

# GRADUATE PROGRAM ASSESSMENT REPORT: 2006-07

## WICHITA STATE UNIVERSITY

**Program Name:** Master of Science in Industrial Engineering  
**School/College:** College of Engineering  
**Campus Box No.:** Box 35  
**Date:** September 29, 2008

### A. Program Mission

To prepare students for careers in industrial engineering and related fields in industry and for further graduate studies. The mission is consistent with that of the College of Engineering as well as that of the university in teaching, scholarship and service.

### B. Program Constituents

Graduate Students

### C. Objectives

1. To admit and retain qualified students into the program each year.  
Objective Met.
2. To assure that at least 90% of the students who enter the program are graduated.  
Objective Met.
3. To recruit and maintain a highly qualified faculty to teach, advise and supervise those students, and otherwise meet the needs of the program.  
Objective Met.
4. To assure that all necessary instructional and research tools, materials, software, hardware, equipment, and laboratories are available, staffed and serviced.  
Objective Met.
5. To ensure that our graduate students are well prepared for employment and for further graduate studies.  
Objective Met.
6. To provide an appropriate variety of graduate courses for the program.  
Objective Met.
7. To enroll a sufficient number of students to support the course offerings.  
Objective Met.

### D. Educational Student Outcomes

1. All students will demonstrate expertise in at least one of the following core areas of Industrial Engineering: a) Manufacturing Systems Engineering, b) Engineering Systems, c) Ergonomics/Safety.  
Objective met. All students are required to select one of core areas and they are required to prove their proficiency in that area by completing a thesis, project, or an exit exam in the core area.



department must grant in excess of 15 Master of Science degrees per academic year. This objective is met. There were 82 and 84 MS degree bound students enrolled in fall 07 and spring 2008 semesters respectively. The department granted 30 MS degrees for the academic year.

#### **F. Educational Student Outcomes Assessment Activities**

Objective 1 All students will have at least three courses from their area of concentration. The courses are listed in the attachment.

90% of all students who attempt the exit exam will pass in the first two attempts.

Objectives met. All students are required to have at least three courses. All students who have attempted the exit exam have completed the exam in the first two attempts.

Objective 2: 90% of students taking the thesis or project options will successfully complete their thesis or project.

Objectives met. 100% of the students who have attempted their defense have successfully defended their thesis work.

Objective 3: 80% of all graduate students will obtain a 'B' or better in each core course.

90% of the students have completed the core courses with a "B" or better grade

#### **G. Feedback Loop Used by the Faculty**

1. Exit survey by departmental head will be used to correct the departmental deficiencies identified by graduate students in terms of lab needs.
2. The graduate school exit survey will be used to adjust departmental corrections to faculty availability and attitude.
3. The departmental graduate committee will review the program outcomes and requirements each semester and recommend changes. Data collection on corrective action will be performed by the graduate committee.

#### **H. Annual Report**

The Assessment Report documents:

results from data collection during the academic year

dates when faculty met to consider the results

summary of decisions made at the meeting of the faculty

when issues identified at the meeting will be considered again

**GRADUATE PROGRAM ASSESSMENT PLAN  
WICHITA STATE UNIVERSITY**

Objective Met. All students in the project option have completed independent research. They defend their work orally and submit a report as part of the defense.

**E. Programs Objectives Assessment Activities**

Objective 1: Ensure that all admitted graduate students have a 2.75 GPA (at least 60 percent marks from foreign universities). Students who are admitted from other engineering disciplines will be required to take appropriate prerequisite courses.

This objective was met. Admission to the degree program on “Full Standing” was granted when a student met the following minimum requirements: 3.0 cumulative GPA in last 60 hours of undergraduate courses (or ‘First Class’ standing for international students) and final evaluation by the Graduate Coordinator. A TOEFL score of 213 (79 on the IBT) is required for all students with English as a second language. Students are required to meet specific pre-requisites (by prior course, or quiz-out exam administered by the department, or completion of a course with ‘B’ or better). All students admitted on ‘Full Standing’ meet these criteria.

Objective 2: Constant monitoring over a five year window, to ensure that students graduate. Data available from the graduate school on graduation rates.

This objective was met. A review of the graduation data provide by the graduate school does not show significant differences in the graduation rates of MS students as

**Objective 1** 85% of all students will obtain a grade of B in each of the nine core courses (IEN550, IEN664, IEN724, IEN740, IEN764, IEN854, MBA800, MBA801 and CESP750D).  
90% of students, in the coursework option, attempting the exit exam will pass in the first two attempts.

Objectives met. All students who have taken the exit exam have successfully completed the exam in the first two tries. More than 85% of the MEM students who took the listed courses have received a grade of B or better.

**Objective 2:** 90% of students, in the project option, will successfully defend their project (written report with oral presentation).

Objective met. All students in the project option who have attempted their project defense have successfully defended their project.

**G. Feedback Loop Used by the Faculty**

1. Exit survey by departmental head will be used to correct the departmental deficiencies identified by graduate students in terms of lab needs.
2. The graduate school exit survey will be used to adjust departmental corrections to faculty availability and attitude.
3. The departmental graduate committee will review the program outcomes and requirements each semester and recommend changes. Data collection on corrective action will be performed by the graduate committee.

**H. Annual Report**

The Assessment Report documents:

results from data collection during the academic year

dates when faculty met to consider the results

summary of decisions made at the meeting of the faculty

when issues identified at the meeting will be considered again

# GRADUATE PROGRAM ASSESSMENT PLAN WICHITA STATE UNIVERSITY

**Program Name:** PhD in Industrial Engineering  
**School/College:** College of Engineering  
**Campus Box No.:** Box 35  
**Date:** September 8, 2008

## **A. Mission Statement**

To prepare students for careers in industrial engineering and related fields in industry, research organizations, and universities.

## **B. Program Constituents**

Ph.D. Students

## **C. Objectives**

1. To admit well-qualified students into the program each year.  
Objective Met.
2. To assure that at least 80% of the students who successfully complete their preliminary exam are graduated.  
Objective Met.
3. To recruit and maintain a highly qualified faculty to teach, advise and supervise those students, and otherwise meet the needs of the program.  
Objective Met.
4. To assure that all necessary instructional tools, materials, software, hardware, equipment, and laboratories are available, staffed and serviced.  
Objective Met.
5. To provide an appropriate variety of graduate courses for the program.  
Objective Met.
6. To enroll a sufficient number of students to support the courses offerings.  
Objective Met.

## **D. Educational Student Outcomes**

1. The student will demonstrate expertise in at least one major and one minor area from the following core areas of the Industrial Engineering Masters program: a) Manufacturing Systems Engineering, b) Engineering Systems, c) Ergonomics/Safety and by completing a dissertation.  
Objective Met. All PhD students are required to complete exams in the major and minor area of their choice.
2. Students will demonstrate the ability to carry out independent research.  
Objective Met. The dissertation work is an independent research work carried out by the student.

3. Students will be able to develop an idea that outlines an original contribution to the knowledge base in industrial engineering  
Objective Met. The dissertation work is an independent research work carried out by the student and represents a new and original contribution to the knowledge base in industrial engineering.

**E. Programs Objectives Assessment Activities**

Objective 1: Ensure that all admitted graduate students have a 3.25 GPA (65 percent marks from foreign universities that use a percentage system).  
Objective Met. All students admitted into the program have a GPA above 3.25.

Objective 2: Constant monitoring over a five year window, to ensure that students graduate. The attrition rate for PhD students is high. The graduate committee has informed all faculty the need to ensure graduation of the PhD students. Active monitoring of progress of PhD students have resulted in more dissertation proposal defense and hence it is expected that more PhD students will successfully graduate from the program once they join the program.

Objective 3: Ensure that 80% of faculty have dissertation chairing status.  
Objective Met. All faculty in the department have maintained dissertation chairing status.

Objective 4: The departmental planning committee will have an undergraduate student as well as a graduate student to ensure that their inputs/concerns are addressed in planning the laboratory purchases as well as the software purchases.  
This objective is met. A graduate student representative and an undergraduate student representative are members of the planning committee.

Objective 5: The department will offer 7 or more graduate level courses each semester.  
This objective is met. There are more than 7 courses offered each semester for the graduate students.

Objective 6: The department must enroll more than 5 degree-bound students in PhD each year. The department must grant in excess of 2 PhD in Industrial Engineering per academic year.  
This objective is met. There were 19 and 21 degree bound students for fall 2007 and spring 2008 semesters respectively. The program has graduated six PhD students.

**F. Educational Student Outcomes Assessment Activities**

Objective 1 80% of students will pass their writte



### **G. Feedback Loop Used by the Faculty**

1. Exit survey by departmental head will be used to correct the departmental deficiencies identified by graduate students in terms of lab needs.
2. The graduate school exit survey will be used to adjust departmental corrections to faculty availability and attitude.
3. The departmental graduate committee will review the program outcomes and requirements each semester and recommend changes. Data collection on corrective action will be performed by the graduate committee.

### **H. Annual Report**

The Assessment Report documents:

- results from data collection during the academic year
- dates when faculty met to consider the results
- summary of decisions made at the meeting of the faculty
- when issues identified at the meeting will be considered again

### **Meetings of Graduate Faculty to assess Graduate Program Issues:**

#### September 12, 2007:

All graduate faculty met to discuss recruitment goals. Recommendation was made to focus on PhD recruitment from countries such as Thailand, Middle-East, and south America.

#### January 30, 2008:

All graduate faculty met to discuss results of MS exit exam and PhD preliminary exam.

#### September 24, 2008:

All graduate faculty met to discuss results of MS exit exam and PhD preliminary exam. The exit exam will be modified to a closed-book, closed-notes exam starting from January 2009. No cell phones or I-pods will allowed during the exam. Faculty will proctor the exam.

Regular departmental meetings will be used to discuss graduate program issues through out the year.