MATHEMATICAL SCIENCES
Institutional (ILO), Program (PLO), and Course (SLO) Alignment

Program: **Pre-Engineering**	**Number of Courses:** 2	**Date Updated:** 09.21.2014	**Submitted by:** Susanne Bucher, ext. 3221

ILOs	**1. Critical Thinking** *Students apply critical, creative and analytical skills to identify and solve problems, analyze information, synthesize and evaluate ideas, and transform existing ideas into new forms.*	**2. Communication** *Students effectively communicate with and respond to varied audiences in written, spoken or signed, and artistic forms.*	**3. Community and Personal Development** *Students are productive and engaged members of society, demonstrating personal responsibility, and community and social awareness through their engagement in campus programs and services.*	**4. Information Literacy** *Students determine an information need and use various media and formats to develop a research strategy and locate, evaluate, document, and use information to accomplish a specific purpose. Students demonstrate an understanding of the legal, social, and ethical aspects related to information use.*

SLO-PLO-ILO ALIGNMENT NOTES:

Mark boxes with an 'X' if: SLO/PLO is a major focus or an important part of the course/program; direct instruction or some direct instruction is provided; students are evaluated multiple times (and possibly in various ways) throughout the course or are evaluated on the concepts once or twice within the course.

DO NOT mark with an 'X' if: SLO/PLO is a minor focus of the course/program and some instruction is given in the area but students are not formally evaluated on the concepts; or if the SLO/PLO is minimally or not at all part of the course/program.

PLOs	**PLO to ILO Alignment** *(Mark with an X)*			
	1	**2**	**3**	**4**
PLO #1 Academic Success Strategies Students will analyze the preparation, assess the cognitive skills, and apply academic success strategies required in engineering.	X	X		X
PLO #2 Solving Applied Problems in Engineering Students will apply principles from mathematics, physics, and chemistry to solve applied problems in engineering.	X	X		X

SLOs	SLO to PLO Alignment *(Mark with an X)*		COURSE to ILO Alignment **FOR OFFICE USE ONLY**			
	P1	P2	1	2	3	4
ENGR 1 Introduction to Engineering: SLO #1 Analyze Engineering Profession Analyze the preparation, training, practice, obligations, and ethics required in the engineering profession.	X		X			
ENGR 1 Introduction to Engineering: SLO #2 Apply Academic Success Strategies Assess the cognitive skills and apply academic success strategies related to the study of engineering.	X					
ENGR 9 Engineering Mechanics - Statics: SLO #1 Solve Equilibrium Problems Solve equilibrium problems in two and three dimensions using algebraic or trigonometric methods.		X	X			
ENGR 9 Engineering Mechanics - Statics: SLO #2 Use Diagrams to Solve Problems Draw diagrams and determine distributed forces, shear forces, and moments in beams.		X				