Electronic copy of report is due June 1, 2014. Send to Undergraduate Studies (academicassessment@sjsu.edu), with cc: to your college’s Associate Dean and college Assessment Facilitator. List of AFs is found at http://www.sjsu.edu/ugs/faculty/programs/committee/index.html

Department: Biological Sciences
Program: undergraduate MA/MS (Graduate)
College: Science
Website: http://www.sjsu.edu/biology/
Program Accreditation (if any):
Contact Person and Email: Dr. Michael Sneary, michael.sneary@sjsu.edu
Date of Report: June 4, 2014

Part A
1. List of Program Learning Outcomes (PLOs)

   PLO#1. Students will demonstrate the ability to formulate hypothesis and design experiments to address a scientific question.
   PLO#2. Students will demonstrate an understanding of relevant content in their discipline.
   PLO#3. Students will demonstrate laboratory or field skills in their discipline.
   PLO#4. Students will demonstrate proficiency in scientific writing skills.
   PLO#5. Students will demonstrate proficiency in oral presentation skills.
   PLO#6. Students will demonstrate the ability to work effectively in groups.
   PLO#7. Students will demonstrate the ability to perform literature searches using relevant tools.

   PLOs are utilized to assess competency in the BA and all BS degrees as well as MA and MS degrees

2. Map of PLOs to University Learning Goals (ULGs)
This map was generated during the department’s recent 5 year program planning process. Discussions concerning all aspects of the plan including the relationship of the department’s PLOs and the University’s ULGs were conducted during a series of meetings and retreats during the Spring of 2013 and the Fall of 2013.
### 3. Alignment – Matrix of PLOs to Courses

#### Table 1: Matrix of PLOs to Courses

<table>
<thead>
<tr>
<th>Graduate Courses</th>
<th>PLO1</th>
<th>PLO2</th>
<th>PLO3</th>
<th>PLO4</th>
<th>PLO5</th>
<th>PLO6</th>
<th>PLO7</th>
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<tr>
<td>BIOL 201</td>
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</tbody>
</table>

I: Introductory  Re: Reinforced  A: Advanced  F: Fall  S: Spring
4. Planning – Assessment Schedule
This is shown on Table 1.

5. Student Experience
Students were not involved in the formulation of our PLOs. PLOs are indicated in the courses syllabi.

Part B

6. Graduation Rates for Total, Non URM and URM students (per program and degree)
Note: The IEA website does not separate graduation rates for the MA and MS programs in biology. Therefore we are using data reflective for both programs. Our 3rd year graduation rate for total students between 2005-2010 ranged from a high of 44% (Fall 2005), to a low of 16% (Fall 2008). The high end rate is slightly lower for non-URM students. The highest graduation rate was 38% (Fall 2005) while the low end rate was comparable at 18% (Fall 2010). For URM students the highest graduation rate was 50% in Fall 2007 and 0% in subsequent years. However, these data are hard to interpret as the program between Fall 1997-Fall 2010 only averaged 2 URM students entering the program annually.

7. Headcounts of program majors and new students (per program and degree)
Note: The IEA website does not separate graduation rates for the BA and BS programs in biology. Therefore we are using data reflective for both programs. Graduate student headcount data since fall 2009, have ranged from a high of 72 students (Fall 2011) to a low of 17 (Fall 2013). Spring enrollments since 2011 have ranged from 1-18 students. Our fall admit rates have ranged from 32%-17%, and almost all students admitted into the program ultimately enroll in our program.

8. SFR and average section size (per program)
In the last five years the Department has consistently the highest or second highest SFRs in the College of Science. The 5-year average SFR for our department is 27.08 (for majors only) and 25.06 (for all courses). Within our graduate program our graduate labs, seminars, and supervised courses average 7, 15 and 2 students per section (2002-2013), respectively.

9. Percentage of tenured/tenure-track instructional faculty (per department)
Currently, there are 19 T/TT faculty and 30 temporary faculty. However, one of the tenured faculty members is the MBT Program Director and 100% of her time is committed to MBT. Another tenured faculty is the Department Chair and only teaches 0.2. Thus, the number of T/TT faculty is only 17.2. The current ratio between T/TT and temporary faculty is 36% to 64%, respectively. This is an alarming trend and it does not bode well for the health of the Department with the highest number of majors and FTES in the College of Science.

Part C

10. Closing the Loop/Recommended Actions
From our most recent program plan (Fall 2013):
   - Develop an efficient strategy for alumni tracking
     - Development and implementation will begin in the Spring 2014 semester.
   - Re-establish Department PLO assessment program.
Assessment instruments are being developed. A graduate committee has been formed and will meet twice monthly to collate data and review the department’s assessment plan.

Data collection and analysis, preparation of assessment reports and departmental discussions will be carried-on each semester.

- Critically examine our graduate program to determine how to recruit, retain, and increase graduation rates for the department’s graduate students

- Develop a workload matrix

Challenges and faculty workload

The ability to accomplish the proposed action items and fulfill our mission is directly linked to faculty workload. The workload in our Department is distributed among 17 T/TT faculty members. Faculty workload is not just teaching 12-15 units per semester. Maintaining an effective department, which is able to coordinate large classes with multiple components (for example lecture, lab, activity); peer review of faculty colleagues; perform committee duties; maintain active research programs; publish scholarly work; write, obtain, and manage extramural grants; coordinate GE assessment; perform PLO outcomes evaluation, report and analyze data, and perform cycles of course redevelopment ultimately depends on the willingness of the University to allow the Department to hire new faculty and provide release time. Otherwise, it is unreasonable to expect departments to function without appropriate support.

11. Assessment Data

No Assessment data was collected for this Academic Year

13. Proposed changes and goals

It has quickly become apparent that the current undergraduate PLOs are not compatible with a graduate program. The department Graduate Committee met before the end of the semester and proposed the following time table to develop a more appropriate assessment plan:

a. Separate learning goals needed for MA and MS degrees
b. Examine examples of learning goals from other universities
c. Capstone courses will be identified for both programs
   i. Biol. 284 for MA
   ii. Biol. 299 for MS
d. Assessment plan for above courses set in motion this fall to have data in spring to present to WASC
   i. Pre-assessment in Biol. 202, followed by post-assessment in 284/299
      a. Use standardized rubrics/questions for both pre- post-assessment
ii. Ideally need to assess Biol. 202 in Fall 2014
iii. Assessment needs plan to be in place by August to begin assessing Biol 202

e. Assessment process
i. Develop MA learning objectives
ii. Develop MS learning objectives
iii. Drafts due by June 27th,
iv. Map PLOs to ULGs and merge assessment information
v. Build assessment into Biol. 202/284/299