

Program Assessment: *Annual Report*

Program(s): M.S.

Department: Bioinformatics and Computational Biology

College/School: Arts and Sciences

Date: August 6, 2018

Primary Assessment Contact: Maureen Donlin (Director), Michael Goldwasser (Chair of CS), Jack Kennell (Chair of Biology)

1. Which program student learning outcomes were assessed in this annual assessment cycle?

We currently have 5 SLOs for our MS degree.

- 1) Design and Implement *in silico* experiments for biological problems
- 2) Apply and combine existing tools for processing and analysis of biological data sets
- 3) Use small- and large-scale quantitative data sets to model complex biological systems
- 4) Work as part of multidisciplinary teams in corporate or academic environments
- 5) Effectively communicate research approaches and findings.

All of them were assessed during this year depending on where the student was in the program.

2. What data/artifacts of student learning were collected for each assessed outcome? Were Madrid student artifacts included?

We have begun to collect artifacts of student learning from several graduate courses and the student internship experiences. These include papers results from embedded exam questions, poster and oral presentations as well as discussions with internship mentors. No Madrid student artifacts were included as this program is not offered at the Madrid campus.

3. How did you analyze the assessment data? What was the process? Who was involved?

NOTE: If you used rubrics as part of your analysis, please include them in an appendix.

We based our assessments of SLOs on the grades earned course work, in self-evaluation and in their internship report. The required introductory bioinformatics series, covered SLO 1 and 2.

SLO 3 was evaluated in primarily in the required Genomics and Algorithms courses.

SLO 4 is evaluated based on their research mentors survey as well as reports from the internship advisors. We have maintained contact with our alumni and periodically survey them for their reflections on how the degree training has helped them develop the skills necessary to work as part of a multi-disciplinary team and what course work might have helped them transition to their current position more easily.

SLO 5 is evaluated as part of the colloquium in which the students make an oral presentation during their second year. Several students have made presentations at the SLU GSA symposium or have attended professional meetings in which they have made presentations.

Overall we interview students as they prepare to graduate to get their feedback on the course work and other aspects of the program.

4. What did you learn from the data? Summarize the major findings of your analysis for each assessed outcome.

NOTE: If necessary, include any tables, charts, or graphs in an appendix.

To date, all of the students who have sought out an internship have been able to find one and successfully complete it. This strongly correlates with successful SLOs 1-4 and suggests that our courses are meeting the stated training goals.

5. How did your analysis inform meaningful change? How did you *use the analyzed data to make or implement recommendations for change* in pedagogy, curriculum design, or your assessment plan?

We have begun implementing a formal student reflection assessment for their internship. This will be coupled with a supervisor assessment of each intern. We will analyze these data to determine if we need to modify the curriculum to better prepare students for their internship. We will also use these data to assess how well the internship portion of this program is implemented and to determine if we need to modify the process. The results from these new assessments will be described in next year's report.

6. Did you follow up ("close the loop") on past assessment work? If so, what did you learn? (*For example, has that curriculum change you made two years ago manifested in improved student learning today, as evidenced in your recent assessment data and analysis?*)

Our program is new enough that we do not have past assessment work to compare to.

IMPORTANT: Please submit any revised/updated assessment plans to the University Assessment Coordinator along with this report.

Attached are the new internship assessment documents.

Internship activities:

1. Briefly describe your activities during your internship.
 - a. Where and with whom did you do your internship?
 - b. What were the stated goals of the project?
 - c. What was your role on the project?
 - d. How many hours/week and number of weeks were you there?

2. What do you think was your most significant accomplishment while you were working?

3. Did you develop new skills during your experience and what are they?

4. Did the courses you have taken so far prepare you well for your internship?
 - a. Describe any topics or material that were not covered that would have benefited you in this experience.

5. Based on your experience, have you altered or changed your career goals that you had when starting the program?

Work environment:

6. Who was your direct supervisor?
 - a. Did you work directly with the supervisor or with other member(s) of the group?

7. Did you participate in group meetings?
 - a. If so, did you present your work in a group meeting or in any other venue?

8. Would you recommend other BCB students consider doing an internship with this supervisor? If not, why not?

(Optional)

9. Were you paid? If so, how much

INTERNSHIP SUPERVISOR EVALUATION FORM

SUPERVISOR INFORMATION	
NAME:	JOB TITLE:
ORGANIZATION:	EMAIL:
INTERNSHIP INFORMATION	
STUDENT'S NAME:	
STARTING DATE (DD/MM/YYYY):	COMPLETION DATE (DD/MM/YYYY):

ABOUT THE INTERN						
1. Please evaluate this student intern on following items by checking the appropriate rating	Excellent	Very good	Satisfactory	Needs improvement	Unsatisfactory	Not applicable
Punctual						
Behaved in a professional manner						
Effectively performed assignments						
Bioinformatics/computational skills						
Biological knowledge						
Oral communication skills						
Written communication skills						
Quality of work						
Ability to adapt to a variety of tasks						
Decision-making, setting priorities						
Attention to accuracy and details						
Willingness to ask for help and guidance						
Making and meeting deadlines						
Seemed interested in and enthusiastic about the internship experience						

2.	Describe the ways in which the intern's performance benefited your group or organization?				
3.	What development have you observed in the student's skills, knowledge, personal and/or professional performance?				
4.	What do you consider to be the intern's strengths?				
5.	In what areas does the intern need to improve?				
6.	Overall, how do you rate your experience with this intern?	Excellent	Good	Average	Poor
ABOUT THE INTERNSHIP EXPERIENCE					
1.	Do you have any suggestions for improving the SLU BCB internship program?				
2.	Based on your experience, would you supervise other BCB interns or recommend the internship program to others?				
3.	Do you have any other comments that will help us improve our program and students?				
4.	Overall, how do you rate your experience with this internship?	Excellent	Good	Average	Poor
SUPERVISOR'S SIGNATURE:		DATE:			