

A. College, Department and Date:

(Revised Fall 2006)

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

B. Contact Person for the Assessment Plans:

Stanley Lee
Professor
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532-3730
237 Durland

C. Degree Program:

Master of Engineering Management (MEM)

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. Recognize and apply state of the art techniques in the field
5. Be effective in leadership and collaboration
6. Communicate effectively in both written and oral forms
7. 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	
7			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 core courses IMSE 811 and 822.
2. Will be assessed in core courses IMSE 810 and 822.
3. Will be assessed in the Final Defense.
4. Will be assessed in the Final Defense.
5. Will be assessed in the Final Defense.
6. The written communication component will be assessed in IMSE 806 and IMSE 810.
The oral communication component will be assessed in the Final Defense.
7. Will be assessed in the Final Defense.

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

Every time a core course is offered that has an assessed outcome, the instructor of the course will write a report, similar to the ABET undergraduate reports, documenting the assessment process.

During every Final Defense, it is the Supervisory Committee's responsibility to assess some outcomes. Every student's folder will have a sheet that the committee must complete upon termination of the exam. All of the course reports and Supervisory Committees' comments will be collected and the contact person will summarize the data each year.

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

At IMSE's annual retreat, the most recent data will be presented, analyzed and compared to prior data. Any problem areas 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 Graduate Committee will continue to monitor the data to determine if the outcomes have improved and bring this data to faculty meetings. 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.

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C. Degree Program:

Masters of Science in Industrial Engineering (MSIE)

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 core courses, IMSE 811.
2. Will be assessed through the core course IMSE 641.
3. Will be assessed in core course IMSE 888 (coursework only option) or Final Defense (thesis option).
4. Will be assessed in the Final Defense.
5. The oral component will be assessed in the Final Defense.
The written component will be assessed in core courses IMSE 888 (coursework only option) or the Final Defense (thesis option).
6. Will be assessed in the Final Defense.

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

Every time a core course is offered that has an assessed outcome, the instructor of the course will write a report, similar to the ABET undergraduate reports, documenting the assessment process.

During every Final Defense, it is the Supervisory Committee's responsibility to assess some outcomes. Every student's folder will have a sheet that the committee must complete upon termination of the exam. All of the course reports and Supervisory Committees' comments will be collected and the contact person will summarize the data each year.

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

At IMSE's annual retreat, the most recent data will be presented, analyzed and compared to prior data. Any problem areas 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 Graduate Committee will continue to monitor the data to determine if the outcomes have improved and bring this data to faculty meetings. If the outcome has not improved to a satisfactory level, the Graduate Committee will be reassigned to resolve the issues.

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C. Degree Program:

Masters of Science 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 core courses, IMSE 882 and 884.
2. Will be assessed through the core course IMSE 842 and 971.
3. Will be assessed in the Final Defense.
4. Will be assessed in the Final Defense.
5. The oral component will be assessed in the Final Defense.
The written component will be assessed in core courses IMSE 882 and 884 (coursework only option) or the Final Defense (thesis option).
6. Will be assessed in the Final Defense.

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

Every time a core course is offered that has an assessed outcome, the instructor of the course will write a report, similar to the ABET undergraduate reports, documenting the assessment process.

During every Final Defense, it is the Supervisory Committee's responsibility to assess some outcomes. Every student's folder will have a sheet that the committee must complete upon termination of the exam. All of the course reports and Supervisory Committees' comments will be collected and the contact person will summarize the data each year.

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

At IMSE's annual retreat, the most recent data will be presented, analyzed and compared to prior data. Any problem areas 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 Graduate Committee will continue to monitor the data to determine if the outcomes have improved and bring this data to faculty meetings. 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.

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C. Degree Program:

Ph.D. in Industrial Engineering

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. Plan and conduct scholarly activities that make original contributions to the knowledge base in the field of study
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 Preliminary Exam 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 Preliminary Exam.
2. Will be assessed in the Preliminary Exam.
3. Will be assessed in the Preliminary Exam.
4. Will be assessed in the Final Defense.
5. Will be assessed in the Final Defense.
6. Will be assessed in the Final Defense.

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

During every Preliminary Exam it is the Supervisory Committee’s responsibility to assess outcomes 1-3. It is also the Supervisory Committee’s responsibility to assess outcomes 4-6 during the thesis defense. Additionally, the committee must report these assessments to the contact person. The contact person will summarize the data each year.

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

At IMSE’s annual retreat, the most recent data will be presented, analyzed and compared to prior data. Any problem areas 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 Graduate Committee will continue to monitor the

data to determine if the outcomes have improved and bring this data to faculty meetings. 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.