

# **MA Biological Sciences 2019-20 Learning Outcome Assessment Report**

## **Learning Outcome 1 – Adequate Progress**

### **Methods**

We assessed students' adequate progress using completion data gathered from the Department of Biological Sciences. Data were gathered in May 2020, including students graduating with an MA degree in the Spring/Summer, Fall, and Winter terms from 2010-2020. We included ten years of students (2010-2020) in the data set to accommodate a small sample size and a lack of previous data analysis. The number of semesters for MA students to complete the program or the number taken prior to leaving the program to enter another graduate or professional program, were tabulated.

### **Results**

A total of 109 students entered the MA in Biological Sciences program between Fall 2010 and Winter 2020; of these students, 33 (35%) successfully completed their MA degree and 14 (13%) switched to other programs including MS or PhD programs at Wayne State or elsewhere, medical schools, and law schools. Overall, 82% of students pursuing their MA degree completed their program in 15 semesters or fewer, which exceeded our stated goal of 75%. All students (100%) who switched to other programs did so in 6 semesters or less – exceeding our stated goal of 90%. Our data set did not allow us to calculate the time spent in the program for those students who left for other programs. We caution that students leaving the programs for others do not always notify the department that they have done so, so that our “leave for other program” percentage is likely to be underestimated. We currently have 11 MA students whose status is considered active.

## **Learning Outcome 2 – Mastery of Current Biological Theory**

### **Methods**

Following either completion of the MA program or upon leaving the program for another graduate or professional program, students will complete an exit survey that will assess students' confidence in biological theory in their chosen field. Surveys will be distributed and completed within 30 days of the student leaving the program. Each student completing the survey will be evaluated individually using their self-assessed scores and the percent of students meeting the minimum criteria reported.

Survey questions include the following:

- How familiar are you with current biological theory in your chosen subdiscipline?
- To what degree did the MA program develop your knowledge of current theory?
- To what degree did the MA program improve your knowledge of current theory?

Survey responses will be scored on a scale of 1-4, where “4” corresponds to “Very familiar” or “High degree”. Scores will be added across the respondents and reported as a mean value for each student. The percent of students meeting the minimum criteria will be reported.

## **Results**

Only one student completed the program during the assessment period, and thus this learning outcome was not assessed for this year. The learning outcome will be assessed once at least three students are administered the survey.

## **Learning Outcome 3 – Mastery of Oral Communication**

### **Methods**

All students in the MA of Biological Sciences program are required to take BIO 8995 (Seminar in Biological Sciences), which requires students to attend the departmental seminar, read papers by the speakers each week, and lead discussions of the assigned readings. Student success in these courses is in part based on leading the discussions. Final grades for students taking BIO 8995 during the academic year (either Fall or Winter semesters) will be utilized for this assessment. The number of students earning a letter grade of “A-” or higher will be tabulated, and the percent of students meeting this minimum criteria for this learning outcome will be reported.

### **Results**

During the 2019-20 assessment period, six MA students completed BIO 8995, and all earned a letter grade of “A-” or higher. While this exceeds our stated goal of 90%, it also suggests that the metric is probably not useful for assessing mastery of oral communication and should be replaced in future assessments.

## **Learning Outcome 4 – Mastery of Written Communication**

### **Methods**

Data for this assessment will include a score for each student for a writing assignment from a course selected by the student as part of their curriculum in completing the MA program. Writing samples will be scored on a four-point scale (4=outstanding; 3=acceptable, 2=below average, 1=unacceptable). Writing samples will be collected in the winter term of each assessment year; it is important that students are queried for samples multiple times during their degree program to compensate for an expected low response rate. The scores from the writing samples will be tallied for each student, and the percent of students meeting the minimum criterion for this learning outcome will be reported.

### **Results**

For student writing samples were collected for the 2019-20 assessment period from four students. Writing samples included one short paper, two summary abstracts, and a set of exam essay questions. The response rate for the set of MA students in our program

considered active was 36% (4 of 11 students). Acknowledging a small sample size, three of the four students (75%) earned a score of 3 or higher for the writing samples, which falls below our stated goal of 85%. The average score for the four students was 3.25.

### **2019-20 Action Plan**

As a consequence of the 2019-20 assessment results, three actions are planned for the 2020-21 academic year:

1. Improved tracking of MA students who leave the program, either upon completion or when leaving for other programs. This will remain a constant struggle given the current structure of the program.
2. Development of a standard methodology to assess students' ability to lead discussions in the BIO 8995 course, given the course has a different instructor virtually every time it is offered.
3. Coordination with the Graduate Officer to be diligent in collecting writing samples from students during the academic year, given his required annual meeting with each student.

### **Timeline for Action Plan**

A timeline for the implementation of the action plan for the 2020-21 academic year follows:

1. An improved database will be developed for tracking current and recent MA students, for implementation beginning in Fall 2020.
2. A standard methodology to assess students' ability to lead discussions in the BIO 8995 course will be developed beginning in Fall 2020 and implemented no later than Winter 2021.
3. Expectations for data collection for writing will be clarified with the Graduate Officer during the summer of 2020 with plans for implementation in Fall 2020.