

APR 13, 2005

**A. College, Department and Date:**

College: Engineering  
Department: Industrial and Manufacturing Systems Engineering  
Date: October 4, 2004

**B. Contact Person for the Assessment Plans:**

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**C. Degree Program:**

Masters in Operations Research (MSOR)

**D. Assessment of Student Learning Three-Year Plan**

1. Solve advanced engineering problems using discipline appropriate math, science, computation and analysis skills
2. Synthesize and evaluate information
3. Demonstrate advanced knowledge in area of specialization
4. (a) Recognize and apply state of the art techniques in the field (coursework only)  
(b) Plan and conduct scholarly activities (thesis option)
5. Communicate effectively in both written and oral forms
6. Recognize of the need for and ability to engage in life-long learning and professional service.

**E. Relationship to K-State Student Learning Outcomes:**

Program SLOs	University-wide Graduate SLOs			Program SLO is conceptually different from university SLOs.
	Knowledge	Skills	Attitudes and Professional Conduct	
1	X	X		
2	X	X		
3	X			
4	X	X		
5			X	
6			X	

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

The learning outcomes will be assessed in the core course and also in the Final Defense. The instructors for the core courses and the individuals on the Supervisory Committee will be involved with this assessment. All are direct assessments.

1. Will be assessed in the core courses.
2. Will be assessed through projects, case studies or examinations in the core courses.
3. Will be assessed in the core courses.
4. Will be assessed in the Final Defense.
5. The written component will be assessed in the core courses and the communication aspect will be assessed in the Final Defense.
6. Will be assessed in the Final Defense.

All outcomes will also be assessed the Final Survey and Exit Interview.

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

Every other year the professor teaching a core course will write a summary of how the students in the program are doing with respect to outcomes 1-3.

During every Final Defense, it is the Supervisory Committees responsibility to assess outcomes 4-6. Additionally, the committee must report to the contact person any substantial weakness in these outcomes. The contact person will summarize the data each year.

Just prior to graduation, every graduate student has an interview and exit survey with the Department Head (exit interview). The Department Head will ask the students whether or not they have met the above outcomes. Any negative outcomes will again be taken to the contact individual, who will annually summarize the data.

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

Each year at IMSE's retreat, the most recent data will be presented, analyzed and compared to prior data. Any problem area that cannot be immediately resolved will be assigned to the Graduate Committee. This committee will bring suggestions to faculty meetings for discussions that may result in changes to policies or procedures. Once the faculty has agreed upon the suggested changes, the contact individual will continue to monitor the data to determine if the outcomes have improved. If the outcome has not improved to a satisfactory level, the Graduate Committee will be reassigned to resolve the issues.

Every year the IMSE Advisory board will evaluate the objectives and be presented some of the data. Their recommendations will be used to further improve student-learning outcomes.