



# Assessment of the Graduate Program in the Biology Department



## DEPARTMENT OF BIOLOGY

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# Workshop Objectives

- Can we expand options for graduate studies beyond the MS thesis option to increase enrollment?
- Can we improve the success rate of Biology graduate students by changing some of the structure/benchmarks in our Program that support their academic and career goals?



# Assessment Questions – Survey 1

1. Would you support the Biology MS Program expanding degree programs to offer non-thesis, internship, and professional options? (Yes or No)
- 2a. Would you agree to be the advisor for MS students in a non-thesis, internship, or professional MS option in the Biology Department? (Yes or No)
- 2b. If you answered yes to question #2, how many in a four-year period?
- 3a. If the Department offered a non-thesis, internship, and professional MS option, should those applicants be eligible to compete for Teaching Assistantships? (Yes or No or Not Sure)
- 3b. If you answered Yes or Not Sure to question #3, would you support a tiered approach to offering Teaching Assistantships where Thesis degree students get priority consideration over non-thesis, internship, and professional degree students? (Yes or No)

# Data Results Discussed

15 RESPONDENTS (OUT OF A TOTAL POSSIBLE 16)

1. 10 support a non-thesis; 9 support an internship; 8 support a professional
2. 8 faculty would advise a student not on the thesis track, usually about 1 every other year.
3. Most faculty would be ok with students not on the thesis track to be included in our TA applicant pool but preference would be for thesis track students.



# Conclusions Reached

- Recommend to offer non-thesis and internship tracks
  - Some faculty would advise, others would not, and that's OK
  - Would allow for more professional students
  - Would not dilute thesis production
- This could increase enrollment by 15%
- These students would be eligible to compete for TAs through department, but preference would be for research students



# Items Chosen for Action

- Offer a dedicated non-thesis option



# Assessment Questions – Survey 2

1. How many students have started and completed theses in your lab, and the time frame? (add data as follows; # students/years – e.g., 3/2, 2/3, 1/6, 3/DNF).
2. Has the quality of student's thesis decreased, stayed the same, or increased over your time as a faculty member in the Department? (decreased, increased, stayed the same).
3. Are you in favor of requiring that the Program of Study form be uploaded by the end of students second semester into their advising notes – this requires the student to have formed a committee and have had a committee meeting? (yes or no).
4. Should the Department require that all students complete their comprehensive exam by the end of their third semester? (yes or no)
5. What percent of data analysis is, on average, completed by your students? (increments of 10%).
6. How much data collection is under the direction of the student? (increments of 10%).
7. What suggestion do you have for how the Department can increase the completion rate of student theses in 2 years?
8. Should all graduate students be required to attend a minimum number of Friday “faculty” and graduate thesis seminars and include a record of attendance in a form that is uploaded into their advising notes after semester 1, 2 and 3? (yes or no)
9. Are you willing to share one example of a high-quality thesis and one example of a low-quality thesis for the graduate committee to review for the purpose of this assessment? (yes or no)

# III

# Data Results Discussed

1. Highly variable completion in 4 semesters (0 to 100%) across 15 faculty
2. Most faculty (60%) report no change, 20% report a decrease, and 20% report an increase in quality of theses.
3. 12 of 15 say that program of study should be submitted by end of second semester.
4. 13 of 15 said the Department should require that all students complete their comprehensive exam by the end of their third semester.
5. Faculty report that most often students analyze >80% of the data associated with the thesis.
6. Faculty report that most often students collect >80% of the data associated with the thesis, but with greater variability
6. Increasing competition rates by increasing summer funding (RA's/Scholarships)
7. 10 of 15 faculty were in favor of requiring graduate students to attend a minimum number of Friday “faculty” and graduate thesis seminars
8. 13 of 15 faculty agreed to share one high and one low quality thesis for generic assessment





# Conclusions Reached

- Overall students are not finishing in 4 semesters despite no change in perceived thesis quality.
- Students continue to execute research projects independently
- Faculty support standardization of a program timeline and associated benchmarks



# Items Chosen for Action

- Alter mechanism for moving from thesis to non-thesis to improve completion rates in 4 semesters
- Propose that program of study completed and approved by committee before the end of the first semester
- A new course to be taken first semester by all incoming theses track students to develop research proposal and to learn about conducting independent science (BIO 7xx – 1 credit)
- Change comprehensive exam to a defense of a thesis proposal in their second semester
- Develop initiatives to improve students' scientific education including requiring attendance at seminars



# Follow-up Plans & Next Steps

- Grad Student survey
  - Assessment of TA workloads
  - Time spent on research
  - Data collection and data analysis
- Formal analyses of time to completion and compare to a past assessment
- Review theses over some set of time periods with rubric
- Discussion and voting on implementation of “Items Chosen for Action” in August Faculty Retreat



**Questions?**