Academic Assessment Report
PhD Industrial Engineering (INEGPH)
Covering Academic Year (AY) 2023-2024

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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 important 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. Qualifier exam: PhD students with a master's degree must attempt the qualifier exam before the beginning of their third long semester; PhD student without a master's degree must attempt the exam before the beginning of their fifth long semester.
   c. Final Oral Defense may not occur in the same semester as Dissertation Proposal.
   d. 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 and SLO3 assessed with Candidacy Exam (i.e. Dissertation Proposal)
      - 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)
      - Dissertation Committee members assessment of independent research...
      - Student self-assessment of preparation to contribute new knowledge…
      - Dissertation Committee members assessment of preparation to contribute new knowledge.
   c. SLO4 assessed with Final Oral Defense
      - Student self-assessment of contributing new knowledge…
      - Dissertation Committee assessment of contributing new knowledge...
   d. SLO5 assessed with Candidacy Exam (i.e. Dissertation Proposal) and Final Oral Defense
      - Student self-assessment of effective communication
      - Dissertation Committee members assessment of effective communication
3. Reported annually to the Dean: Assessment results and analysis, and any consequential program or assessment process changes

Assessment Results

1. Annual Graduate Student Academic Reviews

   Table 1: Academic warning letters received from the Graduate School per semester

	AY 2021-2022	AY 2022-2023	AY 2023-2024
Fall	0	0	0
Spring	1	0	0

2. Candidacy Exam (i.e Dissertation Proposal) and Final Oral Defense

   Scores in Table 2 are averages of medians across Student, Chair and Member responses after the Candidacy Exam (i.e. Dissertation Proposal) and Final Oral Defense.

   Table 2: The student is prepared for independent research or to contribute new knowledge, or has contributed new knowledge based on…

	AY 2021-2022	AY 2022-2023	AY 2023-2024
Comprehension	4.73	4.83	4.79
Application	4.71	4.93	4.71
Analysis	4.54	4.77	4.64
Evaluation	4.44	4.70	4.71

3. Effective Communication

   Scores in Table 3 are averages of medians across Student, Chair and Member responses after the Candidacy Exam (i.e. Dissertation Proposal) and Final Oral Defense.

   Table 3: The student has demonstrated effective communication skills

AY 2021-2022	AY 2022-2023	AY 2023-2024
4.52	4.83	4.79

Consequential Program Changes

AY 2021-2022: Faculty will discuss statistics in Tables 1 – 3 at August "retreat."
- Table 2. INEG PhD students maintained their performance on Comprehension (understanding literature), Application (problem solving), Analysis (support for generalizations, alternative oslutions) and Evaluation (validity) in the past 3 years.
- Table 4. The communication skills of INEG PhD students continue to be good.

AY 2023-2024: This report, including assessment results, will be presented during the faculty retreat in August 2024. Faculty will discuss whether any consequential program changes are needed in response to the results. During AY 2023-2024, scores in Tables 2-3 are relatively stable compared with the two prior years. This suggests consequential program changes may not be needed.

Assessment Process Changes

AY 2021-2022: Faculty will discuss assessment process changes during the faculty retreat in August. As noted in the 2019 and 2020 summaries, students and faculty were reminded to complete the assessment reports which resulted in an increase in the number of reports submitted.

AY 2022-2023: Faculty will discuss consequential assessment process changes during the August retreat. Students and faculty are reminded to complete the assessment reports each semester.

AY 2023-2024: Language in this document should but does not equate the candidacy exam with the PhD dissertation proposal. This will be discussed at the August retreat, along with whether and what assessment changes are needed to remedy this.