectations, although on some

assignment the performance was quite good for the class overall. In determining the proficiency, only students who submitted all assignments were considered. After all, it is difficult to assess student's knowledge when there is no submission (though, it may say something about a student's effort). When examining the individual assignments, students seem to understand the basic concepts (something their exam scores reflect). It is when they have to implement these concepts to properly execute financial accounting procedures that the most difficulties arise. A good example of this would be then recording of journal entries. Many students understand how to analyze a transaction to properly identify the components for the correct journal entry. But when they record the journal entry, there are too many formatting mistakes. This is just one example, but it emphasizes the need to stress the connection between concept and actual practice. A unique facet of the homework results shows a marked increase in performance in Spring 2021 when compared to Fall 2020. This may be the result of both the instructor and the student acclimating to the virtual classroom setting that COVID-19 induced upon us. With a full semester under our belts, both parties may have been more comfortable with the process and had a better understanding of expectations and responsibilities. Also, for Spring 2021 the Supplemental Instructor assigned to the class for the Spring 2021 was new and maybe that played a role, too (e.g., new person, new ideas).

Table 3.2 – Proportion of students scoring $\geq 70\%$ on homework (average for 6 assignments for Fall '20, 5 assignments, Spring '21)

Semester	Fall '20		Spring '21	
Course Section & Number of Students	Sec. 01 (28)	Sec. 02 (24)	Sec. 02 (30)	Sec. 03 (31)
Number > 70%	17	13	19	27
Proportion > 70%	60.7	54.2	63.3	80.6

II. AGBS 32 Agribusiness Managerial Accounting

For this outcome 1.1, it is expected that 75% of students can achieve a score of at least 75% on each homework, quizzes, and exams.

1. **Homework.** Performance on homework met the four departmental standards as listed below:
 - a. Students will apply statistical and/or quantitative accounting analyses to agribusiness problems and interpret the results.
 - b. Students will integrate fundamental agribusiness (accounting) principles and analysis techniques to identify benefit-cost decisions at all levels of business activity and make recommendations based on an understanding of policy and the regulatory environment within which agriculture operates.
 - c. Students will apply the formal language and concepts of (accounting management) economics while demonstrating appropriate informational and/or technical competencies.
 - d. Students will demonstrate communication proficiency orally and/or in writing in relation to the agribusiness industry. They will communicate in a knowledgeable, coherent, and persuasive manner on an array of contemporary agribusiness topics.

In summary, for all homework, in the beginning students mentioned that they had a hard time figuring out the computational steps and applying the concepts to problem solving in an agribusiness situation. After the instructor solved an example question, and conducted the Q&A session, most students were able to solve a similar problem correctly. They appreciated the opportunity to submit multiple attempts and get their best attempt graded. The better performance in spring 2021 maybe because of smaller class size.

Table 1 – Proportion of students scoring $\geq 75\%$ on homework (average for 15 assignments)

Semester	Fall 2020		Spring 2021	
Course Section & Number of Students	8am class (36)	9:30am class (46)	8am class (17)	9:30am class (27)
Number > 75%	30	37	15	24
Proportion > 75%	83	81	88	89

2. **Quizzes.** Students Performance on quizzes met the four departmental standards as listed below:
- Students will apply statistical and/or quantitative accounting analyses to agribusiness problems and interpret the results.
 - Students will integrate fundamental agribusiness (accounting) principles and analysis techniques to identify benefit-cost decisions at all levels of business activity and make recommendations based on an understanding of policy and the regulatory environment within which agriculture operates.
 - Students will apply the formal language and concepts of (accounting management) economics while demonstrating appropriate informational and/or technical competencies.
 - Students will demonstrate communication proficiency orally and/or in writing in relation to the agribusiness industry. They will communicate in a knowledgeable, coherent, and persuasive manner on an array of contemporary agribusiness topics.

For the seven quizzes, students' performance met the requirements as desired. But students performed better on budget performance report, breakeven analysis, cost benefit analysis than their ability to conduct operational purchase decisions and capital budgeting analysis, both involve more in-depth mathematical computations. Thus, modifications on instruction and updated assessment for capital budgeting and operational purchase decisions will be conducted. For quizzes on capital budgeting and operational purchase decisions, additional help will be provided to students in future semesters. The better performance in spring 2021 maybe because of smaller class size.

Table 2 – Proportion of students scoring $\geq 75\%$ on quizzes (average for 7 assignments)

Semester	Fall 2020	Spring 2021
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Course Section & Number of Students	Section 1	Section 2	Section 1	Section 2
	8am class (36)	9:30am class (46)	8am class (17)	9:30am class (27)
Number > 75%	27	35	13	21
Proportion > 75%	75	76.1	76.5	77.8

3) Exams. Students Performance on exam met the four departmental standards as listed below:

- Students will apply statistical and/or quantitative accounting analyses to agribusiness problems and interpret the results.
- Students will integrate fundamental agribusiness (accounting) principles and analysis techniques to identify benefit-cost decisions at all levels of business activity and make recommendations based on an understanding of policy and the regulatory environment within which agriculture operates.
- Students will apply the formal language and concepts of (accounting management) economics while demonstrating appropriate informational and/or technical competencies.
- Students will demonstrate communication proficiency orally and/or in writing in relation to the agribusiness industry. They will communicate in a knowledgeable, coherent, and persuasive manner on an array of contemporary agribusiness topics.

Even though most students met expectations at their exams, the results were not at all level desired. For example, in fall 2020, only 24 students (out of 36) in the 8am session were able to score 75% or above on their exams (67%). Further looking at their scores, I found that students did worse in the first test, and were able to improve in the second and third test. This maybe because of the larger class size in fall 2020 and some students were not able to show up class on time at 8am and missed partial of the lecture. Even though the lecture video were posted on Panopto later the same day, when a computationally intensive lecture is missed, some students were not able to fully understand the content when learning by themselves. Also, when they found out that missing class made is difficult to do well on homework, quizzes and exams, they were attending class more actively which resulted in better grades for the second and third exams.

Table 3 – Proportion of students scoring $\geq 75\%$ on exams (average for 3 tests)

Semester	Fall 2020		Spring 2021	
Course Section & Number of Students	8am class (36)	9:30am class (46)	8am class (17)	9:30am class (27)
Number > 75%	24	33	12	20
Proportion > 75%	67	72	71	74

III. AGBS 130 Agricultural Finance

Outcome 1.1: For this outcome, 70% of students are expected to achieve a score of 70% on each summative instrument.

- a. *Weekly quizzes.* Student performance on weekly quizzes was sporadic when compared across semesters and course sections. Although performance improved in the spring 2020 semester, only one course section met the department standard when considering the average across the fourteen quizzes each semester (see Table 3.1). There were successes but not at the level desired. For example, in the fall semester, one section exceeded the standard on seven quizzes and the other on five. During the spring semester, those numbers were eight and nine, respectively. More students performed better on quizzes based on financial statements, business performance analysis, and the time value of money. They struggled on quizzes focused on capital budgeting, portfolio management, and risk assessment. Modifications in instruction and assessment for these areas will take place before fall 2020.

On quizzes where performance did not meet the department standard, students generally identified the correct concept and were able to interpret the results but lacked proper execution to arrive at the correct answer. Aside from some test anxiety, specifically related to quantitative concepts, possible explanations for observed performance levels include:

- The need for more diverse learning materials and resources,
- Not enough concept application during lecture discussions,
- Too many questions for the allotted quiz time; and
- The level of difficulty and/or complexity of the questions.

Table 3.1 – Proportion of students scoring $\geq 70\%$ on quizzes (average for 14 quizzes)

Semester	Fall '19		Spring '20	
Course Section & Number of Students	Sec. 15 (36)	Sec. 17 (22)	Sec. 11 (30)	Sec. 12 (34)
Number > 70%	23	12	21	25
Proportion > 70%	64.7	52.3	69.3	72.5

- b. *Homework.* Performance on homework met the department standard. Student proficiency integrating financial principles and analysis techniques, interpreting the results, and providing a recommendation for management were deemed satisfactory, and on some assignments outstanding. Performance varied slightly across course sections and semesters, possibly due to: 1) variations in assignment construction, 2) the level of instructor guidance with respect to questions asked during initial assignment discussion, and 3) the roster mix of juniors and seniors. Improved performance relative to quizzes is attributed to: 1) additional time allotted to complete the assignments, 2) access to course material such as notes, lectures, etc., 3) the opportunity to consult outside-of-class resources, and 4) access to peer and/or instructor guidance.

Table 3.2 – Proportion of students scoring $\geq 70\%$ on homework (average for 5 assignments)

Semester	Fall '19		Spring '20	
Course Section & Number of Students	Sec. 15 (36)	Sec. 17 (22)	Sec. 11 (30)	Sec. 12 (34)
Number > 70%	28	18	25	26
Proportion > 70%	76.4	81.8	81.7	76.5

4. What changes, if any, do you recommend based on the assessment data?

Graduating Senior Survey:

We found that in general, the graduating seniors were satisfied with the learning in both semesters. The department benchmark goal was accomplished. If comparing 2018 fall and 2019 spring, students' scores were mostly higher in 2019 meaning that students in 2019 were more satisfied than those graduated in fall 2018. The survey results also demonstrated that the improvement of the help the department offered were valued by the students and assisted them in learning.

The students least satisfied statement is about the opportunity to take more courses outside the major and they stated that it will be helpful if such opportunities were provided. Thus, such a feedback will be provided to the department so the department can discuss ways to improve and propose changes to make students better access courses outside of the major.

Learning Outcome 1.1 (Knowledge):

- I. AGBS 31 Farm Accounting
 - a. *Exams.* Since All AY2020-21 course sections met the department's proficiency standards, no major changes are expected. Normal updates as needed for content, etc. will occur, but AGBS31 seems to be doing fine for this assessment tool.
 - b. *Homework.* Given the results of AY2020-21, the following changes will be implemented:
 - Additional resources will be posted on Canvas to supplement class material,
 - More class time will be spent with students practicing farm accounting applications. In particular, this was something difficult for me to implement in a virtual setting. Normally, we do an exercise in class and I can walk around the room and check things out. This is tougher to do in a Zoom class meeting.
 - Better and more instructive rubrics will be used to help students (hopefully) avoid simple formatting issues. Accounting is a well-structured discipline and this really needs to be made clear.

- II. AGBS 32 Agribusiness Managerial Accounting

Based on the result of the analysis, I plan to implement the following changes:

- a) Post additional resources to Canvas, including videos that explains computational steps for key concepts such as multiple product break even steps, budget performance analysis, and capital budgeting procedures.

- b) I will use more class time to discuss core concepts and solve example questions. Students learn better when an example questions in the agribusiness industry is solved. I plan to focus more on agribusiness problems solving.
- c) I will allocate more time to discuss common mistakes and how to correct the mistakes when quizzes are returned and exams are graded.
- d) Open more help sessions to give additional assistance to students who need further help on their problem solving.

III. AGBS 130 Agricultural Finance

- a. *Weekly quizzes.* Given the results of fall 2019, I implemented the following changes for spring 2020:
 - Additional resources were posted on Canvas to supplement class lecture/discussion,
 - More class time was spent with students practicing application of core concepts,
 - Additional time was allocated to discussing the solution process, correct answers and common mistakes when quizzes were returned to the class, and
 - The number of questions, as well as the level of involvement required for solution, was reduced on each quiz.

Changes instituted during spring 2020 improved performance, with one section exceeding and one section falling just short of the department standard. For the virtual class rooms of fall 2020, I will modify the changes listed above by: 1) *flipping* the classroom for introducing core concepts, principles and analysis techniques, 2) using synchronous mini-lectures and office hours for application discussions as well as Q & A, and 3) providing ‘test your knowledge’ formative assessments as preparation for online quizzes.

- b. *Homework.* Since all AY 2019-20 course sections met department performance standards, normal modifications to update content, improve presentation and refine assessment will occur. I will continue to provide detailed explanations when assignments are first discussed, ensure adequate time for completion, and be available during virtual office hours to answer questions before the due dates.

5. If you recommended any changes in your response to Question 4 in your 2018-19 assessment report, what progress have you made in implementing these changes? If you did not recommend making any changes in last year’s report please write N/A as your answer to this question.

Graduating Senior Survey:

Since we did not include senior survey in 2018-19 assessment report, we do not have any recommended changes for this report period. We will include the progress in the next annual report.

Learning Outcome 1.1 (Knowledge):

N/A... This is the first time these courses were evaluated for outcome 1.1 so there is no prior year's assessment to reflect on.

6. What assessment activities will you be conducting during AY 2021-22?

The outcome to be assessed during the 2021-22 academic year is:

- Learning Outcome 2.1 (Quantitative Reasoning and/or Information Literacy):
Students will integrate fundamental agribusiness principles and/or analytical techniques to identify benefit-cost decisions at all levels of agribusiness and/or consumer activity, and make recommendations based on an understanding of policy and the regulatory environment.

Courses to be assessed:

Computer and mathematical analysis related lower and upper division core courses:
AGBS 76 Agribusiness Microcomputer Application
AGBS 105 Agricultural Business Quantitative Method

Student knowledge on computer courses and mathematical analysis related lower and upper division core courses will be evaluated using homework and problem sets. Such information, when combined with results obtained from indirect assessment measures, will help assess success in students' capacity in applying quantitative reasoning (Computer and mathematical analysis) to agribusiness issues.

7. Identify and discuss any major issues identified during your last Program Review and in what ways these issues have or have not been addressed.

Program Review of BS in Agricultural Business in October 2017:

Areas of Improvement/Recommendations Made by External Committee

- 1) *Make this a systematic assessment practice, to ensure consistency and sustainability.*
- 2) *Modify an existing course (For example, the capstone course, AGBS170S) to address the writing need and avoid the obvious resource strain a brand new course may cause.*
- 3) *Maintain syllabus uniformity across its courses.*
- 4) *Encourage faculty to pursue curriculum related research and service activities (aligned with the Institute of Food and Agriculture (IFA)) that engage students in their respective classes.*
- 5) *Consider appropriate measures to control student enrollment growth and maintain program integrity.*

- 6) *Follow, document and prominently showcase the post-graduation career path of students to properly tell the success story of the department.*
- 7) *FERP faculty Spring 2018 position needs to be filled in a timely fashion.*

Progress Made by Department of AGBS since October 2017

1. *Make this a systematic assessment practice, to ensure consistency and sustainability:*
The Agricultural Business Department rigorously improve their systematic approach to assess the classes and its curriculum. The department revised its SOAP in 2019 and make some changes in its curriculum utilizing some of the information from the assessment practices.
2. *Modify an existing course (For example, the capstone course, AGBS170S) to address the writing need and avoid the obvious resource strain a brand new course may cause:* AGBS170S is restructured and the course is in the process of being approved as AGBS170SW course which includes writing component started in Fall 2020 semester.
3. *Maintain syllabus uniformity across its courses:* Efforts are being made to encourage all faculty to follow/use the syllabus templates on CFE's website. The follow up is planned in fall faculty retreat. Still in progress.
4. *Encourage faculty to pursue curriculum related research and service activities (aligned with the Institute of Food and Agriculture (IFA) and/or university farm (UAL) enterprises) that engage students in their respective classes:* Service-learning course actively engage with UAL and/or IFA. Our faculty currently works with Creamery, Winery and Gibson Market for marketing plans and engage students in these collaborations.
5. *Consider appropriate measures to control student enrollment growth and maintain program integrity:* Due to the change in admission standards for Covid-19, this item was not be considered for 2020-2021 academic year.
6. *Follow, document and prominently showcase the post-graduation career path of students to properly tell the success story of the department:* Exit survey is administered to the graduating students. Department will follow up with the participants for an alumni survey after analyzing the results and creating a database of the participants.
7. *FERP faculty Spring 2018 position needs to be filled in a timely fashion:* Request has been submitted by the department to the Dean's office for 2021/2022 academic year. Currently, a part time lecturer was recruited to help in dealing with workload.

Appendices

I. AGBS 31 Farm Accounting

Documents will be provided upon request.

II. AGBS 32 Agribusiness Managerial Accounting

Example Homework:

11-29)

Happy Family Farm plans to purchase land of \$600,000 market value. The farm has accumulated a \$120,000 down payment, and plans to borrow \$480,000 on a 30-year mortgage. For simplicity, assume annual mortgage payments occurs at the end of each year and there are no loan origination fees. Please answer the following questions:

1) What are the farm's annual payments if the interest rate is (a) 8%, (b) 10%, and (c) 12%, compounded annually?

2) Repeat number 1 for a 15-year mortgage

3) Suppose the farm had to choose between a 30-year and a 15-year mortgage, either one at a 10% interest rate. Compute the total payments and total interests paid on (a) 30-year mortgage and (b) a 15-year mortgage.

11-30)

Suppose Happy Family Farm wishes to borrow money from Wells Fargo. They agreed on an annual rate of 10%.

1) Suppose Happy Family Farm agrees to repay \$500 million at the end of 4 years. How much will Wells Fargo lend to Happy Family Farm?

2) Suppose Happy Family Farm agrees to repay a total of \$500 million at a rate of \$125 million at the end of each of the next 4 years. How much will Wells Fargo lend Happy Family Farm?

11-31)

Suppose you are a loan officer for a bank. An agricultural start-up company has qualified for a loan. You are pondering various proposals for repayment:

1) Lump sum of \$500,000 four years hence. How much will you lend if your desired rate of return is (a) 12%, compounded annually, and (b) 16% compounded annually?

2) Repeat number 1, but assume that the interest rates are compounded semiannually.

3) Suppose the loan is to be paid in fully by equal payments of \$125,000 at the end of each of the next 4 years. How much will you lend if your desired rate of return is (a) 12% compounded annually, and (b) 16%, compounded annually?

Rubric for Quiz:

1	2	3	4
Less than 60%	60%-75%	75-85%	Above 85%
Under developed	developed	successful	Exceeded
<p>Student cannot demonstrate their understanding of the knowledge of the subject. Computation and analytical steps through the process were not followed and not demonstrated. Computation cannot show understanding of basic accounting principle and new knowledge covered in the chapter. Work does not meet requirements. Parts are missing. Argument is weak, or argument not shown. Computation steps and analysis are poorly done and fall well behind the standard level of achievement. Overall, the student has failed to grasp new concepts covered in the competency. The level of achievement is below 60%.</p>	<p>Student can demonstrate their understanding of the knowledge of the subject, but at minimum level of competency. The computation steps were occasionally incomplete and thus led to wrong results. Computation can only show understanding of basic accounting principle and new knowledge covered in the chapter but at minimum level. Work does meet requirements but with wrong results. Some but not all parts were missing. Argument is not strong enough. Computation steps and analysis were not thorough and can not meet the standard level of achievement. Overall, the student grasp new concepts covered in the competency but was weak. The level of achievement is 60-75%.</p>	<p>Student can demonstrate their understanding of the knowledge of the subject and meet the expectation of the instruction. The computation steps were complete and most of the time come up with correct results. Computation shows understanding of basic accounting principle and new knowledge covered in the chapter but with mistakes. Work does meet requirements but with minor mistakes. Minor parts were missing. Argument is strong but not exceedingly strong. Computation steps and analysis were thorough and can meet the standard level of achievement but can be improved. Overall, the student can grasp new concepts covered in the competency but with minor mistakes. The level of achievement is 75-85%.</p>	<p>Student completely demonstrate their understanding of the knowledge of the subject and exceeded the expectation of the instruction. The computation steps were all complete and always come up with correct results. Computation shows deep understanding of basic accounting principle and grasp of new knowledge covered in the chapter. Work exceeded requirements and with no mistakes. All parts were demonstrated. Argument is exceedingly strong. Computation steps and analysis were thorough and exceeded the standard level of achievement. Overall, the student grasp new concepts covered in the competency without any mistakes. The level of achievement is above 85%.</p>

III. AGBS 130 Agricultural Finance

AGBS 130 – General Scoring Rubric
Quizzes Comprised of Three to Five Questions

Each question is worth three or five points and is evaluated in two or three areas.

Criteria	Scoring		
	2 points	1 point	0 points
Application of financial concept, principle, or technique (1 point)	NA	Recognized and applied appropriate concept, principle, or technique.	Did not recognize or apply appropriate concept, principle, or technique.
Value calculation (2 points)	Calculated correct numerical result in application of concept, principle, or technique applied.	One minor error in application or concept, principle, or technique that prevents attaining the correct numerical result.	Multiple errors in application of concept, principle, or technique that prevents attaining the correct numerical result. <i>OR</i> No response.
Interpretation of numerical result (2 points)	Response demonstrates comprehension of the meaning of the numerical result, <i>and</i> recognizes its implications for management decision making.	Response demonstrates comprehension of the meaning of the numerical result, <i>but</i> does not recognize its implications for management decision making. <i>OR</i> Response fails to demonstrate comprehension of the meaning of the numerical result but correctly recognizes implications for management decision making.	Response does not demonstrate comprehension of the meaning of the numerical result, and does not recognize its implications for management decision making. <i>OR</i> No response.

Each question is worth 3 points – you may earn **1 point** for indicating the alphabetical letter of the formula used to solve each problem, and **2 points** for determining the correct numerical value requested.

$$(a) PV = FV * (1 + i/m)^{-Nxm} \quad (b) PV_A = Annuity * \left[\frac{1 - (1 + i/m)^{-Nxm}}{i/m} \right]$$

$$(c) FV = PV * (1 + i/m)^{Nxm} \quad (d) FV_A = Annuity * \left[\frac{(1 + i/m)^{Nxm} - 1}{i/m} \right]$$

1. You deposit \$25,000 *today* in an account returning 4.50% per year. At the beginning of year 3, you deposit an additional \$12,000 in the same account. What will the value of the account be at the end of 12 years?
2. You are starting a retirement account today. You will have \$500 automatically deducted from your checking account each month and deposited in a mutual fund with an historical annual return of 7.25%. What will the value of the account be 35 years from today?
3. You have the option of investing in a real estate project that will pay you \$75,000, five years from today. If your discount rate is 6.25%, what is the maximum amount you should invest today to realize the projected return?
4. You have recently accepted a full time position and decided now is the time to upgrade to a newer vehicle. Your budget indicates a monthly payment of \$625 is feasible and you have saved 10 percent of the vehicle's purchase price as a down payment. The remainder will be financed for six years (monthly payments) at a 4.99% annual rate of interest. Calculate the maximum purchase price you can afford.
5. What is the present value of a contract that pays \$3.25 million at the end of each year, for four consecutive years? Assume an annual discount rate of 5.50%.

Agricultural Finance 130
Byproduct Capital Budgeting Analysis (50 points)

Due Friday, April 24, 2020 before 5 p.m.
 Upload the Final Spreadsheet to Canvas

Scenario: In response to new agricultural commodities produced in the region, a friend is considering investing in one of two processing facilities for byproducts from the new commodities. Given your knowledge of agricultural finance, you have volunteered to help your friend determine the best investment. Due to the lack of production volume of the two primary commodities, the first three years of processing will result in negative net cash flows; full facility capacity is reached in the fourth year. The analysis horizon for both alternatives is twenty years. You believe the NPV, IRR and MIRR techniques should be the primary tools utilized for comparison of the two facilities.

Objectives: Upon completion of this assignment, students will be able to:

1. apply select capital budgeting analysis techniques,
2. interpret the results of the capital budgeting techniques, and
3. justify an investment recommendation to management based on the analysis results.

You may work with a partner and the assignment must be completed in Excel or a comparable software. Table 1 contains the revenue and cost information to start the analysis.

Table 1 – Budgeted Revenue & Costs		
	<u>Byproduct</u>	
	X ₁	X ₂
Net cash flows		
Year 1	(\$ 3,369)	(\$ 3,760)
Year 2	(1,246)	(1,666)
Year 3	(1,317)	(1,689)
Year 4 Revenue		
Output (tons)	2.50	4.00
Price per ton	\$ 800	\$ 600
Total revenue	2,000	2,400
Operating costs		
Facility sanitation	\$ 164	\$ 184
Labor	209	856
Water & chemicals	153	105
Machinery	590	140
Miscellaneous	169	117
Total operating costs	1,285	1,402
Income above operating costs	\$ 715	\$ 998

Additional assumptions:

1. Annual revenue generation begins in year 4 and increases 3.50 percent per year through year 18, after which it decreases 3.50 percent per year.
2. Annual operating costs also begin in year 4 and increase at a 1.75 percent rate of inflation per year through year 20.
3. When calculating the MIRR, use a 6.50 percent cost of capital and reinvestment rate of return.

Assignment Completion Procedures:

1. Recreate Table 1 and insert the product and summation functions. Keep in mind that certain numbers from this table will link with Table 2, and some Table 2 numbers will link with Table 3. Linking the correct information among tables allows the manager to change an initial parameter in Table 1 and immediately view the impact in the succeeding tables.
2. Create Table 2 by inserting the appropriate formulas/functions that incorporate *additional assumptions* (1) and (2) in the yearly revenue, cost and net cash flow (NCF) calculations. Remember to reference the appropriate cells from Table 1 in these formulas/functions.
3. Create Table 3 by inserting the functions to calculate the net present values (NPV), IRR and MIRR. Remember to reference the appropriate cell ranges from Table 2 in these functions.
4. Respond to the discussion questions.

Project Deliverables:

A. Tables

1. Table 1 – Budgeted Revenue & Costs **6 pts.**
2. Table 2 – Byproduct cash flows (revenues, costs, NCFs) **9 pts.**
3. Table 3 – NPV by discount rate, IRR and MIRR **9 pts.**

*Scoring Note: Points possible for each table reflect: 1) one-third for correct values, 2) one-third for correct use of formulas/functions to determine values and properly linking information between tables, and 3) one-third for professional appearance (see examples posted on Canvas).

B. Discussion

1. Explain the significance of calculating NPVs for various discount rates. **6 pts.**
2. Explain why you calculated both the IRR and MIRR. **4 pts.**
3. In addition to the numerical results, explain two other factors that merit consideration when making this investment decision. Provide justification for considering each factor. **6 pts.**
4. What is the recommendation to your friend? Rely on NPV, IRR and MIRR, along with the factors specified in discussion (3) to justify the recommendation. **10 pts.**

*Scoring Note: Please check for spelling and grammatical errors before submitting your deliverable on Canvas. A maximum of five points may be deducted due to such errors.

Table Templates

Table 2: Byproduct cash flows (revenues, costs, NCFs)						
Year	Rev X ₁	Rev X ₂	Cost X ₁	Cost X ₂	NCF X ₁	NCF X ₂
1	NA	NA				
2	NA	NA				
3	NA	NA				
4						
5						
6						
7						
↑						
20						

Table 3: NPV by discount rate, IRR and MIRR		
Discount rate (%)	Byproduct NPV	
	X ₁	X ₂
0.25		
0.50		
1.00		
3.00		
6.00		
9.00		
12.00		
15.00		
18.00		
21.00		
24.00		
27.00		
30.00		
33.00		
36.00		
39.00		
IRR		
MIRR		