

**Annual Report to the Provost
Outcomes Assessment for AY 2015-16
Department of Agricultural Business**

This report documents the Department of Agricultural Business' ongoing efforts to refine assessment of student learning outcomes for the Agricultural Business major. Outcomes assessment is being used to: 1) determine baseline measures of performance for appropriate outcome/course combinations; 2) aid in determining our strengths and weaknesses; and 3) update course content and curriculum with new areas of focus. Our ultimate goal is to better prepare graduates for successful professional careers. The Department's current SOAP is posted on the following web site: <http://www.fresnostate.edu/academics/oie/assessment/s-prsoaps.html>.

Each year our department carefully considers the comments from the previous year's assessment review and makes adjustments to our assessment process. The remainder of this discussion focuses on assessment activities completed during the 2015-16 academic year.

1. What learning outcomes did you assess?

Outcome 2.0: Students will integrate fundamental agribusiness principles and/or analysis techniques to identify benefit-cost decisions at all levels of agribusiness activity and make recommendations based on an understanding of policy and the regulatory environment within which agriculture operates.

Outcome 4.1: Students will apply the formal language and concepts of economics and business while demonstrating appropriate informational and technical competencies.

The following courses were assessed for each outcome:

Outcome 2.0: Management of Agri-food Supply Chains (AGBS 109)
Agricultural Finance (AGBS 130)

Outcome 4.1: Agricultural Business Statistics (AGBS 071)
Management of Agri-food Supply Chains (AGBS 109)
Agricultural Finance (AGBS 130)

Note: The explanations and results contained in this report are those of the instructors for each assessed course.

2. What instruments did you use to assess them?

AGBS 071 – spring 2016 (Dr. Serhat Ascii)

Outcome 4.1: I used a group oral presentation as the instrument of assessment. The submitted slideshow should demonstrate use of formal statistical language and concepts of economics while also demonstrating competencies in several areas. Students should introduce the importance of the selected crop/product for California and the nation; the

historical trends of the production in California; simple statistical analysis (mean, standard deviation, distribution etc.) for grower price, production and yield. Students will demonstrate their knowledge of simple regression analysis between price and production quantity; interpretation of the regression results; and future expectation for the growth of this crop. A scoring rubric for oral presentation was utilized (see appendix C). The benchmark score was 80% of students will score an average of 85 out of 100.

AGBS 109 – fall 2015 & spring 2016 (Dr. Srini Konduru)

Outcome 2.0: Students are required to provide solutions to a problem set based on the concepts of inventory management. In completing the assignment, students will determine numerical results and make a recommendation based on the results. For this outcome, 70% of students will score an average of 3.5 out of 5.0 in all criteria on the attached rubric (see appendix A).

Outcome 4.1: I used a case study analysis as the instrument. The students are required to identify key issues confronting the business, apply appropriate analytical and evaluation techniques, and demonstrate effective writing in the report. Seventy percent of students scored an average of 3.5 out of 5.0 in all criteria on the attached rubric was the benchmark goal (see appendix B).

AGBS 130 – fall 2015 & spring 2016 (Dr. T.A. Lone)

Outcome 2.0: The outcome was assessed by student performance on two problem sets. Both assignments were constructed to measure students' abilities to: 1) integrate their knowledge of financial principles and analysis techniques to identify feasible decision alternatives for the scenarios described; and 2) support a final recommendation to management. For this outcome, 70% of students will score an average of 70%.

Outcome 4.1: The outcome was assessed by student performance on two midterm examinations comprised of analytical questions. Questions were structured to measure students' abilities to apply appropriate economic/business concepts to arrive at the correct quantitative result and then explain the results using appropriate terminology. For this outcome, 70% of students are expected to achieve a score of 70%.

For both assessment instruments, performance comparison across assignments, and semesters, should provide an indication of the level of student proficiency with regard to these abilities.

3. What did you discover from these data?

AGBS 071 – spring 2016 (Dr. Serhat Asci)

Outcome 4.1: The assessment for the outcome shows the performances of students met expectations. An average score of 92.9 was achieved, with only one student group scoring less than 85 in some criteria on the rubric. Although the average performance was

satisfactory, some students were not able to effectively use expected statistical techniques and communicate about interpretation of data using their own opinions. The difference in the scores may be attributed to the availability of the data for the selected crop and the presentation skills of the students. The student's interaction within their groups might also impact the success of the students.

AGBS 109 – fall 2015 & spring 2016 (Dr. Srini Konduru)

Outcome 2.0: Students' performance did meet expectations in both semesters. The average score in the class for the problem set was 3.7 out of 5 in fall 2015 and 4.3 in the spring 2016. Fall semester performance of most of the students was satisfactory except for a few who did not fully understand the analytical and evaluation techniques that needed to be used to work out the problems sets. The increase in scores during spring 2016, when compared to the previous semester, can be attributed to the corrective actions that were taken as a result of the fall assessment discoveries (reinforcement of fundamental concepts and additional guidance through example problems).

Outcome 4.1: Student performances did not meet expectations in all criteria during both semesters as seen in the table below. *A score of 3.5 out of 5.0 in each criterion is set as a benchmark and is considered to be satisfactory when achieved by 70% of the students.*

Criteria/Average Score	Fall 2015 Average (out of 5.0)	Spring 2016 Average (out of 5.0)
Issue identification	4.2	4.1
Analysis & evaluation	3.4	3.1
Writing effectiveness	3.3	3.5

Though the performance of a majority of the students was satisfactory, some students were not able to effectively analyze the various issues in the case study and then communicate about those issues and their opinions/recommendations properly. The difference in scores between evaluation criteria may be attributed to the level of difficulty of the case study being used. Differences in scores between semesters may be due to the difference in the composition of the class with regard to junior and senior students, and the knowledge and experience each brings to the classroom.

AGBS 130 – fall 2015 & spring 2016 (Dr. T.A. Lone)

Outcome 2.0: Overall, performance on the problem sets met the department standard except for the second assignment in course section 14 during spring 2016. Student proficiency integrating financial principles and analysis techniques, interpreting the results, and providing a recommendation for management were deemed satisfactory, and in some course sections outstanding. Results varied across course sections and semesters, likely due to: variations in assignment construction; roster mix of juniors and seniors; level of instructor guidance with respect to questions asked during initial assignment discussion; and the mix of majors in a section. Given that students were allotted more time to complete the assignment, as compared to an examination, they had the additional

opportunity to consult outside-of-class resources, which may have improved performance.

Proportion of students scoring $\geq 70\%$ on problem sets

Problem set	Fall '15		Spr. '16	
	Sec. 12 (28)	Sec. 14 (30)	Sec. 12 (31)	Sec. 14 (28)
#1	78.6	86.7	80.6	71.4
#2	71.4	90.0	90.3	67.9

Outcome 4.1: Student performance on midterm examinations was sporadic when compared across semesters and course sections. Out of the eight course sections, only three sections met the department benchmark. In those sections not meeting the standard, students generally identified the correct concept but lacked proper execution to arrive at the correct answer. Aside from some test anxiety, specifically revolving around quantitative concepts, possible explanations for observed performance levels include:

- Too many topics covered on a single examination;
- Too many questions for the allotted examination time;
- The level of difficulty of the questions; and
- Not enough concept application during lecture discussions.

Proportion of students scoring $\geq 70\%$ on midterm examinations

Exam.	Fall '15		Spr. '16	
	Sec. 12 (28)	Sec. 14 (30)	Sec. 12 (31)	Sec. 14 (28)
#1	57.1	63.3	90.3	75.0
#2	82.1	56.7	51.6	46.4

4. What changes did you make as a result of these findings?

AGBS 071 – spring 2016 (Dr. Serhat Ascii)

Outcome 4.1: During the fall 2016 semester I will apply the following steps to improve the students' performances in communicating with statistical techniques:

- Place additional emphasis on how to interpret graphs and statistical analysis results.
- Incorporate a sample presentation during discussion that explains the expectations from students in their project and provide them more time to practice how to apply the formal language and concepts of economics.

AGBS 109 – fall 2015 & spring 2016 (Dr. Srinii Konduru)

Outcome 2.0: Given the increase in mean scores achieved during the spring 2016 semester, I plan to continue the same strategy of reinforcing fundamental concepts and analysis techniques by guiding them through more example problems. I will also look for other ways to strengthen the learning process.

Outcome 4.1: Since average scores for both semesters do not meet expectations in all evaluation criteria, I plan to be more diligent in the areas of improvement identified at the end of the fall semester:

- Give more detailed guidelines and examples as to how to identify and analyze the issues in the case study.
- Students will be given more practice as to how to connect and apply theoretical concepts to the issues in the case study.
- Reinforce the importance of communicating legibly and emphasize proofreading to identify any grammatical or spelling errors.

AGBS 130 – fall 2015 & spring 2016 (Dr. T.A. Lone)

Outcome 2.0: Since both course sections met department performance expectations during fall 2015, the instructor made no changes in approach for spring 2016. He continued to provide detailed explanations when problem sets were initially assigned, he allowed adequate time for completion, and he answered questions about the assignments each class session before the due date. The slight drop in performance during one course section in spring 2016 was not deemed significant.

Outcome 4.1: Given the results of fall 2015, the instructor implemented the following changes for spring 2016:

- 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 problem sets and examinations were returned to the class;
- The number of questions, as well as the level of involvement required for solution, was reduced on each examination.

Although changes instituted during spring 2016 improved performance on the first examination, performance deteriorated on the second midterm. During the second half of the semester the instructor attempted to “flip” the classroom for the majority of content on this examination. This required students to assume more responsibility for initial concept research and familiarization outside of the classroom. Students were not adequately prepared by the instructor for taking on this role and implementation of the process was not properly executed. The changes implemented for spring 2016 will continue, as will more research about flipping the classroom.

5. What assessment activities will be conducted in the 2016-17 academic year?

Faculty discussions of the assessment process and contemplation of previous assessment results indicate an update of the department’s SOAP is in order; we view our SOAP as an evolving document. Suggested revisions with respect to learning outcomes, appropriate assessment instruments, defined benchmarks of performance for each instrument, and the timeline for assessment are nearing completion. Continued development and refinement of scoring rubrics for presentations, projects, etc. is also taking place.

The outcome to be assessed during the 2016-17 academic year is:

Outcome 3.0: Students will demonstrate communication proficiency, oral and written, in relation to the global agribusiness industry. They will communicate in a knowledgeable, coherent, and persuasive manner on an array of agribusiness topics.

Student performance on project assignments, case studies and internship reports will be evaluated using rubrics. The senior survey indirect method of assessment will be administered during the 2016-17 academic year. Such information, when combined with results obtained from direct methods of assessment, will help to more fully evaluate success in obtaining our learner outcomes.

Closing the Loop – AY 2015/16

The department will continue to educate faculty regarding the assessment process and its importance; each time the process is completed, our students and stakeholders benefit. Faculty believe that assessing the same outcome in several courses should provide a good measure of performance across student strata for each outcome. The assessment of learning outcomes will be conducted on a rotational basis, rather than each outcome every academic year. Faculty continue to believe that assessing fewer outcomes each academic year will result in more useful, quality information. Based on assessment results, alternative courses of action are delineated and implemented when warranted.

6. What progress have you made on items from your last program review action plan?

Program Review of BS in AGBS in May 2011:

Areas of Improvement/Recommendations Made by External Committee

- 1) *Increase involvement in outcomes assessment and the use of assessment result for curricular changes and program improvement.*
- 2) *Increase involvement in research and scholarly activity.*
- 3) *Reactivate or create a new industry advisory committee.*
- 4) *Continue to develop a more cohesive nature among departmental faculty.*
- 5) *Development of a long-term plan and a vision focusing on the program's comparative advantages.*
- 6) *Capitalize on location within the Peters Building to collaborate with the Department of Economics and the Craig School of Business.*

Changes Made by Department of AGBS since May 2011

- 1) Prior to May 2011 the AGBS Department had an assessment plan with 75 student learner outcomes (SLOs). Since then our department has a fully engaged Assessment Coordinator. Most faculty contribute to the ongoing process of assessment. Outcomes are discussed at faculty meetings and retreats. In the coming year we are focusing on adopting department-level rubrics and standards. Issues regarding how we can continue to improve will help some of our faculty, especially our newly hired ones, understand the importance of assessment and how to incorporate it into their courses.

- 2) Since 2011 our department has increased scholarly activity. This is due to: 1) hiring new tenure-track faculty, 2) having visiting scholars with interest in collaboration, and 3) collaboration with the Institute of Food and Agriculture (formerly the Center for Agricultural Business). Overall the department has become more engaged to prior 2011 when the program review was completed.
- 3) We have an officially recognized Ag. Business Advisory Board which convened in August 2013. The Board meets two times per year and has twelve industry stakeholders from different sectors. They have established a fundraising “Ag. Business Associates” annual program with our industry stakeholders, along with a speaker’s bureau and assistance with field trip site recommendations. We are very excited about the level of involvement of our Board and, thanks to their assistance, department faculty are connecting with these stakeholders.
- 4) Our department has eight full-time tenured, tenure-track faculty who are all agricultural economists. We have weekly meetings regarding our curriculum, student success, and resource needs; and we have retreats every semester. Starting in fall 2016, we will begin to take local faculty field trips to tour facilities of our stakeholders (of those who have invited us) to learn more about their industry, their challenges and their needs.
- 5) The department has developed a strategic plan. Our focus is on three objectives: student success with regard to high graduation rates (FTFTF and Transfers), transferable skills to the workplace, and opportunities to study abroad in the major.
- 6) We have worked with Economics on some curricular issues. We held a joint Ag. Appraisal Conference with the Gazarian Real Estate Program in the Craig School of Business in 2013. Our department was invited and took part in the Craig School of Business’ “Down the 99” Career Fair. The Craig School has worked with us to ensure our transfer students can enroll in DS 71 during Dog Days in 2015 and 2016. No other activity has taken place.

Appendix Scoring Rubrics for Select Courses

Outcome 2.0 – Scoring Rubric for problem set (AGBS 109)

Points	If...
5	The student clearly understands how to solve the problem. Minor mistakes and careless errors can appear insofar as they do not indicate a conceptual misunderstanding.
4	The student understands the main concepts and problem-solving techniques, but has some minor yet non-trivial gaps in their reasoning.
3	The student has partially understood the problem. The student is not completely lost, but requires tutoring in some of the basic concepts. The student may have started out correctly, but gone on a tangent or not finished the problem.
2	The student has a poor understanding of the problem. The student may have gone in a not-entirely-wrong but unproductive direction, or attempted to solve the problem using pattern matching or by rote
1	The student did not understand the problem. They may have written some appropriate formulas or diagrams, but nothing further. Or, they may have done something entirely wrong.
0	The student wrote nothing or almost nothing.

Outcome 4.1 - Scoring Rubric for Case Study Reports (AGBS 109)

Criteria	Grading Scale				
	1	2	3	4	5
1. The student identifies the issue in the case study.	No specific problem is identified.	General issues about the case study are stated.	Additional problems related to circumstantial problems are implied.	Circumstantial problems derived from the main issue are identified but the main problem is implied.	The main problem of the case study is clearly identified and stated.
2. Analysis and evaluation of the case study.	Presents an incomplete analysis of the issues identified.	Presents superficial analysis of some issues.	Presents thorough analysis of most issues identified.	Presents thorough analysis of most issues identified, focusing on the main problem.	Presents insightful and thorough analysis of all issues identified, focusing on the main problem.
3. Effectiveness of writing.	Writing skills are poor.	Writing lacked overall effectiveness.	Writing described the issue in the case study and the analysis.	Writing was effective in describing the issue in the case study and the analysis.	Writing was highly effective in describing the issue in the case study and the analysis.

Outcome 4.1 - Scoring Rubric for Oral Presentations (AGBS 071)

	Group ...
PRESENCE (0 to 20) -body language & eye contact -contact with the public -poise -physical organization	
LANGUAGE SKILLS (0 to 10) -correct usage -appropriate vocabulary and grammar -understandable (rhythm, intonation) -spoken loud enough to hear easily	
ORGANIZATION (0 to 20) -participation of each group member -logical structure -signposting	
MASTERY OF THE SUBJECT (0 to 20) -pertinence -depth of commentary -spoken, not read -able to answer questions	
VISUAL AIDS (0 to 10) -slides -handouts -audio, video, etc.	
OVERALL IMPRESSION (0 to 20) - very boring/ very interesting - unpleasant/ pleasant to listen to -very poor/ good communication	
Overall Score/ 100