

Academic Assessment Plan
PhD / Industrial Engineering
May 15, 2015

Program Goals

1. Prepare students for independent research in Industrial Engineering.
2. Prepare students to contribute new knowledge of fundamental importance.
3. Contribute new knowledge of fundamental importance or significantly modify, amplify, or interpret existing knowledge in a new and important manner.

Student Learning Outcomes (SLO)

1. Students will make satisfactory progress toward the degree, preparing for independent research to contribute new knowledge of fundamental importance to Industrial Engineering.
2. Students will be prepared for independent research in Industrial Engineering.
3. Students will be prepared to contribute new knowledge of fundamental importance to Industrial Engineering.
4. Students will contribute new knowledge of fundamental importance to Industrial Engineering or significantly modify, amplify or interpret existing knowledge in a new and important manner
5. Students will be able to communicate effectively.

Assessment Process

1. Timeline
 - a) Annual Graduate Student Academic Reviews submitted to the Graduate School by June 30
 - b) Candidacy Exam after approximately two years of graduate study
 - c) Dissertation Proposal may not occur in the same semester as Candidacy Exam
 - d) Final Oral Defense may not occur in the same semester as Dissertation Proposal
 - e) Assessment results and analysis presented at August faculty “retreat” to stimulate discussion about any program (or assessment process) changes.
2. Means of assessment
 - a) SLO1 assessed annually (indirect and direct)
 - Cumulative GPA (desired level of achievement ≥ 3.0)
 - Annual Graduate Student Academic Review by graduate coordinator in consultation with student advisor (desired level of achievement is “satisfactory”)
 - b) SLO2 assessed with Candidacy Exam
 - Student self-assessment of independent research preparation with respect to Comprehension (understanding literature), Application (problem solving), Analysis and Synthesis (support for generalizations, alternative solutions), and Evaluation (validity)
 - Advisory Committee members assessment of independent research...
 - c) SLO3 assessed with Dissertation Proposal

- Student self-assessment of preparation to contribute new knowledge with respect to...
 - Dissertation Committee members assessment of preparation to contribute new knowledge...
- d) SLO4 assessed with Final Oral Defense
- Student self-assessment of contributing new knowledge...
 - Dissertation Committee assessment of contributing new knowledge...
- e) SLO5 assessed with Candidacy Exam, Dissertation Proposal, and Final Oral Defense
- Student self-assessment of effective communication
 - Committee members assessment of effective communication
3. Reported annually to the Dean: Assessment results and analysis, and any consequential program or assessment process changes

Example of closed-form assessments* (Candidacy Exam)

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree
- N/A

1. I / The student am / is prepared for independent research based on comprehension of the relevant literature.
2. I / The student am / is prepared for independent research based on application of methods for problem solving.
3. I / The student am / is prepared for independent research based on analysis and support for generalizations, or generation of alternative solutions.
4. I / The student am / is prepared for independent research based on evaluation and validation.
5. I / The student am / has demonstrated effective communication skills.

* desired level of achievement on closed-form assessments is agree or strongly agree