

**APSU Teacher Unit
Annual Program Review (APR) Report
2013 – 2014**

Biology 7-12

I. Name of Program: Biology 7-12

II. Program Reviewer:

Michelle Rogers, 7-12 Biology program advisor and Teacher Education Council member, APSU, reviewed the program.

III. Program Description

Students who complete this major program in Biology and the Professional Education minor are eligible to obtain licensure for grades 7-12, biology and general science.

IV. Changes in Program

Two new courses were added last year (2012-2013) to both the APSU Biology major (not for teacher licensure) and the Biology teaching program. Biol 1120/1121 Principles of Biology II and lab (4 credit hours), a course covering diversity of life, was added in response to poor student performance and a high failure rate in the microbiological, zoological and botanical diversity courses required in the major. A second new course, Biol 3000 Biological Methods, was added to address a need for greater preparation of students to conduct research. This benefits the students in the teaching program by better preparing them to address STEM standards and teach inquiry.

<u>Course Requirements</u>	<u>Credit Hours</u>
General Education and Freshman Seminar (including Math 1730 Precalculus – 4 credit hours)	43
Lower Division Biology Major	12
Upper Division Biology Major	34
Professional Education Minor	32
Total	121

A revised version of the Secondary Science edTPA Assessment Handbook was released September 2013. As a result, some specific content of BIOL 4400 Teaching Science in High School has been revised to include a greater emphasis on engaging students in inquiry in the 7-12 classroom.

No additional changes were made to the program.

V. Program Strengths

The number of new licenses awarded in the area of Secondary Biology Teaching increased from five in 2012-2013 to nine in 2013-2014. Of the nine, three were awarded alternative licensure.

The exit survey from clinical teaching consists of a list of skills and abilities needed for professional teaching practice and asks the subject to respond with how prepared he or she was for each task based on their education.

In Fall 2013, two responses to the exit survey from clinical teaching were received. Students indicated feeling “very prepared” to do each of the following:

- establish appropriate instructional goals and objectives
- collaborate with colleagues and administrators
- reflect on teaching practice...
- interpret assessment data...and use this information for instruction.

In Spring 2014, three responses to the exit survey from clinical teaching were received. The average score for all survey items ranged from 3.0 (adequately prepared) to 4.0 (very prepared). Student satisfaction with their professional preparation at APSU was clearly high.

On the Clinical Teaching Evaluations in Fall 2013, 8 evaluations were completed for 2 secondary biology licensure candidates. Like other programs at APSU, biology teaching candidates excel in “growing and developing professionally.”

Students in the secondary biology program demonstrate a high level of content area knowledge. Five students took the ETS Biology: Content Knowledge test this academic year. One hundred percent passed. Both semesters, average scores were significantly higher than the required score for licensure.

Two students took the edTPA in the secondary biology program in Fall 2013. Their average score was significantly higher than the national average on 11 of 15 rubrics.

The program has experienced some success in attracting diverse candidates to the field of secondary biology teaching. Of 9 initial licenses granted in 2013-2014, 2 were male, 7 female. There were 7 Caucasian, 1 African American and 1 Hispanic candidates.

VI. Program Weaknesses

In Fall 2013, two responses to the exit survey from clinical teaching were received. The lowest scores, suggesting students felt less than well prepared, were to the following items:

- Link learning with students’ prior knowledge, experiences, and cultural backgrounds

- Use assessment strategies, instruments, and information appropriate to the learning expectations being evaluated...
- Create lesson plans that address the needs of students with diverse cultural and language backgrounds and different learning needs
- Create a professional development plan...

On the Spring 2014 Clinical Teaching Evaluations, 27 evaluations were completed for 7 secondary biology licensure candidates. The evaluations listed as secondary biology must include not only the undergraduate program, but also graduate students or alternative licensure candidates, since there were not 7 undergraduate biology licensure candidates in clinical teaching at that time. The response options on the Clinical Teaching Evaluations are 1=developing; 2=acceptable; 3=outstanding. Candidates listed as 7-12 biology scored somewhat lower than other APSU programs in the following areas:

- Provides differentiated instructional methods and content.
- Plans for diverse learners.
- Plans provide opportunities to accommodate individual student needs.

One student took the edTPA in the secondary biology program in Fall 2013. The student's score was particularly low in three areas:

- Analysis of student learning
- Student use of feedback
- Analyzing students' language use and subject-specific learning

State report card data for 2 individuals who were licensed by APSU in secondary biology teaching between the years 2009-2012. This is a small percentage of the total, but the scores were discouraging. On a scale of 1 to 5, with 5 being the best, one teacher received a score of 1 and another teacher received a score of 3.

VII. Assessment of Candidates

In the 2013-2014 academic year, two students applied for Milestone II status. One met the criteria and was accepted to the program. Another student failed to achieve an acceptable score on the Praxis I test, fell short of the GPA requirement, and failed the interview. The student was not approved for Milestone II status and not allowed to continue in the Teacher Education Program at that time. Application of these basic requirements early in the program to ensure the quality of teachers licensed by the program is a strength.

VIII. Assessment of Program Operations

The Clinical Teaching Evaluation provides the most comprehensive and intensive assessment of teacher candidates. During 2013-2014, a total of 35 evaluations were completed for a total of 9 candidates. Unlike surveys and state report card data, which do not include all candidates trained in the program, the Clinical Teaching Evaluations are based on data from every student. These evaluations show that the average performance

of students in all 62 measured areas is above a level considered acceptable or above. No aspects of candidate preparation are neglected.

Content knowledge of students in the undergraduate program, who are required to complete the Praxis Biology: Content Knowledge tests demonstrate that these students have a high level of knowledge in their subject area and are well-prepared to use that knowledge in the classroom.

IX. Summary of Proposed Changes

As edTPA continues to be an important assessment of our candidates, professors instructing courses in the professional education minor are encouraged to become familiar with the specific requirements of the Secondary Science edTPA.

X. Assessment System

Low total numbers of students and the fact that it is often impossible to distinguish how much data of a particular set originated from undergraduate students or graduate students or alternative licensure candidates makes it difficult to draw conclusions about the effectiveness of the program. However, the small number of students makes it possible to evaluate the effectiveness of the program at the individual level and to make adjustments as needed.