

**Doctor of Philosophy in Civil Engineering
Assessment of Student Learning Plan
Kansas State University**

FEB 17 2005

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

A. College, Department, and Date of this Submission

College: Engineering
Department: Civil Engineering
Date of Submission: October 28, 2004

B. Contact Person(s) for the Assessment Plans

Lakshmi Reddi, Department Head
Yacoub Najjar, Graduate Program Coordinator

C. Program – degree, minor, or certification

Ph.D. in Civil Engineering

D. Assessment of Student Learning Three-Year Plan

1. Student Learning Outcome(s)

Our department will focus on the following five learning outcomes in our three-year assessment plan.

Students will be able to demonstrate:

- Ability to solve advanced engineering problems using discipline appropriate math, science, computation and analysis skills
- Ability to critically synthesize and evaluate information
- Expertise in the area of specialization
- Ability to plan and conduct scholarly activities that make original contributions to the knowledge base in the field of study
- Ability to communicate effectively both in written and oral forms

Special rationale for selecting these learning outcomes (optional):

- None

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

Program SLOs	University-wide SLOs (Graduate Programs)			Program SLO is conceptually different from university SLOs
	Knowledge	Skills	Attitudes and Professional Conduct	
1. Ability to solve advanced engineering problems using discipline appropriate math, science, computation and analysis skills	X	X		
2. Ability to critically synthesize and evaluate information		X		
3. Demonstrate expertise in the area of specialization	X	X		
4. Ability to plan and conduct scholarly activities that make original contributions to the knowledge base in the field of study	X	X	X	
5. Ability to communicate effectively both in written and oral forms		X	X	

2. How will the learning outcomes be assessed? What groups will be included in the assessment?

Learning Outcomes	Measures			Who will be assessed?
	Direct	Indirect	Not sure	
1. Ability to solve advanced engineering problems using discipline appropriate math, science, computation and analysis skills	<ul style="list-style-type: none"> • Course grade and overall GPA • Prelim. Form [Q1] • Final Exam Form [Q1] 	Student Exit Form [Q1]		All students
		Research work		All GRAs
		Teaching Assignments		All GTAs
2. Ability to critically synthesize and evaluate information	<ul style="list-style-type: none"> • Seminar Form [Qs: A, B, E] • Prelim. Form [Q2] • Final Exam Form [Q2] 	<ul style="list-style-type: none"> • Student Exit Form [Q2] • Advisor interaction 		All students
3. Demonstrate expertise in the area of specialization	<ul style="list-style-type: none"> • Seminar Form [QA] • Prelim. Form [Q3] • Final Exam Form [Q3] 	<ul style="list-style-type: none"> • Student Exit Form [Q3] • Advisor Interaction • Publications & presentations 		All students
4. Ability to plan and conduct scholarly activities that make original contributions to the knowledge base in the field of study	<ul style="list-style-type: none"> • Prelim. Form [Q4] • Final Exam Form [Q4] 	<ul style="list-style-type: none"> • Student Exit Form [Q4] • Publications & presentations 		All students
5. Ability to communicate effectively both in written and oral forms	<ul style="list-style-type: none"> • Seminar Form [Qs: A,B,C,D] • Prelim. Form [Q5] • Final Exam Form [Q5] 	<ul style="list-style-type: none"> • Student Exit Form [Q5] • Publications & presentations 		All students

Note: Q = Question#

Associated Assessment Forms used:

- i. **Seminar Form: Graduate Seminar Evaluation Form [Evaluation is conducted by present CE graduate Students, CE Faculty and distinguished visitors].**

- ii. **Prelim. Form: PhD Preliminary Exam Assessment Form** [Assessment is conducted, after completion of oral exam, by members of the examining committee]
- iii. **Final Exam Form: PhD Final Oral Exam Assessment Form** [Assessment is conducted, after completion of the oral exam, by members of the examining committee]
- iv. **Student Exit Form: PhD Students' Exit Assessment Form** [Assessment is conducted, after completion of the degree, by the student]

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

- i. SLO-related data will be assembled on an annual basis (i.e., at the end of Spring Semester).
- ii. Assembled Data will be assessed by the graduate committee.
- iii. Assessment results will be discussed during the Department Annual Faculty Retreat.
- iv. This cycle of data assembly, assessment and discussion, will be performed for AY 2005, 2006 and 2007
- v. 3-year baseline data, when applicable, will be created for each SLO after the Fall semester of AY 2007.

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

During the Department Annual Faculty Retreat, CE faculty will discuss the assessment results, recommendation by the graduate committee, and propose appropriate changes that may be needed if significant weaknesses are discovered. In all cases, assessments will be compared to the established SLO-baselines to monitor improvement and stability in students' performance.