

**2011-2012 APSU Teacher Unit  
Annual Program Review (APR) Report  
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, 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**

The Tennessee Department of Education (preK-12) recently revised the Endorsement in Biology 7-12 Matrix (415). Changes were made to the program to address the performance criteria in the matrix. The new program will be implemented in Fall 2012. See Attachment A for the complete list of courses in the program. Unless otherwise mentioned here, all changes to the program were made for the purpose of addressing the matrix criteria.

Two changes were made in the APSU Biology major (not for teacher licensure). These were included in the changes to the Biology teaching program also. These changes include the addition of the new Biol 1120/1121 Principles of Biology II and lab (4 credit hours), a course covering diversity of life. This course 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)	43
Lower Division Biology Major	8
Upper Division Biology Major	34
Required Related Courses	4
Professional Education Minor	35
<b>Total</b>	<b>124</b>

## **V. Program Strengths**

Two biology students completed the Exit Survey from Clinical Teaching in Spring 2012. Student responses indicated that they felt “adequately prepared” or “very prepared” to complete 22 of 25 listed professional activities. Responses indicated that students felt “somewhat prepared” or “adequately prepared” in the remaining categories. Both students reported feeling “very prepared” to “establish appropriate instructional goals and objectives.” Students also seemed to feel especially well-prepared to use assessment strategies and instruments.

## **VI. Program Weaknesses**

Some of the lowest scores on the Exit Survey from Clinical Teaching in Spring 2012 were for linking learning with students prior experiences and cultural backgrounds and using classroom management.

Some of the lowest scores from the Clinical Teaching Evaluation in Spring 2012 were for the students use of “clear and concise communication,” and high quality questioning. Both of these suggest a need for improvement in verbal communication skills of the candidates.

One weakness, or perhaps a challenge, for the program is that as many students were awarded alternative licenses (2) as standard initial licenses (2) in 2011-2012. Perhaps a weakness is under-utilization of the program.

## **VII. Assessment of Candidates**

According to the Data Retreat report (p. 14), four students participated in Milestone II review in 7-12 Biology in Fall 2011. Only one of the students passed. The reason for the failures is unknown.

In 2012, data from ETS indicates that two students attempted the Biology: Content Knowledge and Biology Content Essay and both passed.

## **VIII. Assessment of Program Operations**

While anecdotal information can be drawn from the information provided, the volume of data is too low to allow any statistically significant conclusions to be drawn.

## **IX. Summary of Proposed Changes**

The changes that will be implemented in the next academic year (2012-13) are being executed as part of the state-wide Ready2Teach initiative which includes two semesters of residency. Several courses will be offered as a block: EDUC 4440, EDUC 4080,

EDUC 4150, SPED 3000 and BIOL 4400. Students will also be introduced to the Teacher Performance Assessment (TPA) in these courses.

The TPA should address candidate weakness in questioning skills.

## **X. Assessment System**

Much of the data provided by the Data Retreat report are relevant to courses taken by all education majors. Only a very limited set of data apply specifically to Biology 7-12 program candidates. However, the number of those students is very limited. In the data available, it is often impossible to distinguish between initial licensure students, which is relevant to assessing the APSU teacher education program, and alternative licensure students, which is not. Unless separation of the data from these two sources is possible, no changes to the assessment system are proposed at this time.