

**ASSESSMENT PLANS FOR STUDENT LEARNING OBJECTIVES
PHD DEGREE IN GRAIN SCIENCE
DEPARTMENT OF GRAIN SCIENCE AND INDUSTRY
KANSAS STATE UNIVERSITY**



Check the box if your program's student learning outcomes have been modified since November 2003. If so please email (apr@ksu.edu) or attach a hard copy to this document.

A. College, Department, and Date

College: College of Agriculture
Department: Grain Science and Industry
Date: August 23, 2005

B. Contact Person for the Assessment Plan

Dr. Virgil W. Smail, Professor/Head

C. Degree Program

PhD in Grain Science

D. Assessment plans for the Student Learning Outcomes that will be addressed in the next Three Years

STUDENT LEARNING OUTCOMES

Of the 6 standard SLOs approved by the department graduate faculty, our department will focus on the three following learning outcome in our three-year assessment plan.

All students must be able to demonstrate:

1. **Knowledge** - Knowledge or understanding in one or more specialty areas of Grain Science and Industry.
2. **Critical Thinking** - Ability to apply knowledge and skills of their profession to the design, analysis, and interpretation of research experiments.
3. **Communications** - Ability to use different forms of communication to transfer knowledge to a variety of clientele, colleagues, and members of the scientific community.

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Relationships to K-State Student Learning Outcomes (insert the program SLOs and check all that apply):

Program SLOs	University-wide SLOs (Graduate Programs)			
	Knowledge	Skills	Attitudes and Professional Conduct	Program SLO is conceptually different from university SLOs
1. Knowledge or understanding in one or more specialty areas of Grain Science and Industry.	X			
2. Ability to apply knowledge and skills of their profession to the design, analysis, and interpretation of research.		X	X	
3. Ability to use different forms of communication to transfer knowledge to a variety of clientele, colleagues, and member of the community.		X	X	

1. How will Learning Outcomes be assessed? What groups will be included in assessment?

Learning Outcomes	Measures			Who will be assessed?
	Direct	Indirect	Not Sure	
1. Knowledge or understanding in one or more specialty areas of Grain Science and Industry.	Successful completion of the course program of study; pass preliminary examination.	Thorough written review of the scientific literature as part of the PhD dissertation.		All PhD students that schedule a dissertation defense.
2. Ability to apply knowledge and skills of their profession to the design, analysis, and interpretation of research.	Successful approval of thesis research plan with graduate committee, seminar attendance, and successful completion of course program of study.	Thoroughly written research plan, approval by graduate thesis committee, and completion of required annual review of research program with graduate faculty.		All PhD students that schedule a dissertation defense.
3. Ability to use different forms of communication to transfer knowledge to a variety of clientele, colleagues, and members of the community.	Defense of thesis project, completion of seminar requirements, and demonstrated proficiency in research with approved thesis.	Participation in professional meetings, graduate student organizations, and field day/extension meetings.		All PhD students that schedule a dissertation defense.

2. When will these outcomes be assessed? When and in what format will the results of the assessment be discussed?

Learning Outcomes	Timetable to Assess Learning Outcomes			Baseline created?
	2005	2006	2007	
1. Knowledge or understanding in one or more specialty areas of Grain Science and Industry.	September following summer graduation.	September following summer graduation.	September following summer graduation.	3-year baseline created after 2007.
2. Ability to apply knowledge and skills of their profession to the design, analysis, and interpretations of research.	September following summer graduation.	September following summer graduation.	September following summer graduation.	3-year baseline created after 2007.
3. Ability to use different forms of communication to transfer knowledge to a variety of clientele, colleagues, and members of the community.	September following summer graduation.	September following summer graduation.	September following summer graduation.	3-year baseline created after 2007.

3. What is the unit's process for using assessment results to improve student learning?

Learning Outcomes	Improvement plan
1. Knowledge or understanding in one or more specialty areas of Grain Science and Industry.	If weaknesses are noted in student knowledge and training, the faculty will discuss the problems and seek a solution. Some potential solutions might involve development of more rigid program requirements or curriculum modification. Future assessments will be compared to the 3-year baseline to monitor improvement.
2. Ability to apply knowledge and skills of their profession to the design, analysis, and interpretations of research.	If weaknesses are noted in student's ability to apply knowledge and skills to their thesis research area, the faculty will discuss the problems and seek a solution. Some potential solutions might involve the development of more rigid requirement for graduate faculty status or curriculum modification. Future assessments will be compared to the baseline to monitor improvement.
3. Ability to use different forms of communication to transfer knowledge to a variety of clientele, colleagues, and members of the community.	If weaknesses are noted in student's ability to communicate effectively with a diverse array of clientele, the faculty will discuss the problems and seek a solution. Some potential solutions might involve the development of more extensive seminar requirements, mandatory participation in professional meetings, or the addition of teaching requirements. Future assessments will be compared to the baseline to monitor improvement.

4. What is the unit's plan for improving student's learning?

A course and curriculum committee composed of graduate faculty from each departmental major will meet each year in September to review the data from the assessment evaluations collected. Based on the review, the committee will suggest changes to the curriculum, the assessment process and/or SLO's. These suggestions will be presented to teaching faculty involved in instruction of key courses for course revision. Where baselines are established, future assessment will be compared to previous baselines to determine ongoing improvement in learning of students. The assessment data will be presented to the department's industry advisory committees in November of each year.

The performance of each PhD graduate student is assessed by the Graduate Faculty of Grain Science in April/May of each year according to a standard approved format included in the Department of Grain Science approved Graduate Student Handbook.