

Annual Academic Assessment Report

PhD / Biological Engineering June 4, 2024

The following summarize the assessment measures used for this report. The results pertaining to the academic year (AY) 2023-2024 are presented and analyzed with regard to student learning outcomes.

1. *Graduating student cumulative GPA*: SLO-1
2. *Annual graduate student academic reviews and progress reports*: SLO-1
3. *Number of publications and conference*: SLO-5
4. *Proposal defense – PhD dissertation proposal defense*: SLO-3 and 5
5. *PhD preliminary/candidacy examination*: SLO-2 and 5
6. *Final examination – PhD dissertation defense*: SLO-4 and 5
7. *Exit reviews*: all outcomes

1. Cumulative GPA

PhD: SLO-1 – Progress toward the degree and preparation of conducting independent dissertation research (*i.e.*, academic progress)

Table 1 provides the cumulative GPA for a student graduating with PhD degree in AY 2023 – 2024. The metric for success is for 100% students to achieve at least 3.0 cumulative GPA. According to the data in **Table 1**, we have achieved the stated criterion.

Table 1. Cumulative GPA for graduating BENG students for 2023 – 2024.

Student Count	Degree	Graduating Term	Cumulative GPA
1	PhD BENG	Summer 2023	3.880

2. Annual Graduate Student Academic Reviews and Progress Reports

PhD: SLO-1 – Progress toward the degree and preparation of conducting independent dissertation research (*i.e.*, academic progress)

Table 2 provides the results from the annual graduate student academic reviews and progress reports for Fall 2023 – Spring 2024. Note that there are **5 additional PhD students** in ENDY (2), GEOS (1) and MSEN (2) whose annual reviews were done through the interdisciplinary or joint programs.

This form, administered by the UA Graduate School, provides for a rating of satisfactory or unsatisfactory. The metric for success is 100% of students to achieve a “satisfactory” outcome. According to the data in **Table 2**, all students achieved “satisfactory” outcomes. Hence, there appears to be no issues or concerns through review of this measure.

Table 2. Annual graduate student academic reviews and progress reports for 2022 – 2023.

Academic Year	Number “Satisfactory”	Number “Unsatisfactory”
2023 – 2024	7	0

3. Number of Publications and Conference Presentations

PhD: SLO-5 – Communicate effectively (both oral and writing)

Table 3 provides the number of peer-reviewed publications and conference presentations for all students in PhD programs in AY 2023 – 2024. The metric for success is:

(1) for 100% of students to present at least once in international/national/state conferences and meetings before their graduations and

(2) for 100% of PhD students to publish at least one peer-reviewed publication (*i.e.*, refereed journal article or refereed conference proceeding) before their graduations.

We had 100% completion in both categories for our single graduating PhD student in AY 2023 – 2024. Our continuing students are making solid progress on both fronts as well.

Table 3. Number of publications and conference presentations for BENG students for 2023 – 2024.

Student Count	Degree	Graduating Term	Number of Peer-Reviewed Publications	Number of Conference Presentations
1	PhD BENG	Summer 2023	5	4
2	PhD BENG	Summer 2024	5	4
3	PhD BENG	Fall 2024	2	3
4	PhD BENG	Fall 2027	0	1
5	PhD BENG	Spring 2026	0	1
6	PhD BENG	Spring 2026	0	1
7	PhD BENG	Spring 2027	0	2
8	PhD BENG	Spring 2028	0	1

4. Proposal Defense

PhD: SLO-3 & 5 – Contribute new and fundamentally important knowledge to Biological Engineering (*i.e.*, understanding of field and contribution to new knowledge); communicate effectively (oral and writing)

Table 4 provides the students’ performances in PhD dissertation proposal defenses in AY 2023 – 2024. The evaluation rubrics for thesis proposals or dissertation proposals, which were completed by the committee members, were supposed to be used to assess the student learning outcomes. Our single PhD graduate scored an average score of ≤ 3 and passed the proposal defense. Hence,

there appears to be no issues or concerns through review of this measure. However, improvements will be made for timely collections of rubrics by working with faculty.

Table 4. Performance of students in PhD dissertation proposal defense for 2023 – 2024.

Student Count	Term	Result	Evaluation Score (Average)
1	Spring 2024	Pass	2.25

5. PhD Preliminary Examination

PhD: SLO-2 & 5 – Prepare for independent research in Biological Engineering (*i.e.*, understanding of field); communicate effectively (oral and writing)

We did not have any PhD students complete a preliminary examination in AY 2023-2024.

6. Final Examination: PhD Dissertation Defense

PhD: SLO-4 & 5 – Contribute new and fundamentally important knowledge to Biological Engineering or significantly modify, amplify, or interpret existing knowledge in a new and important manner (*i.e.*, understanding of field and contribution to new knowledge); communicate effectively (oral and writing)

Table 5 provides the students’ performances in PhD final examination (*i.e.*, dissertation defense) in AY 2023 – 2024. A student scored an average score of 3 or less and passed the examination. Hence, there appears to be no issues or concerns through review of this measure. However, improvements will be made for timely collections of rubrics by working with faculty.

Table 5. Performance of students in PhD dissertation defense for 2023 – 2024.

Student Count	Degree	Result	Evaluation Score (Average)
1	PhD	Pass	1.25

7. Exit Review

PhD: All outcomes

The exit review for a student who graduated in Summer 2023 was not finalized during a transition in department leadership. A new department head assumed the position in August 2024, and measures are underway to ensure timely completion of future exit reviews.

8. Conclusion

Based on the given assessment measures, it appears that SLO were met by the BENG graduate program at PhD levels for AY 2023 – 2024. Future assessments will be strengthened through the timely implementation of the evaluation rubrics as well as the graduate student exit reviews.

9. Assessment Process Changes

Faculty will discuss consequential assessment process changes for the timely implementation and completion of the required assessments during faculty meetings.