

Planning Summary from The Citadel for the Modification of the Bachelor of Arts in Chemistry to add a Teaching Specialization in Chemistry 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.A. in Chemistry to add a Teaching Specialization in Chemistry 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 Schools of Education and Science and Mathematics at The Citadel recognize that a critical need exists in South Carolina and the tri-county (Berkeley, Charleston and Dorchester) area for middle and secondary teachers of chemistry and physical science. On January 9, 2007 the Transition Leadership Team's Committee on the Teaching Profession issued a report addressing "teacher preparation, recruitment and retention, professional development, and leadership" in contributing to the development of a qualified teaching workforce. The committee added, "South Carolina and the nation as a whole are facing a critical shortage of qualified teachers. The shortage is especially acute in math, physical sciences, foreign languages, and special education" This program modification is an effort to contribute to the addressing this shortage in the areas of chemistry and physical science. In the Lowcountry, no undergraduate program currently exists to prepare physical science teachers.

The South Carolina Department of Education chose physical science as the foundational science course at the secondary level. This was approved by the South Carolina Legislature in 2004. All students enrolled in South Carolina High Schools must complete one unit of Physical Science prior to taking the 10th grade exit examination. In 2005 the United States Department of Education approved South Carolina's use of Physical Science as the assessment instrument under the No Child Left Behind Act.

The Departments of Chemistry and Physics at The Citadel are partnering with the School of Education and area schools in the development of this program that will prepare secondary teachers in the areas of chemistry and physical science. The Schools of Science and Mathematics, Engineering, and Education have joined through the Science, Technology, Engineering and Mathematics (STEM) initiative to enhance the learning experiences for Lowcountry students and to increase the content competencies of teachers.

To support this initiative and address the documented need for teacher preparation programs in this area, The Citadel proposes to add to the Bachelor of Arts in Chemistry a Teaching Specialization in Chemistry and Comprehensive/Broad Field Science.

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 Arts in Chemistry with a Teaching Specialization in Chemistry and Comprehensive/Broad Field Science.

Duplication of Existing Programs

As previously mentioned, a program for the preparation of chemistry and physical science teachers does not exist in the Lowcountry. The College of Charleston offers a M. Ed. in Science and Math Teaching, but no undergraduate program.

Relationship to Other Programs at The Citadel

While the Teaching Specialization in Chemistry and Comprehensive/Broad Field Science in the B.A. in Chemistry is designed to attract cadets who enter The Citadel with the expectation of becoming secondary school chemistry or physical science teachers, it will provide an additional option for cadets who initially decide to major in chemistry 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 Chemistry 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. All of the science content courses for this program are already offered in the Departments of Chemistry, Biology, and Physics and the School of Education for their majors. This means that The

Citadel will be providing opportunities for cadets to select a path to becoming exceptionally well qualified secondary teachers in chemistry and physical science at no additional costs to the State.

Summary

The Citadel proposes to establish an undergraduate teacher preparation program in Chemistry 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.

Through this Program Modification, The Citadel will contribute to the addressing of the critical need of chemistry and physical science teachers in the Lowcountry and South Carolina.

Date

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