

Planning Summary from The Citadel for the Modification of the Bachelor of Science in Biology to add a Teaching Specialization in Biology and Comprehensive/Broad Field Science

Proposed Date of Implementation: Spring 2009

Introduction

The Citadel is pleased to submit a Planning Summary for a Program Modification in the B.S. in Biology to add a Teaching Specialization in Biology and Comprehensive/Broad Field Science. This is a collaborative effort for the Departments of Biology, Chemistry, and Physics and the School of Education. We submit this planning summary following a very successful State and NCATE focus visit (September 30-October 2, 2007), and with the understanding that consideration of this proposed program modification is contingent upon a full accreditation ruling by NCATE.

Justification of Need for the Proposed Program

The Teaching Specialization in Biology and Comprehensive/Broad Field Science within the B.S. in Biology is designed specifically to provide students with the content and pedagogy necessary to fill positions in the critical needs area of Biology and Comprehensive/Broad Field Science. This effort to reestablish an undergraduate teacher preparation program in Biology is part of a larger initiative aimed at making The Citadel a recognized leader for science, technology, engineering, and mathematics (STEM) education in South Carolina.

Recent national studies and reports indicate that erosion of educational programs in the STEM disciplines pose a serious threat to the economic competitiveness of our nation and region. One report in particular (*An American Imperative: Transforming the Recruitment, Retention, and Renewal of Our Nation's Mathematics and Science Teaching Workforce*) asserts that "we must act decisively today to recruit, retain, and renew exceptional mathematics and science teachers." It is as part of a larger effort to enhance mathematics and science literacy in the region that we seek to reestablish the cadet secondary teacher preparation program in Biology at The Citadel. While the teaching track in Biology within the B.S. in Education has been less than successful in attracting students in the past, we believe that identifying the teaching specialization with the content area will be more attractive to our students. In addition, students electing this teaching field will be eligible for supplemental funding through the Life Scholarship and Palmetto Fellows Programs, and The Citadel is seeking private funds to provide scholarships and grants to attract students into this program that will prepare them to enter the teaching profession in a critical needs area.

By definition, too few teachers are being produced in critical need content areas. This teaching specialization will require that we add only two new courses, 1) Methods

and Applications of Science; and 2) Introduction to Earth Science. These new offerings will be taught by current staff and will not require additional faculty lines. All other courses in the teaching specialization are already available and being used in other majors. This means that with only the expense of addressing these two new courses, The Citadel will be able to provide the opportunity for cadets to complete a teaching specialization in Biology and Broad Field/Comprehensive Science. The Citadel is committed to a serious effort to contribute to addressing critical needs areas for teachers in South Carolina, and we are asking your support in implementing this program that is aimed at addressing one of those critical needs areas.

Background

Several years ago, in preparation for NCATE reaccreditation, the decision was made to drop Biology as a Teaching Field within the Bachelor of Science in Education. This decision was made with considerable reluctance. It was our concern that with such a limited number of graduates from this program, NCATE would feel that we had not been able to amass sufficient assessment data to document that the program was indeed meeting NCATE accreditation expectations. Our thought at that time was that low numbers of graduates should be an expectation since this was a critical needs area and if the program were closed, there would be no opportunity to produce teachers. None the less, the program was closed in an effort to protect our overall NCATE accreditation. After revisiting this matter, we have decided that our initial position to retain this program was correct, and we wish to correct our past action with the establishment of this different approach to preparing students to enter this critical needs teaching area. The Departments of Biology, Chemistry, and Physics and the School of Education, recognizing the critical need for well-trained secondary school biology teachers, are committed to providing a program leading to certification in Biology and Comprehensive/Broad Field Science. Again, this opportunity will address a critical need of the State while adding no additional costs to the State.

Anticipated Demand

Based upon past expressed student interest and current enrollments in science, mathematics, and engineering, we anticipate a steady state enrollment of 3 to 5 students in the Bachelor of Science in Biology with a Teaching Specialization in Biology and Comprehensive/Broad Field Science.

Duplication of Existing Programs

The College of Charleston offers a Secondary Education Minor that students majoring in Biology may elect. This is the only other undergraduate program in the South Carolina Lowcountry leading to certification of secondary school biology teachers. Our proposed Teaching Specialization in Biology and Comprehensive/Broad Field Science in the B.S. in Biology at The Citadel is not duplicative of the College of Charleston minor in secondary education since the sole audience for this proposed

teacher education program at the secondary level is members of the South Carolina Corps of Cadets.

Relationship to Other Programs at The Citadel

While the Teaching Specialization in Biology and Comprehensive/Broad Field Science in the B.S. in Biology is designed to attract cadets who enter The Citadel with the expectation of becoming secondary school biology teachers, it will provide an additional option for cadets who initially decide to major in Biology or some other areas of science or technology who may find teaching an attractive career opportunity. The course sequence will be easily adaptable for these students so that they will complete their degree requirements within the same timeframe as students who initially enroll in the program.

Relationship with Other Institutions

The Citadel School of Education and Department of Biology have long standing cooperative relationships with their colleagues at The College of Charleston. Cadets at The Citadel take courses at The College of Charleston during summer school, and College of Charleston students enroll in The Citadel's summer school courses. This benefits students at both institutions by allowing greater flexibility in scheduling during the summer months.

New Costs for Program Implementation

The proposed new program will require only two new courses: 1) Methods and Applications of Science; and 2) Introduction to Earth Science. These new offerings will be taught by current staff and will not require additional faculty lines. Laboratory material costs will be funded by normal student laboratory fees. This means that we will be providing opportunities for cadets to select a path to becoming exceptionally qualified secondary teachers in biology and general science at no additional costs to the State.

Summary

The Citadel proposes to “reestablish” an undergraduate teacher preparation program in Biology and Comprehensive/Broad Field Science for members of the South Carolina Corps of Cadets. This program modification is the collaborative effort of the Departments of Biology, Chemistry, and Physics and School of Education and is part of a larger Citadel initiative to enhance teaching and learning of the STEM disciplines in the Lowcountry and beyond.

Date

Lieutenant General John W. Rosa (USAF, ret.)
President, The Citadel