Departmental SLO Assessment Plan

Department: Engineering	Academic Year: 07-08
Program or sub-discipline (if applicable):	

Assessment Focus   *Course_____*   *Program _____*

Course Level		
Course(s) that will be assessed	***Term***	**Faculty Responsible for Assessment**
1 ENGR 422 Engineering Mechanics: Statics	Spring 2008	Styer
2		
3		
4		
5		
Program Level		
Program(s) *(Degrees and/or Certificates)*	***Term***	**Faculty Responsible for Assessment**
1		
2		
3		
4		

Course Assessments

Assessment Plan

Priority SLO(s) to Assess *(from Socrates)*	Assignment / Activity to Assess *(Quiz, Exam, Report, Project, Paper)*	Assessment Method or Instrument to Apply to Assignment / Activity *(Rubric, Embedded measures, "Add-on" measures)*	Term
1. solve engineering problems by applying vector mathematical principles.	Exams	Embedded Measure	Spring 08
2. formulate equations for the analysis in both two and three dimensions of static quantities such as equilibrium, moments, centroids, moments of inertia, and friction.	Exams	Embedded Measure	Spring 08
3. evaluate trusses and generate equations based on the method of joints and the method of sections to determine the external forces acting on the individual members of the truss.	Exams	Embedded Measure	Spring 08
4. assess the impact of external forces acting on beams and determine the resulting axial forces as well as generate resulting shear and bending moment diagrams.	Exams	Embedded Measure	Spring 08
5. apply analysis and problem solving techniques developed during this course to future courses in engineering mechanics.			

SLO Outcome Review

Review Date: 080827

Summary of Assessment Results for Course: _ENGR 422 Engineering Mechanics: Statics

SLO 1. solve engineering problems by applying vector mathematical principles.   Students demonstrate the basic abilities by the First Exam where 87% can successfully perform vector addition to determine net forces on a particle. The use of dot and cross products necessary by the time of the second exam where 82% of the students sucessfully solve

SLO 2. formulate equations for the analysis in both two and three dimensions of static quantities such as equilibrium, moments, centroids, moments of inertia, and friction. On Exam 1, 93% successful solve 2D and 82% solve 3D equlibrium problems. On Exam 2, 82% of the students can solve 3D moments. On Exam 3, 95% of the

SLO 3. evaluate trusses and generate equations based on the method of joints and the method of sections to determine the external forces acting on the individual members of the truss. On Exam 3, 80% of the students are able to evaluate a truss using the method of joints and 71% of the students can successfully evaluate a truss using the

SLO 4. assess the impact of external forces acting on beams and determine the resulting axial forces as well as generate resulting shear and bending moment diagrams. On the final, 89% of the students can assess the impact of external forces on beams and 81% can geneate the appropriate shear and bending moment diagrams.

SLO 5. apply analysis and problem solving techniques developed during this course to future courses in engineering mechanics.

Departmental Review of Results and Plans for Follow-up
(Implications, Student impact, Curricular changes, Future Assessments, Other Modifications)

SLO 1. Students are learning the basics

SLO 2. Students are achiveing the objectives

SLO 3. Performace on truss analysis is appropriate
SLO 4. As would be expected there is a drop between the basic ability to indiviually determine forces, shear and bending moments at points along a beam and their ability to integrate the results and evaluate the beam as a system and generate system diagrams.
SLO 5. This is one of two courses that are prerequisites for the junior level engineering classs Stength of Materials. Evaluation of this prerequite will require creativity and the cooperation of the universities that our students transfer to. Methods for collecting the appropriate data will be researched.