Industrial Engineering, Graduate, PhD, Tampa

Cip Code: 14.3501

Assessment Cycle: 2019 Reporting

Overall Review: Report Approved   COMPLIANT

Mission Statement

The mission of IMSE Department is to provide students with a high quality education which integrates the latest research and practices of the field into the curriculum, to pursue excellent in basic and applied research in the field of industrial and management systems engineering, and to provide service to the profession and to the society.

Goal 1: Discipline-Specific Knowledge

Our graduates will demonstrate fundamental knowledge in core areas of industrial engineering and the ability to conduct independent research.

1a. Student Learning Outcome Statement

Audit Review: AC

IMSE PhD graduates will demonstrate the fundamental knowledge of model formulation and solution in the core areas of linear optimization, stochastic processes, systems modeling, and data analytics.

1b. Method of Assessment

Audit Review: AC

The student learning outcome will be assessed using the PhD comprehensive exam - a day long written examination testing student knowledge in four core areas: linear optimization, stochastic processes, systems modeling, and data analytics. The exam is administered once a year in May.

1c. Performance Targets

Audit Review: AC

80% of majors will pass the PhD comprehensive exam on their first attempt (at most two attempts are given to each student).

1d. Assessment Results

Audit Review: AC

The Department of Industrial & Management Systems Engineering added this student learning outcome to its SACS PhD assessment plan in January of 2020 in an effort to improve the quality of our PhD curriculum and graduates (as a continuous improvement effort). At the time of this assessment no resulta are available for the 2019 cycle. Historically, the percentage of majors who passed the exam on their first attempt ranged between 67% and 100%.

1e. Use of Assessment Results

Audit Review: AC

The Department of Industrial & Management Systems Engineering added this student learning outcome to its SACS PhD assessment plan in January of 2020. The first set of results will be available in May of 2020.

Plan Review Comments

Report Review Comments

2a. Student Learning Outcome Statement

Audit Review: AC

IMSE PhD graduates will demonstrate the ability to conduct independent research by identifying a problem of national importance, reviewing academic literature, formulating appropriate models, collecting data, developing solutions, and analyzing results.

2b. Method of Assessment

Audit Review: AC

Each PhD graduate is rated using a comprehensive rubric by the members of the student's dissertation committee. The rubric measures the abilities to: 1) identify a real-world problem of national importance in the areas of industrial engineering (IE), 2) review and document important academic literature related to the dissertation topic, 3) develop models for the identified problem using IE concepts and techniques, 4) choose/develop IE techniques suitable for solving the developed models, 5) use correct methods to collect and/or generate data related to the models, 6) use relevant research methods to analyze, interpret, and present results.

For each student, each ability is rated by each reviewer using a scale from 1 (poor) to 5 (excellent). The ratings are averaged across all raters and abilities to obtain the mean rating value for the student. The rubric was developed by the IMSE graduate committee and approved by the IMSE faculty.

2c. Performance Targets

Audit Review: AC

80% of majors will obtain the mean rating value of 4.0 or higher.

2d. Assessment Results *Audit Review: AC*

Based on the data of 2 graduates, 100% of them met the performance target.

2e. Use of Assessment Results *Audit Review: AC*

The assessment results exceeded the performance target. Given the very small sample size we plan to continue to use the rubric for one more cycle to gather more data in order to identify specific areas for improvement. Our PhD program has seen a decrease in its population in recent years due to several reasons, such as faculty attrition and changed geo-political-economic climate, to name a few. We have made efforts to remedy this trend in several directions: 1) seek to hire a few reputable senior faculty with a solid research program to strengthen our research thrusts, increase the national visibility, add to stability, and aid in mentoring junior faculty, 2) increase the competitiveness of financial support for our PhD students, and 3) increase collaboration with other institutions as well as intra-department collaboration of faculty in pursuit of larger research sponsorship and joint mentoring of PhD students.

Plan Review Comments

Report Review Comments

Assessment Methods

Course Related Assessments

Cumulative Assessments

Comprehensive Exam
Faculty Committee Evaluation of Dissertation, Thesis or Treatise

Performance Related Assessments

External-course Assessments

Standard Assessments